City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Meeting Agenda - Final

Planning Commission

Monday, October 9, 2017 | **7:00 PM** | **Commission Chambers**

1. Call to Order

2. Public Comments

3. Public Hearing

3a Subdivision: TP 17-03 & Zone Change: ZC 17-02 for a Zone Change from "R-10" Single-Family Dwelling District to "R-8" Single-Family Dwelling District and a Subdivision of 77 lots, w/ One Stormwater Facility Tract and one Open Space Tract near White Lane (Wheeler Farm).

Sponsors: Christina Robertson-Gardiner

Attachments:
- Commission Report
- 10.1.17 Staff Memo
- 10.1.17 Public Comment - Brenda Martin
- 9.25.17 Staff Presentation
- 9.25.17 Public Comment Exhibit 1- Rictor
- 9.25.17 Public Comment Exhibit 2- Petition
- 9.25.17 Public Comment Cards
- Staff Report and Findings
- Vicinity Map
- Applicant's Narrative and Plans- Subdivision
- Applicant's Narrative and Plans- Zone Change
- Comments from John Replinger of Replinger and Associates
- Public Comments-West Susan Rictor

3b PZ 17-01: Comprehensive Plan Amendment, ZC-17-04: Zone Change, SP 17-114: Minor Site Plan and Design Review to allow for Oregon City Community Development offices to relocate to an annex building at the former Mt. Pleasant School at 1232 Linn Avenue. The annex is located at 698 Warner Parrott Road at the intersection of Linn Avenue and Warner Parrot Road.

Sponsors: Christina Robertson-Gardiner

Attachments:
- Commission Report
- 9.25.17 Staff Presentation
- Staff Report and Findings

Additional Information from the Applicant

Applicant's Submittal

Applicant's Plans

Letter from John Replinger

3c. Request for Continuance: Planning Files CP 17-0003: General Development (Concept Master) Plan Amendment, and DP 17-0001: Detailed Development Plan for A Safe Place modular building

Sponsors: Assistant Planner Diliana Vassileva
Attachments: Commission Report

4. Communications

5. Adjournment

Public Comments: The following guidelines are given for citizens presenting information or raising issues relevant to the City but not listed on the agenda.

- *Complete a Comment Card prior to the meeting and submit it to the staff member.*
- *When the Chair calls your name, proceed to the speaker table and state your name and city of residence into the microphone.*
- *Each speaker is given 3 minutes to speak. To assist in tracking your speaking time, refer to the timer at the dais.*
- *As a general practice, Oregon City Officers do not engage in discussion with those making comments.*

Agenda Posted at City Hall, Pioneer Community Center, Library, and City Web site(oregon-city.legistar.com).
Video Streaming & Broadcasts: The meeting is streamed live on Oregon City's Web site at www.orcity.org and is available on demand following the meeting.
ADA: City Hall is wheelchair accessible with entry ramps and handicapped parking located on the east side of the building. Hearing devices may be requested from the City staff member prior to the meeting. Disabled individuals requiring other assistance must make their request known 48 hours preceding the meeting by contacting the City Recorder's Office at 503-657-0891.

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Staff Report

File Number: PC 17-117

Agenda Date: 10/9/2017

Status: Agenda Ready

To: Planning Commission

Agenda #: 3a

From: Christina Robertson-Gardiner

File Type: Planning Item

SUBJECT:
Subdivision: TP 17-03 & Zone Change: ZC 17-02 for a Zone Change from "R-10" Single-Family Dwelling District to "R-8" Single-Family Dwelling District and a Subdivision of 77 lots, w/ One Stormwater Facility Tract and one Open Space Tract near White Lane (Wheeler Farm).

RECOMMENDED ACTION (Motion):
Staff recommends that the Planning Commission forward a recommendation of approval with conditions to the City Commission for this application.

BACKGROUND:
On September 25, 2017 the Planning Commission opened the hearing, heard staff presentation and public comment from the applicant and neighbors on a subdivision and zone change known as Wheeler Farm. The Planning Commission kept the record open and continued the hearing to October 9, 2017 for additional public comment, deliberations and a decision.

The applicant is proposing a zone change and a 77-lot subdivision in the City of Oregon City for the future construction of single-family detached residential homes. The property is located near White Lane and is referred to as the Wheeler Farm. The project includes the necessary streets, sidewalks, services, utilities, and other needed public improvements to support the project. The essential components of this application include:

- A zone change from R-10 Single-Family Dwelling District to R-8 Single-Family Dwelling District
- 77 lots that meet the dimensional and density standards of the R-8 zone
- A voluntary 1.35-acre open space area
- An interconnected pedestrian and vehicular circulation system
- Creation of a cohesive neighborhood with the continuation of Orchard Grove Drive, Larence Lane, Skellenger Way, and Tolstrup Drive through the project site
- An integrated on-site stormwater management system including street side vegetated filtration swales and flow control
- An approximately ±1.3-acre remainder property to be incorporated into the abutting Wheeler
  property located off-site to the southeast

BUDGET IMPACT:

Amount:
FY(s):
Funding Source:

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

M E M O R A N D U M

To: Planning Commission
From: Christina Robertson-Gardiner, Senior Planner
Laura Terway, Community Development Director
Carrie Richter, Assistant City Attorney
Re: Subdivision: TP 17-03
Zone Change: ZC 17-02
Date: October 1m 2017

Background
On September 25, 2017 the Planning Commission opened the hearing, heard staff presentation and public comment from the applicant and neighbors on a subdivision and zone change known as Wheeler Farm. The Planning Commission kept the record open and continued the hearing to October 9, 2017 for additional public comment, deliberations and a decision. This memo is intended to generally respond to public comments and provide additional background.

Comprehensive Plan
The Oregon City Comprehensive Plan and Plan Map were adopted on 2004 to provide long-range community goals and aspirations for community development. Comprehensive plans typically encompass large geographical areas, a broad range of topics, and cover a long-term time horizon. The Comprehensive Plan dictates public policy in terms of transportation, utilities, land use, recreation, and housing.

Along with the text, the Comprehensive Plan map creates plan use categories such as Low Density Residential, Mixed-use and Industrial. The subject site is carries with it a Comprehensive Plan designation of "LDR" Low Density Residential. Three zoning districts identified in the code implement the LDR plan designation include: R10, R-8 and R-6. Therefore, all three of these zoning designations have been deemed to be consistent with the LDR plan designation.

The Oregon City Comprehensive Plan is implemented through Oregon City Municipal Code (OCMC). The OCMC sets forth enforceable, detailed regulations regarding land use, land development, protection of natural resources, building design, traffic management, etc. For land use, OCMC Title 16 provides standards and regulations for new subdivisions and other land development; OCMC Title 17 lists specific development standards for uses of land in the city and related regulations for issues such as steep slopes, tree cover, historic review, and site design or architectural design standards. The City Commission is responsible for adopting all code through a public review process where the community agrees on the applicable standards. The community has agreed by adopting the standards that development in accordance with the applicable standards is acceptable.

Quasi-Judicial Land Use Process.
The Planning Commission role in this application is quasi-judicial, meaning that its charge is to apply the facts to the existing regulations. Unlike a legislative process, where the applicable policy can be changed, all discussion and deliberation in a quasi-judicial process should be focused on applicable standards and criteria. The applicant shall demonstrate how the criteria are met by the application. An application may be denied only for failure to meet an applicable standard or criteria.

Planning Commissioners, as decision makers, are required to report any exporting ex parte contact when receiving information, discussing the land use application or visiting the site in question outside the formal public hearing. Failure to disclose such contact may result in reversal or remand of the decision. If ex parte contact does occur, the decision-maker must disclose it on the record at the hearing, describe the circumstances under which it occurred and present any new evidence introduced through that contact.

Planning staff are not decision makers and are not subject to ex parte restrictions. Communication between staff and a member of the governing body is not an ex parte communication. ORS 227.180(4). Further, communications between staff and parties to a land use proceeding are also not ex parte communications. *McKenzie v. Multnomah County*, 27 Or LUBA 523, 532 (1994). In order words, Planning Staff's role is to meet with all people such as the applicant, their consultants, neighbors, city staff who may have questions or information that can help provide the Planning Commission information for their deliberation and decision. Planning staff typically meet with interested parties throughout the land use process, including those who seek information about the application, process, or how the criteria are applied.

Lot Averaging
16.12.050 - Calculations of lot area.
A subdivision in the R-10, R-8, R-6, R-5, or R-3.5 dwelling district may include lots that are up to twenty percent less than the required minimum lot area of the applicable zoning designation provided the entire subdivision on average meets the minimum site area requirement of the underlying zone. The average lot area is determined by calculating the total site area devoted to dwelling units and dividing that figure by the proposed number of dwelling lots.

The project includes 77 lots for the future construction of single-family detached homes in the R-8 zoning district. As permitted above, a number of the planned lots are less than 8,000 square feet. The smallest of the future lots is approximately ±6,406 square feet, which is within the maximum 20% reduction allowed by this standard. A number of the planned lots are also larger than 8,000 square feet with the largest lot being ±26,814 square feet. The average lot area is ±8,279 square feet, which exceeds the minimum square footage requirement of the R-8 zone. Although some expressed concern about the standard or modifications such as the imposition of maximum lot size requirements to equalize lot sizes, the standard is unambiguous and non-discretionary.

Retaining Large Lots near Neighboring Properties
Ensuring that comparable or cohesive lot sizes abut neighboring built subdivisions is not a criteria for Subdivision or Zone Change approval. There is no known criteria which would authorize the City to require the applicant to retain larger lots near neighboring properties.

Traffic
A Transportation Planning Rule (TPR) analysis has been included in the Transportation Impact Study (TIS), prepared by Lancaster Engineering. The TIS includes trip generation estimates for the existing R-10 zone and the planned R-8 zone, traffic count data, trip distribution and assignments, operational analysis, crash data analysis, and capacity analysis for the 20-year planning horizon consistent with the requirements of the State Transportation Planning Rule (OAR 660-012-060). Written findings are contained within the TPR analysis that

demonstrate that the TPR is satisfied by the application and that the development does results in a level of congestion which is allowed in the Oregon City Municipal Code. Therefore, the application is consistent with this Goal. John Replinger, the City's transportation consultant with Replinger and Associates concurs with the applicant's assertion that the requested zone change is consistent with the TPR.

Schools

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

The criteria relevant to schools is provided above. The City worked with the School District in implementing the Comprehensive Plan to ensure adequate capacity for the three implementing zoning designations. Further, the City provides notice to the School District of all applications for their review. In addition, the School District utilizes statistics on the number of homes being built and the number of lots created for forecasting purposes. The School District staff did not identify concerns with this zone change application and did not submit formal public comment. The requested zone change would allow up to an 11 additional lots onsite more than the maximum development requirement of the R-10 Zone.

Housing Options

Goal 10: Housing
Goal 10.1: Provide for the planning, development and preservation of a variety of housing types and lot sizes.
Policy 10.1.1
Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.
Policy 10.1.3
Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.
Policy 10.1.4
Aim to reduce the isolation of income groups within communities by encouraging diversity in housing types within neighborhoods consistent with the Clackamas County Consolidated Plan, while ensuring that needed affordable housing is provided.

The above are goals and policies from the Comprehensive Plan to guide policies on housing. Since 2002, the City has implemented these policies by making land use decisions to increase density and encouraging additional housing development by increasing the size, type and location of housing options. For example, units have been created through approval of zone changes that allowed greater density as well as through the creation of a variety of housing types ranging from single-family to multi-family and care facilities.

In 2004, the City implemented new mixed use zones, including the MUC-1, MUC-2, MUD, HC, NC and C that allows for the development of housing which is limited by building height, parking standards, lot coverage, etc (though there are some restrictions in NC). While not counted as contributing to needed housing goals in the City's Housing Technical Report (2002), the capacity from the new mixed use zones, is estimated at a potential 8,000 dwelling units within the City limits. Approximately 24.57% of the City is currently within the R-10 district while only 16.95% of the City is zoned R-8 and 13.82% is zoned R-6. Therefore, the approval of this zone change will expand the housing types and options available within the City.

Zoning in City Limits – Number of Acres:

Residential Plan Classification	City Zone
Low-Density Residential	R10 = 1589.11 (24.57%) R8 = 1095.97 (16.95%) R6 = 893.99 (13.82%)
Medium Density Residential	R3.5 = 424.15 (6.56%) R5 0%
High-Density Residential	R2 = 262.22 (4.05%)
General Commercial	C = 160.86 (2.49%) MUD = 510.19 (7.89%) WFDD = 30.44 (0.47%)
Mixed-Use Corridor	MUC1 = 168.46 (2.6%) MUC2 = 44.66 (0.69%) I = 475.31 (7.35%) HC = 8.82 (0.14%)
Mixed-Use Employment	MUE = 156.88 (2.43%)
Industrial	GI = 220.32 (3.4%) CI = 164.66 (2.55%)
County	245.38 (3.79%)

R10 currently comprises the largest minimum lot sizes in the city and consists of the largest percentage of zoned land within the City limits. As it is a default zoning designation for the Low Density Residential Comprehensive Plan designation, it is generally applied to most properties annexed into the City.

Established Older Neighborhoods
Public comments referred to the comprehensive plan policy that supported protecting older established neighborhoods in reference to this zone change request. The comprehensive plan refers to existing housing stock in established older neighborhoods as of the 2004 adoption. This was written to protect established neighborhoods with houses more than 50 years old such as Rivercrest, Mcloughlin and Canemah. The subject site was annexed into the city in 2006. Hazel Creek Farms, a neighboring R-10 subdivision was developed in 2002/2003.

Livability/Community/Existing Neighborhoods
A concern was raised about a reduction in livability and community if the proposed subdivision is approved with an R-8 zone. No evidence has been submitted that smaller lot sizes reduce the quality or compromise the character of the neighborhood. Moreover, these are not a criteria that may be considered when evaluating a Subdivision or Zone Change approval.

Property Value
A concern was raised that the smaller lots associated with the Subdivision or Zone Change would diminish the value of neighboring properties. Again, there is no evidence to support this conclusion. Rather, if this is highly desirable location, as the evidence suggests, the new homes will be similarly priced and will help the

existing housing stock retain their value. Further, there is no evidence to suggest that greater density compromises housing value. Further, this is not a criteria for Subdivision or Zone Change approval.

Conclusion

Although it is understandable that the Planning Commission has heard testimony from neighbors who are concerned about changes resulting from the proposed development, staff has not identified any applicable land use regulations or plan policies that would prohibit the proposed zone change or subdivision.

Dear Commissioners:

I have lived in the Hazel creek Farms subdivision since 2003 when it was developed and backed up to urban growth boundary. Over the last few years I've seen this property directly behind me go from County to City, R-10 and now to possibly R-8. Myself and West Rictor have gathered over 86 signatures walking door to door from residents of Hazel Creek Farms neighboorhood opposing this zoning change.

This propose new development and zoning change is very deceitful, the average person reading the letter Provided by the city proposing the zoning change simply states the request from r-10 to R-8. Clearly the average person does not know you can throw in a couple large lots and through some mathematical calculation the zone change meets r-8 zoning. The proposed plan meets the check mark for the city to approve the zoning change. When in fact 65 of the 77 lots will be less than 8,000. This clearly does not meet the goal of maintaining the existing comprehensive plan.

This change will dramatically alter the character of our neighborhood. Staff report, reports that street sizes will need to be adjusted unless the width meets the standard of OC roadway standard, but specifically points out Orchard Grove drive and Larence Lane. Please drive around the new subdivisions and look at the parking. The Staff reports that the plan is a Creation of a cohesive neighborhood with the continuation of Orchard Grove Drive & Larence Lane How is that true? The plot map showing over 65 of houses under 8,000, furthermore directly next to 12+ and 10+ square feet lots. The purposed map shows 6,000 square foot lots with set-back that are not even close to the existing homes. The driveways are set at the minimum requirements set by the city.

Just to name a few, Payson Farms No. 2, Highland Park, Central Point Crossing, and Ed's Orchard have all annexed into the City, and successfully changed the zoning from R-10 to R-8. What is the need for more zoning changes? The property located on Orchard grove drive is prime property adjacent to urban growth boundary. When has the city considered having a R10 subdivision, be a R10 subdivision (last time approved by planning commission ?)

Staff reports indicate that the lots meet the dimensions and density standards for r-8. With the approved existing subdivision currently being built central point clearly cannot handle the extra traffic. Thus making Orchard grove Drive a through street to bypass central point road.

It was my understanding the when the Wheeler Farm LLC annexed from the County to the City, that all boarding lots to urban growth would be zoned R-10. This plot map submitted by Ryan Development is a deceiving way to get a check mark from the planning commission to move forward with the zone

change.

Housing Goal 10.1: states, Provide for the planning, development and preservation of a variety of housing types and lot sizes. Policy 10.1.1 Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.

It appears to me that the staff report does a poor representation of what is outlined in the goals of the planning commission. Please SAVE our neighborhood where long standing Oregon City residents purchased, designed and built their dream homes and retirement homes.

Thank you.

Brenda Martin

TP 17-03, ZC 17-02

Wheeler Farms Subdivision

Planning Commission September 25, 2017

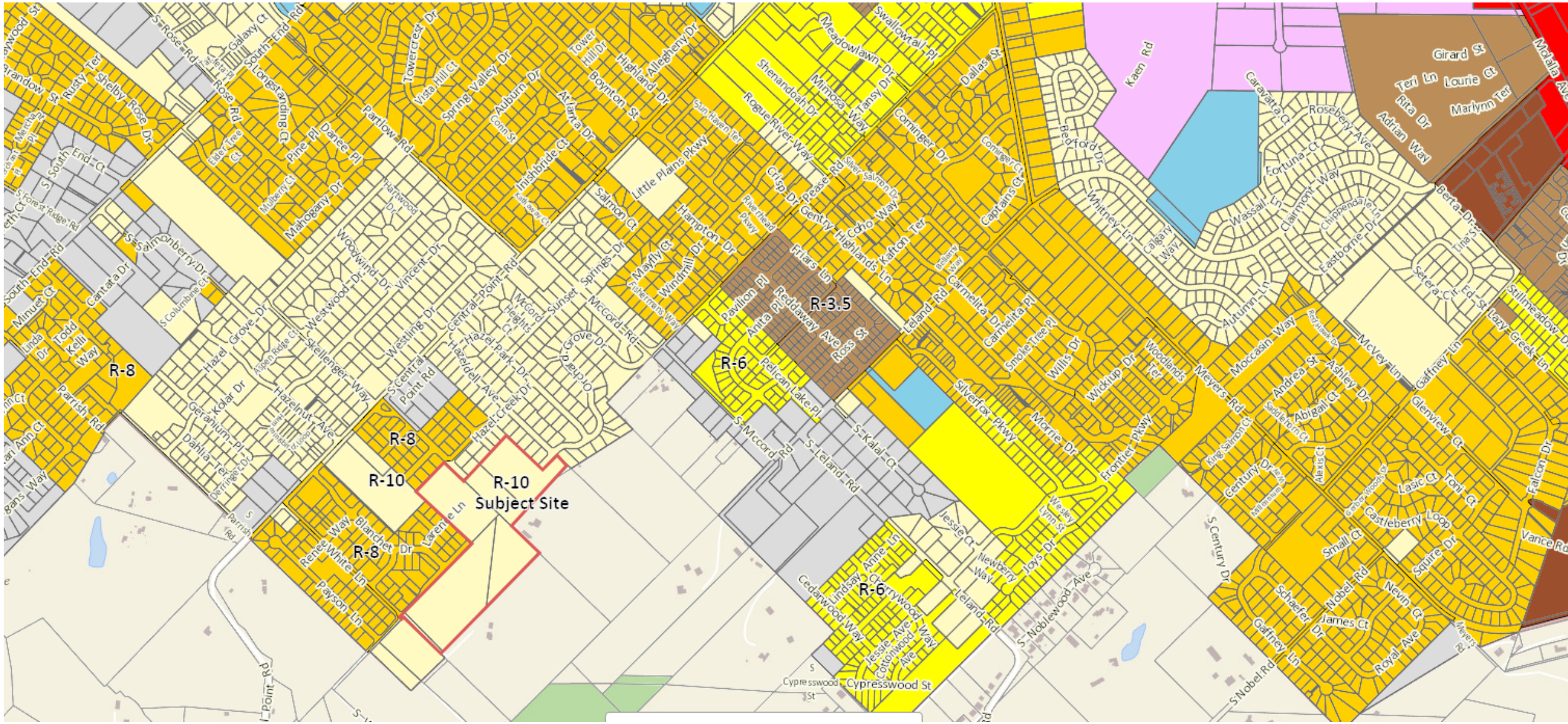
Background

- The applicant proposed a Zone Change from R-10 to R-8 for a 77-lot subdivision (Wheeler Farms) in the City of Oregon City for the future construction of single-family detached residential homes.
- Modification
  - Block standard (26 feet)
  - Cul-de-sac- (89 feet)
- Allowance of a constrained street near Tract A to save a large tree.
- Meets the dimensional and density standards of the R-8 zone
- A voluntary 1.35-acre open space area
- An integrated on-site stormwater management system including street side vegetated filtration swales and flow control
- An approximately ±1.3-acre remainder property to be incorporated into the abutting Wheeler property located off-site to the southeast

Subject Site



Subject Site- Existing Zoning



PRELIMINARY CONCEPTUAL CONNECTIVITY ANALYSIS, TRAFFIC/TRANSPORTATION, CIRCULATION, & CONCEPTUAL REDEVELOPMENT PLAN

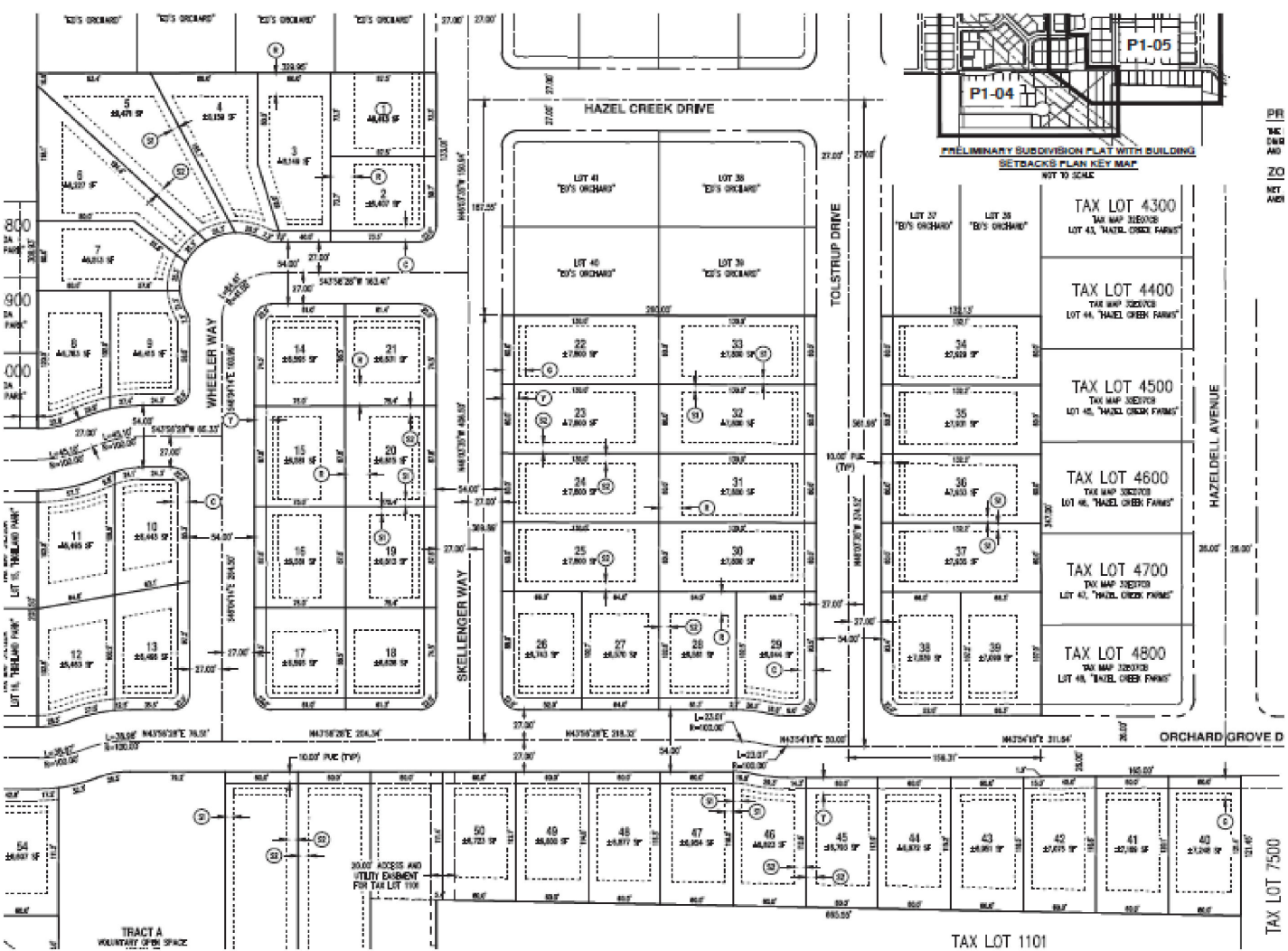
WHEELER FARMS

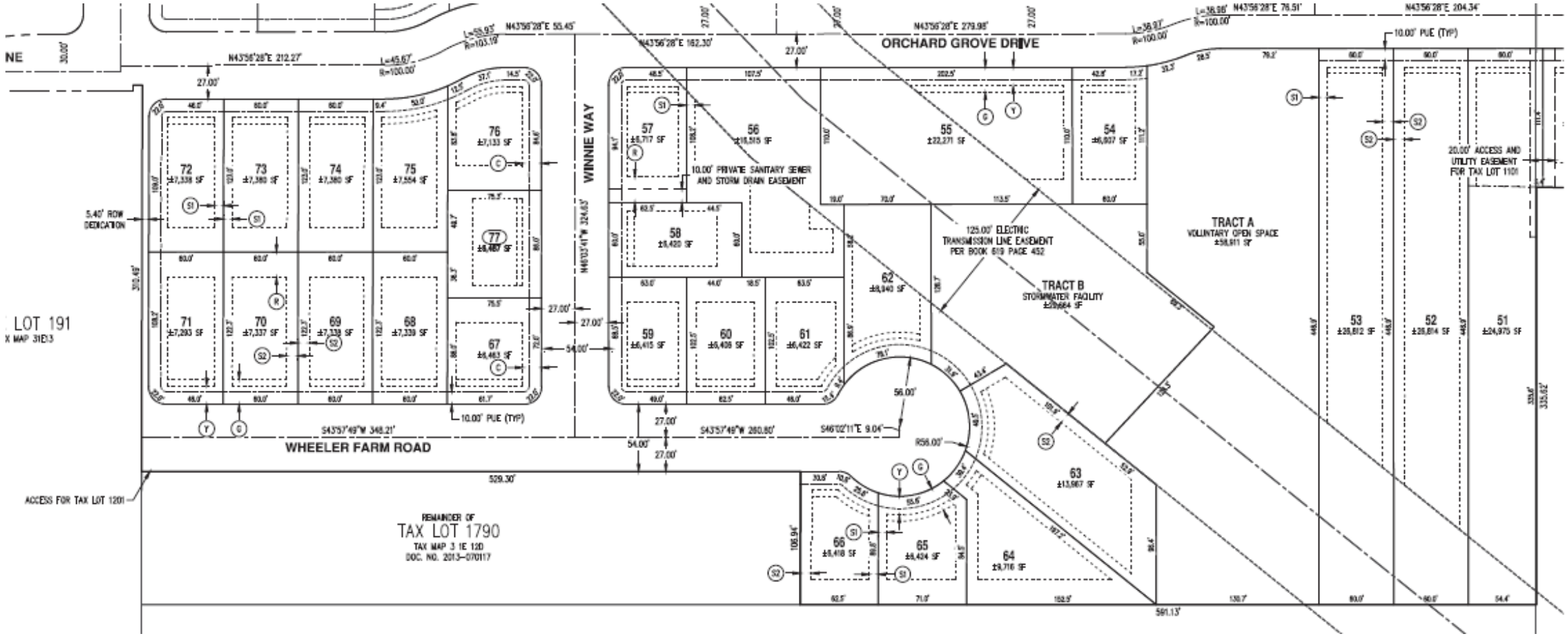
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OREGON

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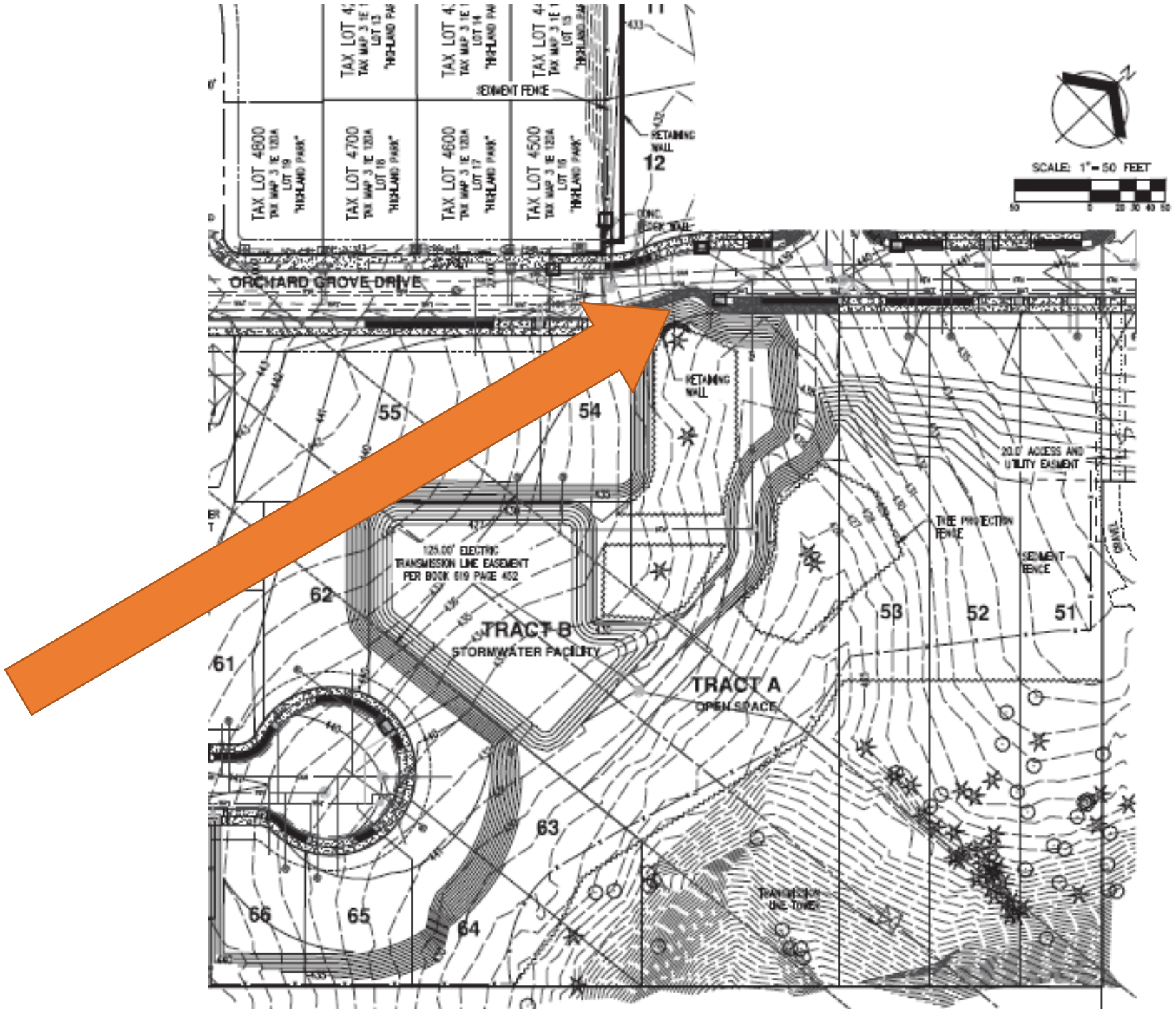
ENGINEERING • SURVEYING • NATURAL RESOURCES
FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE


P1-05
P1-04
PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS PLAN KEY MAP
NOT TO SCALE
HAZEL CREEK DRIVE
TOILSTRUP DRIVE
WHEELER WAY
SKELLENGER WAY
HAZELDELL AVENUE
ORCHARD GROVE D
TAX LOT 4300
TAX LOT 4400
TAX LOT 4500
TAX LOT 4600
TAX LOT 4700
TAX LOT 4800
TRACT A
VOLUNTARY OPEN SPACE
20.00' ACCESS AND UTILITY EASEMENT FOR TAX LOT 1100
TAX LOT 1101
TAX LOT 7500


ORCHARD GROVE DRIVE
WINNIE WAY
WHEELER FARM ROAD
N43°56'28"E 212.27'
N43°56'28"E 55.45'
N43°56'28"E 162.30'
N43°56'28"E 279.98'
N43°56'28"E 76.51'
N43°56'28"E 204.34'
S43°53'49"W 348.21'
S43°53'49"W 280.80'
S46°02'11"E 9.04'
N46°03'41"W 324.63'
L=45.67' R=100.00'
L=59.93' R=103.19'
L=36.93' R=100.00'
L=36.95' R=100.00'
27.00'
54.00'
56.00'
R56.00'
529.30'
591.13'
335.62'
10.00' PUE (TYP)
5.40' ROW DEDICATION
10.00' PRIVATE SANITARY SEWER AND STORM DRAIN EASEMENT
125.00' ELECTRIC TRANSMISSION LINE EASEMENT PER BOOK 619 PAGE 452
20.00' ACCESS AND UTILITY EASEMENT FOR TAX LOT 1101
ACCESS FOR TAX LOT 1201
TRACT A
VOLUNTARY OPEN SPACE
±58,911 SF
TRACT B
STORMWATER FACILITY
±29,684 SF
51 ±24,975 SF
52 ±28,814 SF
53 ±28,812 SF
54 ±6,807 SF
55 ±22,271 SF
56 ±18,515 SF
57 ±5,717 SF
58 ±5,420 SF
59 ±6,415 SF
60 ±5,409 SF
61 ±6,422 SF
62 ±5,940 SF
63 ±13,667 SF
64 ±9,716 SF
65 ±6,434 SF
66 ±5,418 SF
67 ±6,463 SF
68 ±7,339 SF
69 ±7,338 SF
70 ±7,337 SF
71 ±7,293 SF
72 ±7,338 SF
73 ±7,380 SF
74 ±7,380 SF
75 ±7,554 SF
76 ±7,133 SF
77 ±6,487 SF
LOT 191
X MAP 31E13
REMAINDER OF
TAX LOT 1790
TAX MAP 3 1E 13D
DOC. NO. 2013-070117

Constrained Street

Large Douglas Fir



Public Comments received

- West Susan Rictor
  - 1st letter attached to staff report
  - 2nd letter enter into record this evening

Criteria for Zone Change OCMC 17.68

17.68.020 - Criteria.

The criteria for a zone change are set forth as follows:

A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

Recommendation

Approval with Revised Conditions 19

19. NROD and Geohazard overlay shall be clearly delineated on the public facilities construction plans, and on the subsequent building site plans for each affected lot. (DS)

Revised

- COA #19. “The Geohazard overlay shall be clearly delineated on the public facilities construction plans and on the subsequent building site plans for each affected lot as described in the Geotechnical Engineering Report prepared by GeoPacific Engineering, Inc. dated June 17, 2017. Per City File No. NR 17-03, no natural resources exist on the subject site.”

West Susan Rictor
Brenda Martin
Hazel Creek Farm Neighborhood

September 18, 2017

Oregon City Planning Commission,

We are currently gathering signatures from our neighbors to Petition opposing the zoning change on the proposed development that adjoins our properties.

There are two developments that will join our neighborhood of Hazel Creek Farms. It will be an addition of 118 homes to our city. Recently there have been many new developments built in O.C. It appears that most of the developments are R 8. I understand the value and need of lower priced homes. I also feel that there needs to be a variety of homes for a balance in the city.

For most of my neighbors their home is not their first home. These are the homes that they dreamed of having and designed their custom built home. We are part of an HOA and everyone takes similar care of their home. We want our homes to hold their value and want our neighborhood to continue with cohesive homes. We are concerned about the value of our homes.

This area is a prime area of Oregon City which would attract others that want to have a home with a little space instead of feeling crammed in with smaller set backs. Some of the new lots will never have a neighbor behind them. They would be attractive lots to buyers wanting their dream home too. Homes in my neighborhood sell fast so I know that there are others that would want to be in a similar neighborhood.

One of the new developments that borders my neighborhood is Ed's Orchard, it is currently being built. It is zoned R 8. The homes in Ed's that border my neighbor's homes are on 10,000+sq ft lots which will blend with our current neighborhood. We have looked at the plot map for Ed's Orchard and compared the two developments.

Ed's Orchard

There are 41 lots with a balance of sizes.
Set backs are 15 ft from the street or 10 ft from a porch. 20 ft in the back of the house or 15 ft from a porch. Side set backs are 7 ft on one side and 9 ft on the other. The lots are smaller with smaller set backs from our neighborhood.

6,000+ sq ft there are 8 lots
7,000+ sq ft there are 12 lots
8,000+ sq ft there are 13 lots
9,000+ sq ft there is 1 lot
10,000+sq ft there are 5 lots
over there are 2 lots

The proposed Development next to us, if changed to R-8 from R-10 will be 77 lots. Set backs are the same as Ed's. All lots are 60 ft wide at the street.

6,000+ sq ft	there are 39 lots
7,000+ sq ft	there are 26 lots
8,000+ sq ft	there are 6 lots
9,000+ sq ft	there are 2 lots
10,000+ sq ft	there are 0 lots
over	there are 4 lots

Along with the zoning change we oppose the configuration of the proposed lots. There is not a balance of lot sizes. Over half of the lots are 6,000+ sq ft lots. There are only 12 lots that are 8,000+ sq ft. Of the 12 lots there are 4 lots that are over 9,000 + sq ft. They are very odd lots. Three of those lots are 60 ft wide at the street and about 450 ft wide. This plotting of lots is not sensible. Since there are a few large lots it allows many more small lots. There are homes in our neighborhood on 10,000+ sq ft lots next to 6,000 and 7,000 sq ft lots. It is going to be obvious that our neighborhood quit and another one started that doesn't flow with the current neighborhood. The development could have been designed to flow.

We have concerns of the impact on our city. Our schools are already overcrowded. Are these new neighbors going to attract voters that support our schools? The traffic in town is getting so congested during all times of the day. There is not convenient bus service to our area. We are concerned about the liveability in our town and what kind of town is being constructed with the new business's and homes. We hope that you don't let this zone change slide by without thinking about our concerns.

Thank you,

West Susan Rictor and Brenda Martin

Exhibit 2

September 25, 2017

Oregon City Planning Commission

In the notes addressing the zoning change from R 10 to R 8 the Community Development and Planning say their goal is a creation of a cohesive neighborhood. The neighborhood planned is not cohesive to the neighborhood that they will become a part of. What would be cohesive is to match the existing neighborhood with like properties that are on 10,000 sq ft lots.

The proposed neighborhood will noticeably look different. The lots as planned are 60 ft wide at the street contrasting with most of my neighborhood having 100 ft wide lots. A very noticeable difference will be a front set back of 10 ft from a home's porch and 15 ft set back in the back from a back porch along with houses being closer together.

When I have driven around the new neighborhoods many houses don't park their cars in the garage and park their cars on the street. The driveways are short because of the reduced set backs and there isn't room to park their vehicles. Our HOA rules don't allow us to keep cars parked in the street. This allows for 2 cars to pass on the street and doesn't cause obstruction of view of the road for safety.

Continuing down Orchard Grove Drive from my house there is a row of 11 lots planned that are mostly 6,000 sq ft. The property behind those lots will probably never be developed. It is a desirable place to put 10,000 ft lots that buyers would be very interested in purchasing. Putting in this row of houses is not cohesive to the homes that they border in the Hazel Creek Farm neighborhood.

The word "several" and a "number of planned lots "are used to describe how many planned lots are less than 8,000 sq ft. Counting the lots on the plot map says that in fact 65 of the 77 lots are less than 8,000 sq ft. That is more than "several".

The city's use of averaging lot size to qualify for zoning has produced what is said to be R 8 but really is an R 6 neighborhood. There are 3 lots that are 60 ft wide and about 450 ft deep, they are around 25,000 sq ft lots. These lots are what makes the development able to be called R 8 because of averaging but I think this is a deceitful use of numbers. I don't see that these 3 lots are practical for building and see them only as helping to qualify the neighborhood as R 8.

The City has approved 3,324 new dwellings within the Urban Growth Boundary. The City said that changing the zoning on the proposed development "will expand the housing types and options available within the City". I have searched on line to look at the new developments and I only see R 8 and R 6 developments. Adding more R 8 doesn't expand the availability of a variety of properties for buyers. There are buyers looking for a home that has some space around it so the houses aren't crowded and they can have a yard and have the possibility of parking an RV as my neighborhood does. Our neighborhood is a sought after area and houses in

our neighborhood sell very quickly. Keeping this property as R 10 adds more diversity and is an asset to Oregon City.

The City wants to provide and maintain affordable housing. I don't know that the prices of these homes are going to be considered affordable housing. This isn't an area that has convenient busing for those that need it and it doesn't have easy walking to go shopping.

The School District, Fire Department and Police Department were asked if changing the zoning of the property from R 10 to R 8 will have an impact on them. They answered no. That makes it sound as if they are not impacted by the larger number of homes being built. It is pointed out that changing from R 10 to R 8 will probably add 11 more houses. Their answer was to the question of adding an additional 11 homes not 77. I would like to hear what their answers to the question "what will the impact be with adding 77 more homes. I know that the Oregon City Schools are full. The development will add more streets for the police to patrol and additional calls for people in need. Our streets are noticeably congested. I don't see Central Point Road being able to handle all the additional traffic that will be added. I see your answer to that is you are making Orchard Grove Drive a main arterial street.

Another justification used for changing to R 8 zoning is because the Statewide Planning's Conservation goal says "minimum lot size results in a more efficient use of city streets and utilities. Shouldn't planning the increase in homes start with looking at the cities infrastructure How about roads for getting up to Oregon City's upper level? Do you drive McLoughin Blvd in the downtown area. When there is a traffic problem on hwy 99 have you seen the congestion on South End Rd and Central Pt Rd?

When this property was voted to be within city limits we were told it was going to be zoned R 10 and now the city is asking us to approve changing it to R 8. It feels like the city is manipulating facts and concerns of our neighborhood and justifying the plan. I ask are you really considering the impact on the city? Where does neighborhood quality fit into this plan? Who are you trying to attract to Oregon City? Are these new residents going to vote for improving our roads and schools?

I hope that you will consider the impact to our neighborhood and city. I have invested in living in the Hazel Creek Farm neighborhood. I don't want my liveability and investment be reduced. A different plan for development than what is proposed wouldn't change what we have. The city has said that they want to develop the area with property cohesive and with continuity to our neighborhood. I hope that is what gets planned.

Subject: Public comment on File No. PC 17-100 (Wheeler Farm)

From: Rick Fernandez (rmfpdx@mac.com)

To: crobertson@orcity.org;

Cc: r.t.r@att.net; martinpokey14@gmail.com;

Date: Wednesday, September 20, 2017 4:04 PM

Dear Ms Robertson-Gardiner:
I'd appreciate it if you would please provide our comments below regarding the above-referenced matter to the Planning Commission.
Thank you very much.

==========

Dear Commissioners:
We are writing to join our voices to our neighbors in the Hazel Creek Farm neighborhood in opposition to the proposed rezoning detailed in File No. PC 17-100. We fully endorse the concerns our neighbors, West Susan Rector and Brenda Martin, voiced in the letter to you dated 18 Sept 2017. The proposed new development relies on a zoning change that was dramatically alter the character of our neighborhood and will create large impacts that are inconsistent with the current uses and demands generated by existing development.

The staff report indicated that the proposed 77 lots "meet the dimensional and density standards of the R-8 zone." But this statement begs the question whether such a rezoning to R-8 is appropriate for this location and neighborhood. The more basic question is whether it *should* be rezoned to R-8 and nothing in the staff report provides any justification for so doing. A change in zoning is governed by **Chap. 17.68.020 - Criteria**. The criteria for a zone change listed there include, in part:

A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

Section II of staff's report states that "In the responses to Section 16.12.050, several of the planned lots are shown to be less than 8,000 square feet, but the average lot area across the project is approximately ±8,279 square feet. This standard is met." This, however, is not an accurate description of the number of lots that fail to meet the 8,000 sf minimum size. In fact, 65 of the 77 lots do not meet even the 8,000 sf standard, and only three of the lots that are located immediately adjacent to the 10,000 sf lots of our neighborhood are close to 8,000 sf. (Overall, only seven of the lots are greater than 8,000 sf.) This is dramatically different from the case with the Ed's Orchard development, where abutting lots were kept at 10,000 sf. In any case, reliance on the average lot size is a distortion of the actual impact, which can only be characterized as an attempt to achieve a de facto R-6 rezoning under the guise of an R-8 rezoning request. An average lot size should not be found to be in compliance when there is such a dramatic disparity in relative lot sizes to quantity of nonconforming lots.

We also take issue with the misleading analysis underlying the finding that the proposed rezoning complies with Goal 10.1 of the Comp Plan. Nothing in that Goal requires that existing zones be rezoned to higher density. In reality, that Goal calls for the "preservation of a variety of housing types and lot sizes." By stating

that ~24.57% of the City's existing housing is in the R-10 zone, while comparing it to the smaller numbers in R-8 and R-6 zones, this seems to create a mandate to reduce and not preserve R-10 that is nowhere found in the Plan. Furthermore, the more dense R zones account for at least 41.38% of housing stock. By that measure, R-10 does not seem excessive. In any case, approval can only "expand the housing types and options available" by continuing to eliminate R-10 housing, which is not consistent with Goal 10.1.

The proposal also fails to comply with Goal 10.2 by doing nothing to ensure creation or preservation of affordable housing. Simply creating smaller lots will not, alone, ensure that such housing is affordable. The staff finding is not so much a finding as a toothless aspiration, rooted in the hope that smaller lots will be cheaper (they "may be a lower cost to consumers"). But nowhere provided is any evidence to support such a hope. It is far more reasonable to presume that the development is designed to maximize profits for the developer, by selling at the highest prices that the market will bear. But this is not what affordable housing means. There are no conditions or measures in any way that will retain or promote affordable housing. The developer must be thanking his lucky stars for such a free pass.

With regard to the TPR analysis, while it did not find a need for any mitigation resulting from increased traffic, as a practical matter, we have reasonable concerns that the increased density will create even more congestion, especially before the proposed roundabout can be installed at Central Point and Warner Parrot/Warner Milne. This congestion is inconsistent with the character and development in our neighborhood. Increased demand on police services is also clearly contemplated, as referenced in staff condition #24 in staff's report and recommendation, but the required $,3500 fee per lot does little to offset legitimate neighborhood concerns about the problems that the city recognizes inevitably flow from increased density.

For the foregoing reasons, we respectfully request that the Commission disallow this increased density and preserve the current density at R-10 levels. Alternatively, if the Commission is inclined to approve, we request a condition that requires there to be a transition from R-10 to R-8 in lots adjacent to our development so that lots there are more consistent with existing housing size.

Thank you.

Rick Fernández and Henry Miller
12090 Hazeldell Ave.
Oregon City OR 97045

We are asking you to sign this petition to oppose the zoning change of the proposed development that adjoins our neighborhood. West has written a letter to the City Planning Commission stating her opposition.

We are hoping you can attend the Planning Commission meeting on September 25th at 7pm at City Hall on Molalla Ave. It would be great if someone would speak at the meeting or write their letter of opposition to the zoning change. We can take letters that you write, to the meeting if you are unable to attend. We really hope that others will write letters with their concerns. When you arrive at the meeting if you want to speak you must sign up to make a public comment. Speakers are given 3 minutes for their comments. If you are willing to speak would you contact us so we can coordinate with any others speaking. We need someone that is willing to speak. Brenda has a wood milk box on her porch. If you have a letter but can't attend the meeting you could put it in her box. If there is someone living in the neighborhood that you talk to and we didn't get to them to sign the Petition there is also a petition in Brenda's box.

We have attached the plot maps for Ed's Orchard which is currently getting started and the plot map for the proposed additional development. Ed's Orchard is zoned r-8. The proposed development is zoned r-10 but it is being requested that the zoning be changed to r-8. Ed's Orchard has 41 lots and the proposed development has 77 lots. The plot maps attached have the lot dimensions on them. The front setback is 15 ft or 10 ft from the porch. Side set backs are 7ft on one side and 9 ft on the other side. The backyard setback is 20 ft or 15 ft from a porch. The lots are 60 ft wide.

We looked at the plot maps of both developments and I have listed how many lots there are and the sizes for a comparison of the two developments to ours. For r-8 zoning the average of the lots must be 8,000 sq ft. In the proposed development there are 3 lots that are 60 ft wide and over 450 ft deep. Since there are a few very large lots it averages out as required and off sets the many 6,000 sq ft lots there are. Over half of the lots are 6,000 sq ft. This is not a balanced design and some what seems deceitful to get the R-8 zoning. In Ed's Orchard plans the properties that border our neighborhood are all 10,000+ sq ft lots. That consideration was not made in the new development. West's lot is 12,000+ and next to her is a row of 11 houses that are mostly 6,000 sq ft lots that are 60 feet wide at the road. There isn't a flow from bigger lots to smaller. The lot design could have been more cohesive to our neighborhood

ED'S ORCHARD 41 lots	
6,000+ ft	there are 8 lots
7,000+ ft	there are 12 lots
8,000+ ft	there are 13 lots
9,000+ ft	there is 1 lot
10,000+ ft	there are 5 lots
over	there are 2 lots

PROPOSED DEVELOPMENT 77 lots	
6,000+ ft	there are 39 lots
7,000+ ft	there are 26 lots
8,000+ ft	there are 6 lots
9,000+ ft	there is 1 lot
10,000+ ft	there are 0 lots
over	there are 4 lots

West talked to someone in the Planning Commission office. He told her that the plot map for the proposed development is strange but as long as a lot is 60 ft at the street other dimensions can be anything. He said that the planning commission wants continuity in neighborhoods and they are very receptive to listening to neighborhood groups about their concerns. He said that our concern was worth addressing.

Both of us have concerns about how the new neighborhood will be different than ours and how it will affect us and the entire neighborhood even if you are not living next door to one of the new homes. I am hoping with giving you some information that you will want to share your concerns with the Planning Commission about the zoning change and the negative impact on our neighborhood. We have a great location and buyers seem to want to live in our neighborhood. I think that there are others that wish to live in a neighborhood like ours and the developer will be able to sell his properties without the zone change.

You can drive around O.C. and look at the developments of row style homes that have been built a few years ago and what do they look like now? Look at the developments where the houses are crammed in with small set backs. That isn't the neighborhood we wanted to live in. Since they will have short driveways their cars will be parked in the street. That makes the streets narrow for driving through. Brenda has a friend that is part of the "Oregon City Chat" and she told Brenda that there are police calls constantly to the houses over there.

We agree that we need to have some affordable housing. It just seems that O.C. is not balancing the smaller homes to homes that are attractive to buyers that want some space around them and want to be able to park an RV. Some people like living in a neighborhood with HOA's so they can count on the homes around them being kept up.

Brenda and I built our dream homes and planned that they would be our forever home. We knew that someday homes would be built next to us. We thought that someone would want to continue building comparable homes because our homes sell quickly so there is a market for similar homes. **When the city lines were changed and this property was brought in to the city it was Zoned R – 10. We do not want that changed to R – 8.** I know that there was someone interested in the property that would have built a cohesive development to ours.

We are unsure about O.C. being able to handle all the new homes. We believe this is going to have a big impact on our schools which are already full and the traffic which is noticeably congested now. Think about how many more cars this will be in our town. We don't think that OC can handle the increase in people. We wonder if the new homeowners will be people that will vote for our schools and other improvements in our city.

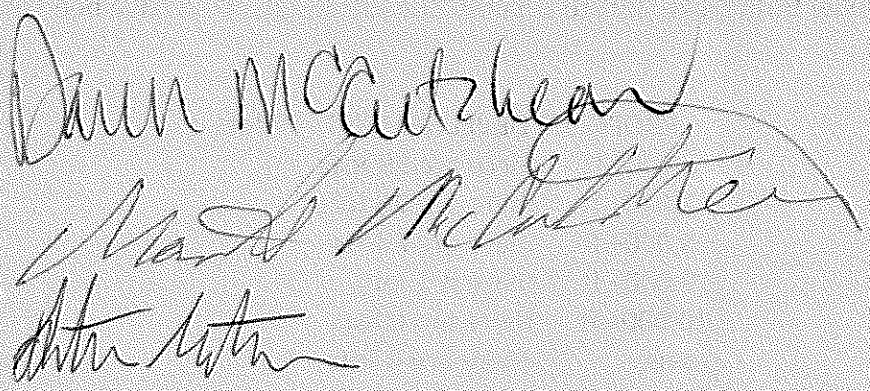
Rian Park Development, Inc. is the company that wants to develop the property. I have looked the company up and found that they have been in business for 7 years. The other developments of Rian Park in Oregon City have even smaller lots.

You can contact either of these neighbors:

West Rictor
r.t.r@att.net
503-518-6808

Brenda Martin
Martinpokey14@gmail.com

THANK YOU



PETITION

ZONING CHANGE ZC-17-0002

(7)

SUBDIVISION TP-17-0003

Currently the proposed Subdivision TP-17-0003 is zoned as R 10. We are petitioning that this property not be changed to R 8 zoning.
We are residents in the Hazel Creek Farm neighborhood. We oppose changing the zoning from R 10 to R 8 on the property that adjoins our neighborhood. We want the new development to be a cohesive neighborhood to our current neighborhood. The lots plotted in the new development only have 8 lots that are 8,000+ sq ft. That doesn't appear to be cohesive to the lots currently being developed in Ed's Orchard which also adjoins the proposed development.

	Printed Name	Signature	Address	Date
1	LEO L. MARSH	Leo L Marsh	12121 Hazeldell Ave	7-18-17
2	VIRGINIA L HOKKANEN	Virginia L. Hokkanen	12121 Hazeldell Ave	7/18/17
3	JESS BALDWIN	Jess Baldwin	12079 HAZELDELL AVE	9/17/17
4	Tammy Baldwin	Tammy Baldwin	12079 Hazeldell Ave	9/17/17
5	Douglas Thurston	Douglas Thurston	12070 Hazeldell Ave	9/17/17
6	ROGER DUNIGAN	Roger Dunigan	12099 " "	9.17.17
7	MICHAEL EUBANKS	Michael Eubanks	12100 " "	9/18/17
8	Robert Kelly	R Kelly	19456 Orchard Crossover	9/25/17
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PETITION

ZONING CHANGE ZC-17-0002

(13)

SUBDIVISION TP-17-0003

Currently the proposed Subdivision TP-17-0003 is zoned as R 10. We are petitioning that this property not be changed to R 8 zoning.
We are residents in the Hazel Creek Farm neighborhood. We oppose changing the zoning from R 10 to R 8 on the property that adjoins our neighborhood. We want the new development to be a cohesive neighborhood to our current neighborhood. The lots plotted in the new development only have 8 lots that are 8,000+ sq ft. That doesn't appear to be cohesive to the lots currently being developed in Ed's Orchard which also adjoins the proposed development.

	Printed Name	Signature	Address	Date
1	Kathy Boeckel	Kathy Boeckel	12131 Hazeldell Ave	9/20/17
2	Leah Sundquist	[illegible]	19496 Orchard Grove	9/20/17
3	Corinne Kinnaman	Corinne Kinnaman	19476 Orchard Grove Dr.	9.21.17
4	Jeff Landstrom	[illegible]	19427 Orchard Grove	9-21-17
5	Wilfreda Rafferty	Wilfreda Rafferty	19448 Orchard Grove Dr.	9-21-17
6	Larry Rafferty	Larry Rafferty	19448 Orchard Grove Dr.	9-21-17
7	Hayley Hartlaub	Hayley [illegible]	19436 Orchard Grove Dr	9-21-17
8	Audrey Jaggi	Audrey Jaggi	19410 Orchard Gr. Dr.	9-21-17
9	Dennis Wacker	Dennis Wacker	19384 Orchard Grove	9-21
10	Earl Hall	Earl Hall	19391 Orchard Grove	9-21
11	[illegible]	Emma Kimble-Mook	19395 Orchard Grove	9/21
12	ROBERT TERRILL	Robert Terrill	19435 ORCHARD GROVE DR.	9/21
13	Andrew Rutter	[illegible]	19500 Orchard Grove Dr.	9/21
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PETITION

ZONING CHANGE ZC-17-0002

SUBDIVISION TP-17-0003

Currently the proposed Subdivision TP-17-0003 is zoned as R 10. We are petitioning that this property not be changed to R 8 zoning.
We are residents in the Hazel Creek Farm neighborhood. We oppose changing the zoning from R 10 to R 8 on the property that adjoins our neighborhood. We want the new development to be a cohesive neighborhood to our current neighborhood. The lots plotted in the new development only have 8 lots that are 8,000+ sq ft. That doesn't appear to be cohesive to the lots currently being developed in Ed's Orchard which also adjoins the proposed development.

	Printed Name	Signature	Address	Date
1	Rose Vanden Bos	Rose Vanden Bos	12132 - Hazel Park Dr	9-20
2	Rob Temple		12122 Hazel Park Dr	9-20
3	Dale Larsen		12112 Hazel Park Dr.	9-20
4	KEVIN RAMSEY		12062 HAZEL PARK DR.	9-20
5	Laura Gertz		12032 Hazel Pk Dr	9.20
6	J Heins	J Heins	12120 Hazeldale	9/20
7	N Wan		19452 Orchard Grove	9/21
8	Delmen Wankentry	19447 Orchard		9/21/17
9	Katie Tracy		19439 Orchard Grove	9/21/17
10	Robert Whiting		19431 Orchard Grove Dr	9/21/17
11	Julie Whiting		19431 Orchard Grove Dr	9/21/17
12	Lisa Perrigo		19415 Orchard Grove Dr	09/21/17
13	NEAL ROBINSON	Neal Robinson	19405 Orchard Grove Dr	9/21/17
14	DENNIS KENNEDY		12140 Hazelwood Ave	9-24-17
15	RONDA KENNEDY		12140 HAZELWOOD AVE	9/24/17
16	West & Richter	West Susan Richter	19500 Orchard Grove Dr	9/24/17
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PETITION

ZONING CHANGE ZC-17-0002

(18)

SUBDIVISION TP-17-0003

Currently the proposed Subdivision TP-17-0003 is zoned as R 10. We are petitioning that this property not be changed to R 8 zoning.
We are residents in the Hazel Creek Farm neighborhood. We oppose changing the zoning from R 10 to R 8 on the property that adjoins our neighborhood. We want the new development to be a cohesive neighborhood to our current neighborhood. The lots plotted in the new development only have 8 lots that are 8,000+ sq ft. That doesn't appear to be cohesive to the lots currently being developed in Ed's Orchard which also adjoins the proposed development.

	Printed Name	Signature	Address	Date
1	Alice Hayden	Alice Hayden	19493 Orchard Grove Dr.	9/20/17
2	Jerry Boyd	Jerry Boyd	19492 Orchard Grove Dr	9/20/17
3	Joan Boyd	Joan Boyd	19492 Orchard Grove Dr	9/20/17
4	Linda Simonton	Linda Simonton	19484 Orchard Grove Dr	9/20/17
5	Ben Simonton	Ben Simonton	19484 Orchard Grove Drive	9-20-17
6	Becki Coulsey	Becki Coulsey	19480 Orchard Grove Dr	9/20/17
7	Ann Kennitzer	Ann Kennitzer	19464 Orchard Grove Dr.	9/20/17
8	Bill Kennitzer	Bill Kennitzer	19464 ORCHARD GROVE	9/20/17
9	David Shoup	David Shoup	19483 Orchard Grove Dr	9-20-17
10	Shelley McCoy	Shelley McCoy	12129 Hazel Park Dr	9/20/17
11	Jill Dirr	Jill Dirr	12119 Hazel Park Dr	9/20/17
12	Kathy Ballinger	Kathy Ballinger	12102 Hazel Park Dr	9/20/17
13	Nick Ballinger	Nick Ballinger	12102 Hazel Park Dr	9/20/17
14	Michael Pomeroy	Michael Pomeroy	19494 Hazel Creek Dr.	9-20-17
15	Robert Adams	Robert Adams	12082 Hazel Park Dr.	97045
16	Susan ADAMS	Susan Adams	12082 HAZEL Park Dr	97045
17	Danielle Clark	Danielle Clark	12051 Hazel Park Dr.	97045
18	Stephen Eubanks	Stephen Eubanks	11982 Hazel Park Dr.	97045

PETITION

17

ZONING CHANGE ZC-17-0002

SUBDIVISION TP-17-0003

Currently the proposed Subdivision TP-17-0003 is zoned as R 10. We are petitioning that this property not be changed to R 8 zoning.
We are residents in the Hazel Creek Farm neighborhood. We oppose changing the zoning from R 10 to R 8 on the property that adjoins our neighborhood. We want the new development to be a cohesive neighborhood to our current neighborhood. The lots plotted in the new development only have 8 lots that are 8,000+ sq ft. That doesn't appear to be cohesive to the lots currently being developed in Ed's Orchard which also adjoins the proposed development.

	Printed Name	Signature	Address	Date
1	Sherry Gregory	Sherry Gregory	12130 Hazeldell Ave	9/19/17
2	Chuck Gregory	Chuck Gregory	12138 Hazeldell Ave	9-19-17
3	Brian Zuettlow	Brian Zuettlow	12117 HAZEL DELL AV	9-19-2017
4	RICK Fernandez	Rick Fernandez	12090 Hazeldell Av	9-19-17
5	HENRY MILLER	Henry A. Miller III	12090 HAZELDELL AVE	9/19/17
6	Brodie Nielsen	Brodie Nielsen	12060 Hazeldell ave	9/19/17
7	Ford Anderson		12050 HAZELDELL AVE	9/19/17
8	Lauri Anderson	Lauri Anderson	12050 Hazeldell Ave	9/19/17
9	Norman Wiebold	Norman R Wiebold	12058 Hazeldell Ave	9-19-17
10	DARLene Wiebold	Darlene Wiebold	" "	
11	Anjill Schindbeck	Anjill Schindbeck	12049 Hazeldell Ave	9/18/17
12	Terri M Eachern	Terri M Eachern	12030 Hazeldell Ave	9/19/19
13	Jim McEachern	Jim McEachern	12030 Hazeldell Ave	9/19/17
14	Tamara Peyton	Tamara S Peyton	12019 Hazeldell Ave	9/19/17
15	Jim Sanderson		12022 Hazel	9-19-17
16	Cam Sanderson	Cam Sanderson	"	9-19-17
17	Debra Carino	Debra Carino	12031 Hazel Park Drive	9-19-17
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PETITION

ZONING CHANGE ZC-17-0002

SUBDIVISION TP-17-0003

Currently the proposed Subdivision TP-17-0003 is zoned as R 10. We are petitioning that this property not be changed to R 8 zoning.
We are residents in the Hazel Creek Farm neighborhood. We oppose changing the zoning from R 10 to R 8 on the property that adjoins our neighborhood. We want the new development to be a cohesive neighborhood to our current neighborhood. The lots plotted in the new development only have 8 lots that are 8,000+ sq ft. That doesn't appear to be cohesive to the lots currently being developed in Ed's Orchard which also adjoins the proposed development.

	Printed Name	Signature	Address	Date
1	Scott & Lori Stamps	Lori Stamps	12012 Hazel Park	9/19/17
2	Karen Sackos	Karen Sackos	19498 Hazel Creek Dr	9/20/17
3	Shawn Ziettlow	Shawn Ziettlow	12111 Hazeldell Ave	9/25/17
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PETITION

ZONING CHANGE ZC-17-0002

SUBDIVISION TP-17-0003

Currently the proposed Subdivision TP-17-0003 is zoned as R 10. We are petitioning that this property not be changed to R 8 zoning.
We are residents in the Hazel Creek Farm neighborhood. We oppose changing the zoning from R 10 to R 8 on the property that adjoins our neighborhood. We want the new development to be a cohesive neighborhood to our current neighborhood. The lots plotted in the new development only have 8 lots that are 8,000+ sq ft. That doesn't appear to be cohesive to the lots currently being developed in Ed's Orchard which also adjoins the proposed development.

	Printed Name	Signature	Address	Date
1	Angie Crone	Angie Crone	11942 Hazel park Dr	Sep 19
2	Mark Crone		11942 Hazel park Dr	Sep 19
3	Paula Curl	Paula Curl	11942 Hazelpark Dr	Sep 19
4	LEON MULLER		11952 Hazel Park Dr	Sep 19
5	Susan E. Muller	Susan E. Muller	11952 Hazel Park Dr.	Sept 19
6	Jaileene Eubanks		11982 Hazel Park DR.	Sept 19
7	Beverley A. Hirsch	Beverley A. Hirsch	11992 Hazel Pk Dr.	Sept. 19
8	John M Peyton		12019 Hazeldell Ave	9/19/17
9	Peter Bennett	Peter Bennett	12029 Hazeldell Ave	9/24/17
10	Paula Bennett	Paula Bennett	"	"
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COMMENT FORM

PLEASE PRINT CLEARLY

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 9/25/2017

Item Number From Agenda 3C

NAME: West Susan Rictor

ADDRESS: **Street:** 19500 Orchard Grove Dr

City, State, Zip: Oregon City, OR

PHONE NUMBER: 503-518-6808

E-MAIL ADDRESS: rt.r@att.net

SIGNATURE: West Susan Rictor

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 9/25

Item Number From Agenda 3C

NAME: Bob Kelly

ADDRESS: **Street:**

City, State, Zip: OR City, OR 97045

PHONE NUMBER: 503-655-7811

E-MAIL ADDRESS: SOFTBALL.bob@gmail.com

SIGNATURE: Bob Kelly by Bill Kennedy

19464 ORCHARD GROVE DR
OR CITY 97045

COMMENT FORM



*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 9/

Item Number From Agenda 3C

NAME: Brenda Martin

ADDRESS: **Street:** Hazeldell Ave

City, State, Zip: OC OR

PHONE NUMBER: 503 518 2052

E-MAIL ADDRESS: martinpokey14@gmail.com

SIGNATURE: B Martin

COMMENT FORM

OREGON CITY

PLEASE PRINT CLEARLY

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 9/25/17

Item Number From Agenda 3c

NAME: Joe Wheeler

ADDRESS: **Street:** 19725 Orchard Grove Dr.

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER: 503.260.6104

E-MAIL ADDRESS: joe.e.wheeler@comcast.net

SIGNATURE: Joe Wheeler

Wheelerfarms

COMMENT FORM

OREGON CITY

PLEASE PRINT CLEARLY

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting _____

Item Number From Agenda 3c.

NAME: ~~TERRY~~ Terry Boyd

ADDRESS: **Street:** 19492 Orchard Grove Dr

City, State, Zip: Oregon city 97045

PHONE NUMBER: _____

E-MAIL ADDRESS: Terryboydms@gmail.com

SIGNATURE: _____

COMMENT FORM

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OREGON CITY

Date of Meeting 9/25/17

Item Number From Agenda 3c.

NAME: Cira Collins

ADDRESS: **Street:** 19717 Orchard Grove Drive

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER: 971-645-7854

E-MAIL ADDRESS: ciracollins@gmail.com

SIGNATURE: Cira Collins

COMMENT FORM

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- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 9/24/17

Item Number From Agenda 3C

NAME: VIRGINIA HOKKANEN

ADDRESS: **Street:** 1121 HAZELDELL

City, State, Zip: OC OR 97045

PHONE NUMBER: 503-518-1942

E-MAIL ADDRESS: dumbokai@msn.com

SIGNATURE: Virginia L. Hokkanen

COMMENT FORM

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OREGON CITY

Date of Meeting 9-25-2017

Item Number From Agenda 3c

NAME: Kirk Gill

ADDRESS: **Street:** 11262 S. White Ln.

City, State, Zip: Oregon City, OR

PHONE NUMBER: 971-222-4115

E-MAIL ADDRESS: Kcampgill@gmail.com

SIGNATURE:

COMMENT FORM

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OREGON CITY

Date of Meeting 9/25/17

Item Number From Agenda 3c

NAME: Brenda Wheeler

ADDRESS: **Street:** 19725 Orchard Grove Dr.

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER: 503.260.6106

E-MAIL ADDRESS: brendaspotdwheeler@gmail.com

SIGNATURE:

COMMENT FORM

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OREGON CITY

Date of Meeting 9/25/17

Item Number From Agenda 3C

NAME: LEO MARSH

ADDRESS: **Street:** 1121 HAZELDELL

City, State, Zip: OC OR 97045

PHONE NUMBER: 503-~~557~~8518-1942

E-MAIL ADDRESS:

SIGNATURE: Leo J Marsh

COMMENT FORM

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OREGON CITY

Date of Meeting 9/25/17

Applicant

Item Number From Agenda 3c

NAME: Michael Ard

ADDRESS: **Street:** 321 SW 4th Ave. Suite 400

City, State, Zip: Portland, OR 97204

PHONE NUMBER: 503-248-0313

E-MAIL ADDRESS: mike@lancasterengineering.com

SIGNATURE: Michael Ard

COMMENT FORM

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OREGON CITY

Date of Meeting 9-25-17

Item Number From Agenda 3c

NAME: MONTY HURLEY - AKS ENGINEERING

ADDRESS: **Street:** 12965 SW HERMAN ROAD, SUITE 100

City, State, Zip: TUALATIN, OR 97062

PHONE NUMBER: 503-563-6151

E-MAIL ADDRESS: monty@aks-eng.com

SIGNATURE: MH

COMMENT FORM



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- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting _____ Applicant

Item Number From Agenda ____

NAME: BRIAN ZIETTLOW

ADDRESS: **Street:** 12111 HAZELDELL AVE

City, State, Zip: OREGON City

PHONE NUMBER: 503 655-9617

E-MAIL ADDRESS:

SIGNATURE:

COMMENT FORM

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Date of Meeting 9/25/17

Item Number From Agenda 3C

Applicant

NAME: Chris Goodell

ADDRESS: **Street:** 12965 SW Herman Road #100

City, State, Zip: Tualatin, OR 97062

PHONE NUMBER: (503) 563-6151

E-MAIL ADDRESS: chrisg@aks-eng.com

SIGNATURE:

COMMENT FORM

OREGON CITY

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Date of Meeting 9/25/17

Item Number From Agenda 3C

NAME: Don Wheeler

ADDRESS: **Street:** 19898 S. White Lane

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER: 503-819-4171

E-MAIL ADDRESS: dwheeler@pekin.biz

SIGNATURE: Don Wheeler

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE IV ZONE CHANGE AND SUBDIVISION APPLICATION
STAFF REPORT AND RECOMMENDATION
September 18, 2017

FILE NUMBER: Subdivision: TP 17-03
Zone Change: ZC 17-02

Application Submitted: 6/20/2017
Application Complete: 7/20/2017
120-Day Decision Deadline: 11/7/2017

APPLICANT: Rian Park Development, Inc.
PO Box 2559
Oregon City, OR 97045

OWNER: Wheeler Family Enterprises, LLC
David H. Wheeler Sr. Trust
Donald W. & Roxanne O. Wheeler

REQUEST: The applicant is seeking approval for a Zone Change from "R-10" Single-Family Dwelling District to "R-8" Single-Family Dwelling District and a Subdivision of 77 lots, w/ One Stormwater Facility Tract and one Open Space Tract.

LOCATION: Map 32E07C Tax Lot 1001 (Wheeler Family Enterprises, LLC), Map 32E07C Tax Lots 1100 (19566 Central Point Rd), and 1180 (David H. Wheeler Sr. Trust), Map 32E07C Tax Lot 1291 (Donald W. & Roxanne O. Wheeler), Map 31E12D Tax Lots 1700, 1790 (Wheeler Family Enterprises, LLC)

REVIEWER: Christina Robertson-Gardiner, AICP, Senior Planner
Mario De La Rosa, Development Engineer

RECCOEMNDATION: Approval with Conditions.

PROCESS: Type IV decisions include only quasi-judicial plan amendments and zone changes. These applications involve the greatest amount of discretion and evaluation of subjective approval standards and must be heard by the city commission for final action. The process for these land use decisions is controlled by ORS 197.763. At the evidentiary hearing held before the planning commission, all issues are addressed. If the planning commission denies the application, any party with standing (i.e., anyone who appeared before the planning commission either in person or in writing) may appeal the planning commission denial to the city commission. If the planning commission denies the application and no appeal has been received within ten days of the issuance of the final decision then the action of the planning commission becomes the final decision of the city. If the planning commission votes to approve the application, that decision is forwarded as a recommendation to the city commission for final consideration. In either case, any review by the city commission is on the record and only issues raised before the planning commission may be raised before

the city commission. The city commission decision is the city's final decision and is appealable to the land use board of appeals (LUBA) within twenty-one days of when it becomes final. IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722-3789.

Recommended Conditions of Approval
Planning Files TP 17-03 & ZC 17-02

(P) = Verify that condition of approval has been met with the Planning Division.
(DS) = Verify that condition of approval has been met with the Development Services Division.
(B) = Verify that condition of approval has been met with the Building Division.
(F) = Verify that condition of approval has been met with Clackamas Fire Department.

Prior to issuance of a plat for the Proposed Development:

1. Timing of construction of public improvements and provision of guarantees shall comply with section 16.12.105 and 16.12.110 of the Municipal Code. (DS)

2. Temporary water looping is required along White Lane Right-of-Way until an 8-inch water main is extended when White Lane Right-of-Way is fully developed. Water system improvements shall include an 8-inch waterline extension to the southeast in the proposed intersection improvements of White Lane and Orchard Grove Drive with reduction to a temporary 4-inch waterline extension in an easement along proposed White Lane Right-of-Way and looped to the proposed water main at the street intersection of the southeasterly subdivision street (proposed Wheeler Farm Road). (DS)

3. The Applicant must demonstrate all properties can be served with a gravity sewer system meeting the City's sanitary sewer design standards, and all other applicable standards. Otherwise, sanitary sewer pump station or other approved method shall be provided. (DS)

4. A final stormwater report shall be submitted with the public facilities construction plans to fully address all applicable Stormwater and Grading Standards, including downstream analysis. (DS)

5. The final stormwater design shall incorporate maintenance access to the Tract B stormwater facility relocated to a more direct route, such as from Wheeler Farm Road cul-de-sac, and stormwater piping traversing Tract A relocated to a more direct route, such as the border of Lots 54 and 55, unless shown that the proposed configuration is the only feasible option.

6. The stormwater management facility will be publicly-owned and maintained and will be transferred to public ownership following the 2-year warranty period. During the 2-year warranty period, the applicant is responsible for all maintenance of landscaping and shall provide cash surety of 110% of landscaping costs. Alternatively, the applicant may execute an agreement with the City to provide maintenance services during the 2-year period, to be paid at actual landscape contract rates. (DS)

7. Ten-foot public utility easements along all street frontages and all easements required for the final engineering plans shall be dedicated on the final plat. (DS)

8. The applicant shall provide written approval from PGE allowing the public stormwater facility proposed in Tract B to be placed within the 125-foot transmission easement.

9. The applicant shall comply with all applicable sections of City of Oregon City Engineering Policy 00-01 and Public Works design standards. (DS)

10. Applicant shall execute a binding agreement to not remonstrate against the formation of a local improvement district for street, water, wastewater and stormwater improvements that benefit the applicant's property. (DS)

11. A fee-in-lieu payment will be required for the northeasterly half street improvements on White Lane from the proposed street improvements at the intersection of White Lane and Orchard Grove Drive to the southeasterly boundary of the proposed development. (DS)

12. The applicant shall dedicate 54-feet of right-of-way for Orchard Grove Drive, Winnie Way, Wheeler Farm Road, Larence Lane, Skellenger Way, and Tolstrup Drive. All new streets shall consist of two (2) 16-foot-wide shared travel lanes, two (2) 5.5-foot-wide planter strips (inclusive of 0.5-foot wide curb), two (2) 5-foot-wide sidewalks, and two (2) 0.5-foot-wide public access strips. Additional requirements include curb, gutter, street trees, and street lights. (DS)

13. Applicant required to meet half-street roadway standards for portions of Orchard Grove Drive and Skellenger Way to roadway centerline, unless it is determined that a lesser width will meet the standard. (DS)

14. Applicant to provide full street improvements across Orchard Grove Drive along portion of roadway where existing curb exists in compliance with Oregon City roadway standards. (DS)

15. The proposed constrained cross-section of Orchard Grove Drive adjacent to Tract A will be approved contingent upon the following requirements; 1. Evaluation by certified arborist stating the 54" Douglas Fir Tree #10012 is likely to survive the proposed grading, and for how long after construction; 2. Submittal of scaled cross-section showing street, sidewalk, grading, tree canopy and tree root zone; 3. Modification of street alignment as far north as practicable, and with abrupt curvature smoothed out to maximum extent practicable. (DS)

16. A final site Residential Lot Grading Plan shall be required as part of the public facilities construction plans per the City's Residential Lot Grading Criteria and the International Building Code. (DS)

17. The applicant is responsible for obtaining a 1200-C permit from Oregon Department of Environmental Quality prior to commencement of construction activities. (DS)

18. The applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval and obtain a City Erosion Control permit. (DS)

19. NROD and Geohazard overlay shall be clearly delineated on the public facilities construction plans, and on the subsequent building site plans for each affected lot. (DS)

20. Applicant's Geotechnical Engineer shall approve location and grading for the stormwater facility in relation to the geologic hazard area. (DS)

21. Applicant's Geotechnical Engineer shall certify that construction was completed in accordance with Geotechnical Report recommendations. Prior to issuance of a building permit, the applicant shall submit a completed a waiver of damages and an indemnity and hold harmless agreement provided by the City. (DS)

22. Applicant shall be responsible for payment of City's Geotechnical Consultant review fees. (DS)

23. City shall reimburse developer for completion of segments of Larence Lane and Orchard Grove Drive, which were required of TP 15-01 but deferred due to topographical constraints.

24. Per Annexation AN 06-02, each new home submitted before July 1, 2018 is required to mitigate the impact of the new home on the Police services they will provide with a fee of $3,500. Credit is provided for each existing dwelling which is removed. (P)

25. The applicant shall demonstrate that Tax Lot 1201 at 19898 S White Lane, and Tax Lot 1101 at 19588 S Central Point Road maintain adequate access to or frontage on a public street as required by Clackamas County through a lot line adjustment, easement, or access agreement/covenant, and access shall be documented on the plat as applicable. (DS)

26. The plat, and a document/covenant referenced on the plat shall identify that Tract A is proposed for voluntary open space and shall not be further subdivided or developed without approval of a Type IV application, and the plat shall clearly state restrictions, purpose, and perpetual ownership of Tract A. (P)

27. The applicant has prepared a tree mitigation plan that appear to meet the development code for Option 1 and Option 4. Prior to submitting a grading permit, the applicant shall indicate where and how existing trees will be protected and provide a fee in lieu calculation. Fee in lieu payment shall occur before the site is platted. (P)

28. Prior to Occupancy of Building Permits the applicant shall record a permanent, protective covenant or easement on all properties with new or existing trees planted on private property in a form acceptable to the City for each lot with existing or mitigation trees. (P)

29. The applicant has proposed a street layout that requires 209 street trees. Final review of tree placement will occur during civil plan review and shall comply with the standards in OCMC 12.08. The species will be street trees from the Oregon City Street Tree List (or approved by a certified arborist). If there are remaining trees that cannot be planted for spacing reasons, the applicant shall pay fee in lieu for prior to platting. (P)

30. Prior to plat of the proposed subdivision, the applicant shall demonstrate that all existing structures comply with the permitted uses and dimensional standards of the R-8 Single-Family Dwelling District or have been relocated. (P)

I. BACKGROUND:

1. Existing Conditions

The project includes six tax lots that comprise a total of approximately ±22.56 acres. The project site is generally located south of the Ed's Orchard Subdivision, west of the Hazel Creek Farms Subdivision, east of the Highland Park Subdivision. The subject site is also north of the abutting Urban Growth Boundary. The subject properties have been historically used as a hazelnut orchard and Christmas tree farm. There are no designated or identified wetlands or perennial streams on the project site as verified through a previous Natural Resource Overlay District Verification application.

Figure 1. Vicinity Map



Figure 2. Existing Conditions

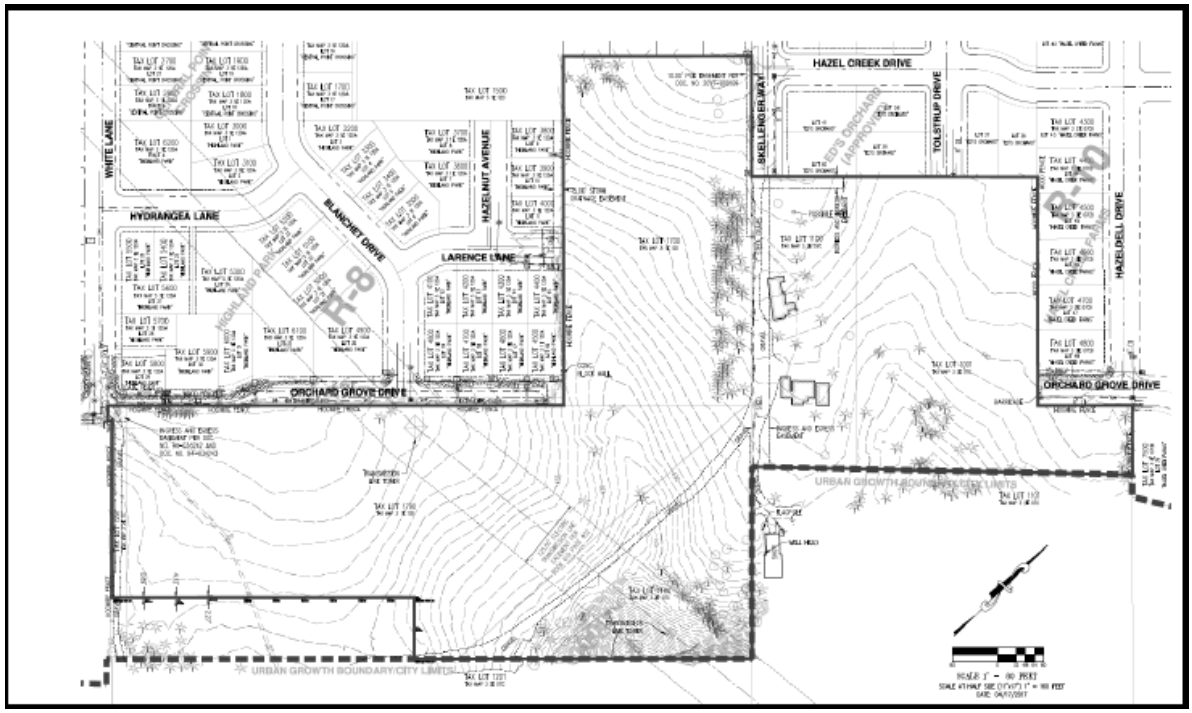
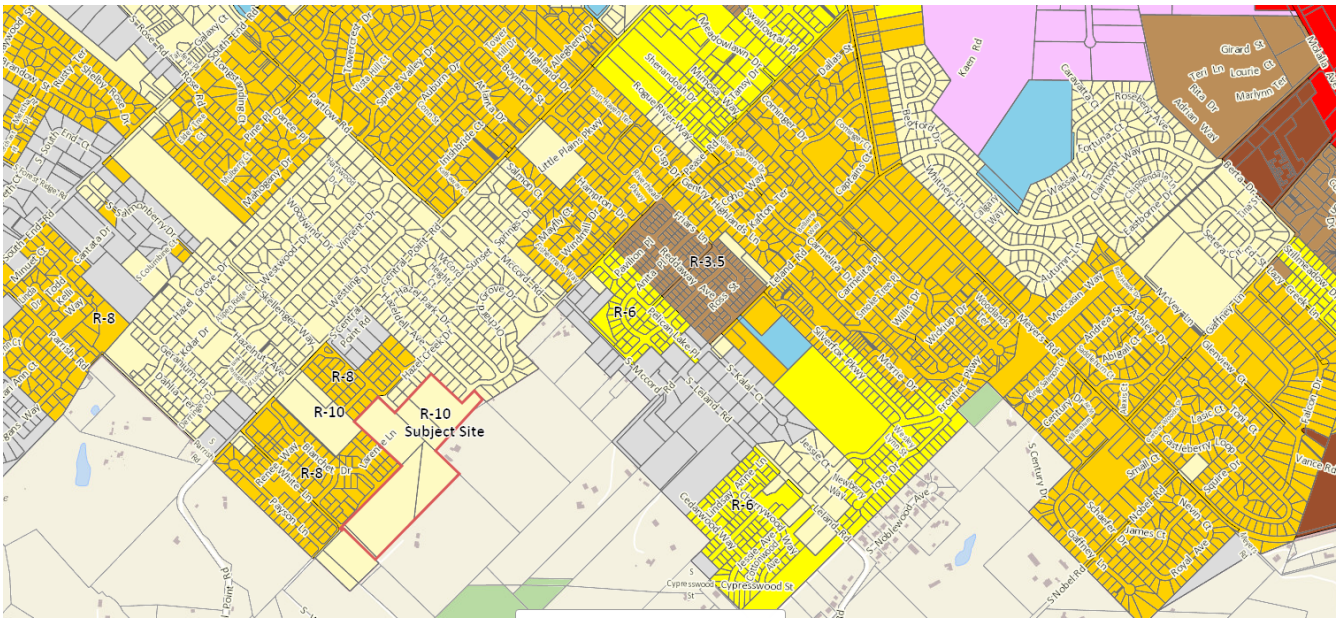




Figure 3. Existing Zoning



2. Project Description

Subdivision

The applicant proposed a 77-lot subdivision (Wheeler Farms) in the City of Oregon City for the future construction of single-family detached residential homes. The project includes the necessary streets, sidewalks, services, utilities, and other needed public improvements to support the project. The essential components of this application include:

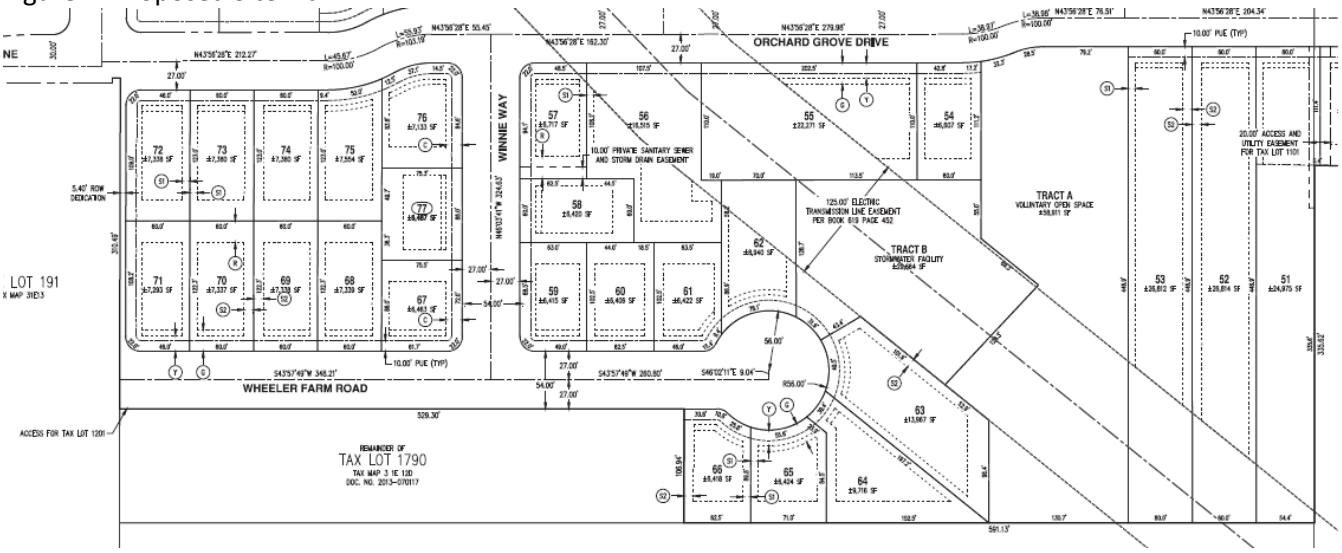
- 77 lots that meet the dimensional and density standards of the R-8 zone
- A voluntary 1.35-acre open space area
- An interconnected pedestrian and vehicular circulation system
- Creation of a cohesive neighborhood with the continuation of Orchard Grove Drive, Larence Lane,
- Skellenger Way, and Tolstrup Drive through the project site
- An integrated on-site stormwater management system including street side vegetated filtration
- swales and flow control
- An approximately ±1.3-acre remainder property to be incorporated into the abutting Wheeler property located off-site to the southeast

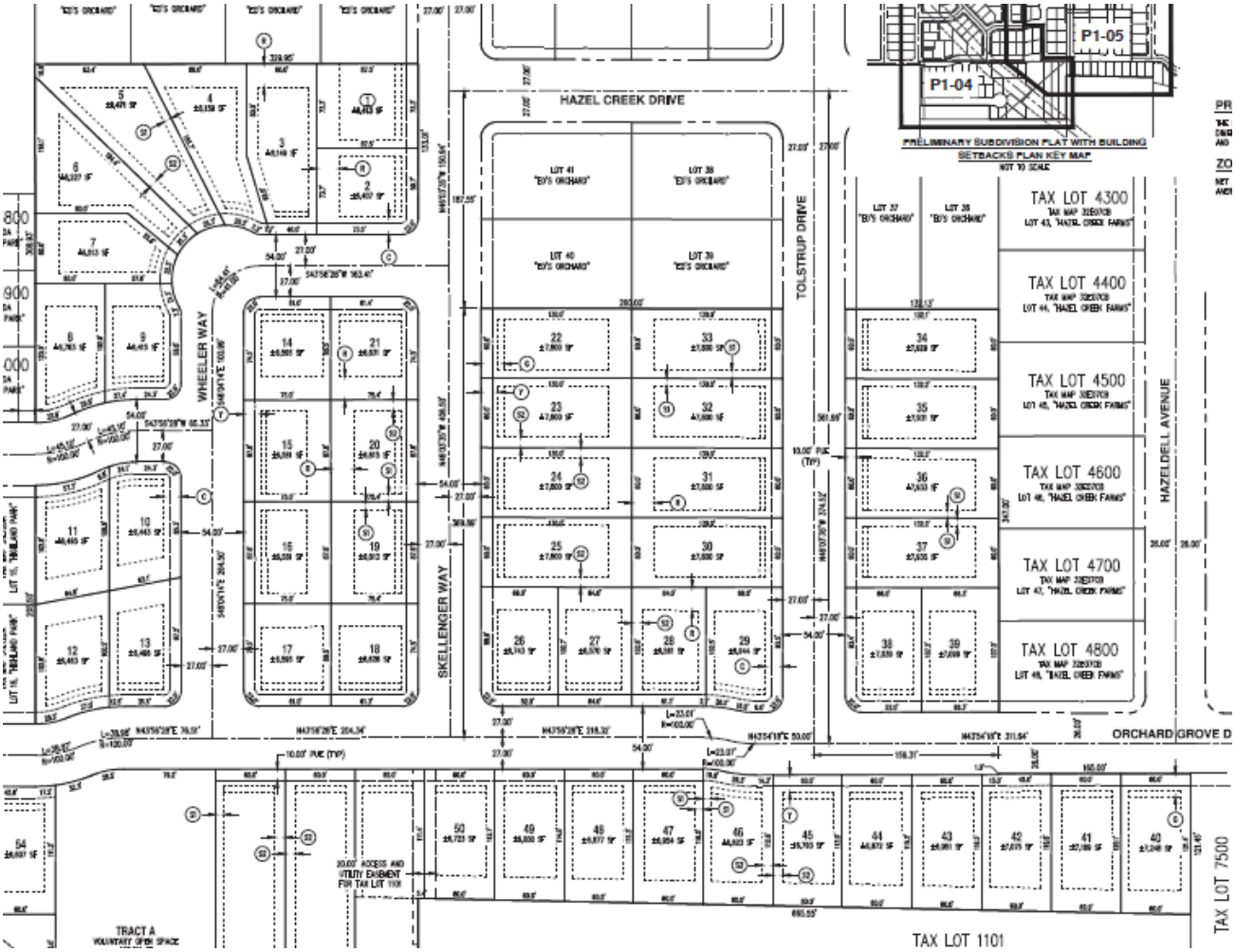
Zone Change

The applicant also proposed a zone change to change from the existing R-10 zoning designation of the Wheeler family's six tax lots to an R-8 zoning designation. The Wheeler Family properties are located in an area that is redeveloping. Surrounding residential projects such as Payson Farms No. 2, Highland Park, Central Point Crossing, and Ed's Orchard have all annexed into the City, and successfully changed the zoning from R-10 to R-8.

The Wheeler Family has owned and operated a Christmas tree and hazelnut farm on the subject properties for over 50 years. As development of surrounding properties encroached the farm, new streets and utility infrastructure were extended to the farm's boundary to facilitate future development of the property and complete the intended network for the area.

Figure 4: Proposed Site Plan





3. **Municipal Code Standards and Requirements:** The following sections of the Oregon City Municipal Code are applicable to this land use approval:

12.04 - Streets, Sidewalks, and Public Places
12.08 - Public and Street Trees
13.12 - Stormwater Management
15.48 - Grading, Filling and Excavating
16.08 - Subdivisions-Process and Standards
16.12 - Minimum Improvements and Design Standards for Land Divisions
17.08 - R-10 Single Family Dwelling District
17.10 - R-8 Single Family Dwelling District
17.41 – Tree Protection
17.44 - Geologic Hazards
17.47 - Erosion and Sediment Control
17.50 - Administration and Procedures
17.68 – Zone Change
17.54.100 – Fences

The City Code Book is available on-line at www.orcity.org.

4. **Permits and Approvals:** The applicant is responsible for obtaining approval and permits from each applicable governmental agency and department at Oregon City including but not limited to the Engineering and Building Divisions.

5. **Notice and Public Comment**
   Notice of the proposal was sent to various City departments, affected agencies, property owners within 300 feet, and the Neighborhood Association. Additionally, the subject property was posted with signs identifying that a land use action was occurring on the property. –

   West Susan Rictor submitted a public comment relating to the size of the lots abutting her neighboring subdivision/lot.

   Response: The applicant has submitted a subdivision proposal that meets the adopted development standards with conditions, including the ability to allow a 20% average of lot sizes. Ensuring that comparable lot sizes abut neighboring built subdivisions is not a criteria for Subdivision or Zone Change approval nor is perception of diminished property value for smaller abutting lot.

   Comments of the Public Works Department and Development Services Division are incorporated into this report and Conditions of Approval.

   None of the comments provided indicate that an approval criterion has not been met or cannot be met through the Conditions of Approval attached to this Staff Report.

II. ANALYSIS AND FINDINGS:

CHAPTER 17.10 - "R-8" SINGLE-FAMILY DWELLING DISTRICT

17.10.040. A. Minimum lot area, eight thousand square feet;
Finding: Complies as proposed. The preliminary plans show that the average lot area in this project is approximately ±8,279 square feet. In the responses to Section 16.12.050, several of the planned lots are shown to be less than 8,000 square feet, but the average lot area across the project is approximately ±8,279 square feet. This standard is met.

17.10.040. B. Minimum lot width, sixty feet;
Finding: Complies as proposed. As shown on the preliminary plans, all lots are planned to be at least 60 feet in width. This standard is met.

17.10.040. C. Minimum lot depth, seventy-five feet;
Finding: Complies as proposed. As shown on the preliminary plans, all lots are planned to be at least 75 feet in depth. This standard is met.

17.10.040.D. Maximum building height: two and one-half stories, not to exceed thirty-five feet.
17.10.040.E
1. Front yard: fifteen feet minimum depth.
2. Front porch, ten feet minimum setback,
3. Attached and detached garage, twenty feet minimum setback from the public right-of-way where access is taken, except for alleys. Detached garages on an alley shall be setback a minimum of five feet in residential areas.
4. Interior side yard, nine feet minimum setback for at least one side yard; seven feet minimum setback for the other side yard,

5. Corner side yard, fifteen feet minimum setback,
6. Rear yard, twenty-foot minimum setback
7. Rear porch, fifteen-foot minimum setback.
17.12.040.F. Garage standards: See Chapter 17.21—Residential Design Standards.
G. Maximum lot coverage: The footprint of all structures two hundred square feet or greater shall cover a maximum of forty percent of the lot area.
Finding: Complies with condition. There are multiple existing structures onsite. Prior to plat of the proposed subdivision, the applicant shall demonstrate that all existing structures comply with the permitted uses and dimensional standards of the R-8 Single-Family Dwelling District or have been relocated. Future homes within the project plan to comply with the above-listed maximum height, setback, lot coverage and design requirements for proposed dwelling units and accessory buildings. The preliminary plans show required setbacks for future dwellings, which are planned to be reviewed for compliance at the time of building permit issuance. The applicant has demonstrated that all proposed lots have provided adequate space for typical single family development parcels. These standards are met and will show full compliance at time each house submits for building permits. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

Chapter 17.68: ZONE CHANGES AND AMENDMENT
17.68.020 Criteria
The criteria for a zone change are set forth as follows:
A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

The following applicable goals and policies apply to this application:
Goal 1: Citizen Involvement
Goal 1.2: Ensure that citizens, neighborhood groups and affected property owners are involved in all phases of the comprehensive planning program.
Finding: Complies as proposed. The Oregon City Comprehensive Plan and Municipal Code include provisions to ensure citizens, neighborhood groups, and affected property owners have an opportunity to participate in the land use process. The City Comprehensive Plan is acknowledged by the
State of Oregon as compliant with the Oregon Statewide Planning Goals, including Goal 1. For this application, citizens were able to attend and participate in the South End Neighborhood Association meeting held on May 18, 2017, that was open to the public. In addition to the neighborhood association meeting, citizens have the opportunity to attend and participate in public hearings before the Oregon City Planning Commission and the Oregon City Commission. In addition, notice of the proposed development was posted in multiple newspapers, on the City's website and on the subject property. In addition, notice was mailed to property owners within 300 feet of the property and emailed to a variety of agencies and members of the public inducing the Citizen Involvement Committee and the Neighborhood Associations. Therefore, the application is consistent with this Goal.

Goal 2: Land Use
Goal 2.1: Ensure that property planned for residential, commercial, office and industrial uses is used efficiently and that land is developed following principles of sustainable development.
Finding: Complies as proposed. This application involves a zone change from the R-10 zoning designation to the R-8 zoning designation. This represents an increase in density while still remaining in a single-family zone. Densities corresponding to the R-8 zone represent sustainable development in a more compact form that is able to capitalize on public infrastructure investment within the existing City limits, which eases external pressures to expand and sprawl beyond the current urban growth boundary, which abuts the subject properties to the south. Therefore, the application is consistent with this Goal.

Goal 2.7: Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range

planning guide for land-use development of the city by type, density and location.
Finding: Complies as proposed. The subject properties are designated Low Density Residential (LR) by the City's Comprehensive Plan. The LR designation includes R-10, R-8, and R-6 zoning districts. This application involves a zone change from the R-10 zoning designation to the R-8 zoning designation. A change to the Comprehensive Plan designation of the site is not necessary. The subject properties are adjacent to other properties within the Low Density Residential Comprehensive Plan designation (R-8 and R-10). Therefore, the R-8 zoning designation is consistent with and maintains the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development. The application is consistent with this Goal.

Goal 5: Natural Resources
Policy 5.4.4: Consider natural resources and their contribution to quality of life as a key community value when planning, evaluating and assessing costs of City actions.
Finding: Complies as proposed/as conditioned According to City maps, A Natural Resource Overlay District (NROD) extends onto a portion of three of the six tax lots included in this application (Tax Lots 1180, 1790, and 1700). A Natural Resource Assessment (NRA), was prepared and included in an application for a Type I NROD Verification which was approved by the City on May 19, 2017 (NR 17-03), verifying that no natural resources exist on the Wheeler family properties and that these properties are exempt from further NROD review. Therefore, the application is consistent with this Goal. Stormwater will be equally treated under both zoning designations. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

Goal 6: Quality of Air, Water and Land Resources
Goal 6.1.1: Promote land-use patterns that reduce the need for distance travel by single occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.
Finding: Complies as proposed. The planned R-8 zoning designation promotes a compact land use pattern that reduces the amount of land dedicated to public streets, and other public infrastructure per dwelling unit. Compact land use patterns reduce travel distance by single-occupancy vehicles and increases opportunities for alternative modes of transportation including walking, biking, and transit. The properties represented in this application are located approximately one (±1) mile from John McLoughlin Elementary School and approximately one and a half (±1½) miles from lands being considered for Neighborhood Commercial designations (along South End Road) in the South End Concept Plan. Thus, the R-8 zoning for these properties strategically increases opportunities for greater populations to walk and bike to places of education, shopping, and employment. Therefore, the R-8 zoning designation is consistent with this Goal.

Policy 6.2.1: Prevent erosion and restrict the discharge of sediments into surface and groundwater by requiring erosion prevention measures and sediment control practices.
Finding: Complies as proposed. The application is subject to City grading, drainage, and erosion control standards. Therefore, those applications are planned to include preliminary plans that ensure erosion and sedimentation control standards are satisfied. To the extent this Goal is relevant to the application, it is satisfied.

Goal 10: Housing
***Goal 10.1**: Provide for the planning, development and preservation of a variety of housing types and lot sizes.*
Policy 10.1.1
Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.
Policy 10.1.3

Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development. Policy 10.1.4
Aim to reduce the isolation of income groups within communities by encouraging diversity in housing types within neighborhoods consistent with the Clackamas County Consolidated Plan, while ensuring that needed affordable housing is provided.
Finding: Complies as Proposed. Since 2002, both land use decisions to increase density and policies have encouraged additional housing development. For example, units have been created through approval of zone changes that allowed greater density as well as through the creation of a variety of housing types ranging from single-family to multi-family and care facilities. With the adoption of the Comprehensive Plan in 2004, the City amended the Municipal Code to allow construction of one accessory dwelling unit in every place in which a single-family home is allowed and adopted cottage housing with density bonuses. These two unit types provided an opportunity for more diverse, and often affordable, housing opportunities within existing neighborhoods.

Moreover, the City has planned for at least 5,762 dwelling units as follows:

- The City created and approved concept plans for three areas (South End, Beavercreek, Park Place) recently brought into the UGB. The Park Place Concept Plan provides capacity for 1,091 dwelling units, the South End Concept Plan provides capacity for 1,210 dwelling units and the Beavercreek Road Concept Plan provides capacity for 1,023 dwelling units for a total of 3,324 units within the urban growth boundary.

- Since October 1, 2002, the City has granted permits for more than 2,600 dwelling units.

In addition, the City adopted a new mixed use zones, including the MUC-1, MUC-2, MUD, HC, NC and C that allows for the development of housing which is limited by building height, parking standards, lot coverage, etc (though there are some restrictions in NC). While not counted as contributing to needed housing goals in the City's Housing Technical Report (2002), the capacity from the new mixed use zones, is estimated at a potential 8,000 dwelling units within the City limits. Approximately 24.57% of the City is currently within the R-10 district while only 16.95% of the City is zoned R-8 and 13.82% is zoned R-6. Therefore, the approval of this Comprehensive Plan amendment and zone change will expand the housing types and options available within the City.

Zoning in City Limits – Acres:
C = 160.86 (2.49%)
CI = 164.66 (2.55%)
County = 245.38 (3.79%)
GI = 220.32 (3.4%)
HC = 8.82 (0.14%)
I = 475.31 (7.35%)
MUC1 = 168.46 (2.6%)
MUC2 = 44.66 (0.69%)
MUD = 510.19 (7.89%)
MUE = 156.88 (2.43%)
R2 = 262.22 (4.05%)
R3.5 = 424.15 (6.56%)
R6 = 893.99 (13.82%)
R8 = 1095.97 (16.95%)
R10 = 1589.11 (24.57%)

ROAD = 13.18 (0.2%)
WFDD = 30.44 (0.47%)

Due to the existing use of the site as well as the opportunity for residential uses throughout the City, the proposal complies with this goal.

Goal 10.2 *Provide and maintain an adequate supply of affordable housing.*
Policy 10.2.1
Retain affordable housing potential by evaluating and restricting the loss of land reserved or committed to residential use. When considering amendments to the Comprehensive Plan Land-Use Map, ensure that potential loss of affordable housing is replaced.
Finding: Complies as Proposed. As demonstrated in the analysis in Goal 10.1, the City has provided opportunities to allow an increase in the number of dwelling units within Oregon City as well as adopted standards which allow for smaller dwelling units which will likely be lower in cost. The proposal would allow smaller lot sizes which may be a lower cost to consumers.

Goal 11: Public Facilities
Goal 11.1: Serve the health, safety, education, welfare and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.
Finding: Complies as proposed. The applicant met with City and School District staff in a pre-application conference and discussed the zone change. At the pre-application conference and in subsequent correspondence with City staff, no deficiencies in terms of the adequacy of public facilities (water, sanitary sewer, storm drainage, streets) were identified. This is in part because a change from R-10 to R-8 is a shift within the Low Density Residential Comprehensive Plan Map designation and these impacts have been previously evaluated with the adoption of the City's Comprehensive Plan. School District staff did not identify concerns with this zone change application due to the small size of the subject property. Please also refer to the memorandum from a professional engineer included in the application materials discussing the adequacy of public facilities for further information. In addition, as part of any future application (including subdivision review), detailed preliminary plans are planned to be submitted for review by the City, Clackamas Fire District No.1, as well as the School District. The applicant will be required to sign a Non-Remonstrance Agreement for the purpose of ensuring sanitary sewer, storm drainage, water, and/or street improvements are extended in the future that benefit the project site. This Goal is met.

Goal 12: Transportation
Goal 12.6: Develop and maintain a transportation system that has enough capacity of meet users' needs.
Finding: Complies as proposed. A Transportation Planning Rule (TPR) analysis has been included in the attached Transportation Impact Study (TIS), prepared by Lancaster Engineering based upon a scope of work provided by the City's traffic engineering consultant. The TIS includes trip generation estimates for the existing R-10 zone and the planned R-8 zone, traffic count data, trip distribution and assignments, operational analysis, crash data analysis, and capacity analysis for the 20-year planning horizon consistent with the requirements of the State Transportation Planning Rule (OAR 660-012-060). Written findings are contained within the TPR analysis that demonstrate that the TPR is satisfied by the application. Therefore, the application is consistent with this Goal. John Replinger, Oregon City's transportation consultant, additionally concurs with the applicant's assertion that the requested zone change is consistent with the TPR. (Exhibit 4). In particular Mr. Replinger wrote:

> …the proposal involves rezoning from R-10 to R-8. The TIS notes that in a worst case development scenario this would increase the number of dwellings by a maximum of 11. The proposed rezoning of the property from R-10 to R-8 would have negligible impacts on the operations of any study area

intersections and does not change the functional classification of any existing or planned transportation facility.

Additional findings regarding the transportation impact of the proposed subdivision are found within this report.

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.
Finding: Complies as proposed. No deficiencies in terms of the adequacy of public facilities (sanitary sewer, storm drainage, water, and streets) were identified. This is in part because a change from R-10 to R-8 is a shift within the Low Density Residential Comprehensive Plan Map designation and these impacts have been previously evaluated with the adoption of the City's

Comprehensive Plan. School District staff did not identify concerns with this zone change application due to the small size of the subject property. Please refer to the memorandum from a professional engineer discussing the adequacy of public facilities for further information.

In addition, as part of any future application (including subdivision review), detailed preliminary plans are planned to be submitted for review by the City, Clackamas Fire District No.1, as well as the School District. The applicant will be required to sign a Non-Remonstrance Agreement for the purpose of ensuring sanitary sewer, storm drainage, water, and/or street improvements are extended in the future that benefit the project site. This Goal is met.

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.
Response: Complies as proposed. A TPR analysis has been prepared by a registered professional traffic engineer and included in the project's TIS based upon a scope of work provided by the City's traffic engineering consultant. The TIS includes trip generation estimates for the existing R-10 zone and the planned R-8 zone, traffic count data, trip distribution and assignments, operational analysis, crash data analysis, and capacity analysis for the 20-year planning horizon consistent with the requirements of the State Transportation Planning Rule (OAR 660-012-060). John Replinger, Oregon City's transportation consultant, additionally concurs with the applicants assertion that the requested zone change is consistent with the TPR. (Exhibit 4)

Written findings are contained within the TIS that demonstrate that the TPR is satisfied by the application. Therefore, the application is consistent with this standard.

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

> ***Statewide Planning Goal 1****: Citizen Involvement. Goal 1 calls for "the opportunity for citizens to be involved in all phases of the planning process." It requires each city and county to have a citizen involvement program containing six components specified in the goal. It also requires local governments to have a committee for citizen involvement (CCI) to monitor and encourage public participation in planning.*
> **Finding: Complies as Proposed.** Addressed in Comprehensive Plan Goal 1.
>
> ***Statewide Planning Goal 2:*** *Land Use Planning. Goal 2 outlines the basic procedures of Oregon's statewide planning program. It says that land use decisions are to be made in accordance with a*

comprehensive plan, and that suitable "implementation ordinances" to put the plan's policies into effect must be adopted. It requires that plans be based on "factual information"; that local plans and ordinances be coordinated with those of other jurisdictions and agencies; and that plans be reviewed periodically and amended as needed.
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 2.

Statewide Planning Goal 3: *Agricultural Lands. Goal 3 defines "agricultural lands." It then requires counties to inventory such lands and to "preserve and maintain" them through farm zoning. Details on the uses allowed in farm zones are found in ORS Chapter 215 and in Oregon Administrative Rules, Chapter 660, Division 33.*
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 3.

Statewide Planning Goal 4: *Forest Lands. This goal defines forest lands and requires counties to inventory them and adopt policies and ordinances that will "conserve forest lands for forest uses."*
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 4.

Statewide Planning Goal 5: *Open Spaces, Scenic and Historic Area, and Natural Resources. Goal 5 covers more than a dozen natural and cultural resources such as wildlife habitats and wetlands. It establishes a process for each resource to be inventoried and evaluated. If a resource or site is found to be significant, a local government has three policy choices: preserve the resource, allow proposed uses that conflict with it, or strike some sort of a balance between the resource and the uses that would conflict with it.*
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 5.

Statewide Planning Goal 6: *Air, Water and Land Resources Quality. This goal requires local comprehensive plans and implementing measures to be consistent with state and federal regulations on matters such as groundwater pollution.*
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 6.

Statewide Planning Goal 7: *Areas Subject to Natural Hazards. Goal 7 deals with development in places subject to natural hazards such as floods or landslides. It requires that jurisdictions apply "appropriate safeguards" (floodplain zoning, for example) when planning for development there.*
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 7.

Statewide Planning Goal 8: Recreational Needs. *This goal calls for each community to evaluate its areas and facilities for recreation and develop plans to deal with the projected demand for them. It also sets forth detailed standards for expedited siting of destination resorts.*
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 8.

Statewide Planning Goal 9: Economic Development. *Goal 9 calls for diversification and improvement of the economy. It asks communities to inventory commercial and industrial lands, project future needs for such lands, and plan and zone enough land to meet those needs.*
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 9.

Statewide Planning Goal 10: Housing. *This goal specifies that each city must plan for and accommodate needed housing types, such as multifamily and manufactured housing. It requires each city to inventory its buildable residential lands, project future needs for such lands, and plan and zone enough buildable land to meet those needs. It also prohibits local plans from discriminating against needed housing types.*
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 10.

Statewide Planning Goal 11: *Public Facilities and Services. Goal 11 calls for efficient planning of public services such as sewers, water, law enforcement, and fire protection. The goal's central concept is that public services should to be planned in accordance with a community's needs and capacities rather than be forced to respond to development as it occurs.*
Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 11.

Statewide Goal 12: Transportation. *The goal aims to provide "a safe, convenient and economic transportation system." It asks for communities to address the needs of the "transportation disadvantaged."*
Finding: Addressed in Comprehensive Plan Goal 12.

Statewide Planning Goal 13. *Energy Conservation. Goal 13 declares that "land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles."*
Finding: Complies as Proposed. The proposal to decrease the minimum lot size allows for additional dwelling units within the same square footage of land, resulting in a more efficient use of city streets and utilities. In addition, the applicant has proposed to retain an open space with a large tree.

Statewide Planning Goal 14: Urbanization. *This goal requires cities to estimate future growth and needs for land and then plan and zone enough land to meet those needs. It calls for each city to establish an "urban growth boundary" (UGB) to "identify and separate urbanizable land from rural land." It specifies seven factors that must be considered in drawing up a UGB. It also lists four criteria to be applied when undeveloped land within a UGB is to be converted to urban uses.*
Finding: Complies as Proposed. The proposal would allow more efficient urbanization of the subject site within the Urban Growth Boundary.

Statewide Planning Goal 15: *Willamette River Greenway. Goal 15 sets forth procedures for administering the 300 miles of greenway that protects the Willamette River.*
Finding: Complies as Proposed. This goal is not directly applicable to the proposed amendments and use of the property as the site is not within the designated Willamette River Greenway.

Statewide Planning Goal 16: Estuarine Resources
Statewide Planning Goal 17: Coastal Shorelands
Statewide Planning Goal 18: Beaches and Dunes
Statewide Planning Goal 19: Ocean Resources
Finding: Complies as Proposed. These goals are not applicable as the site is not located in any of the identified areas.

OAR 660-012-0060(1)-(3) TRANSPORTATION PLANNING RULE (TPR)
The purpose of the TPR is "to implement Statewide Planning Goal 12 (Transportation) and promote the development of safe, convenient and economic transportation systems that are designed to reduce reliance on the automobile so that the air pollution, traffic and other livability problems faced by urban areas in other parts of the country might be avoided." A major purpose of the Transportation Planning Rule (TPR) is to promote more careful coordination of land use and transportation planning, to ensure that planned land uses are supported by and consistent with planned transportation facilities and improvements.
Finding: Addressed in Comprehensive Plan Goal 12.

OAR CHAPTER 660, DIVISION 7, "METROPOLITAN HOUSING RULE"

The purpose of this division is to ensure opportunity for the provision of adequate numbers of needed housing units and the efficient use of land within the Metro urban growth boundary, to provide greater certainty in the development process and so to reduce housing costs.
Finding: Complies as Proposed. Please refer to the findings in Chapter 10 of the Comprehensive Plan above.

REGIONAL TRANSPORTATION PLAN
The Regional Transportation Functional Plan (RTFP) directs how Oregon City should implement the RTP through the TSP and other land use regulations. The RTFP codifies existing and new requirements which local plans must comply with to be consistent with the RTP. If a TSP is consistent with the RTFP, Metro will find it to be consistent with the RTP.
Finding: Addressed in Comprehensive Plan Goal 12.

URBAN GROWTH MANAGEMENT METRO FUNCTIONAL PLAN
3.07.810.C states that after one year following acknowledgement of a functional plan requirement, cities and counties that amend their comprehensive plans and land use regulations shall make such amendments in compliance with the new functional plan requirement.
Finding: Complies as Proposed. The City of Oregon City's comprehensive plan and land use regulations associated with comprehensive plan and zone change amendments are in compliance with the UGB Metro Functional Plan.

METRO FUNCTIONAL PLAN
3.07.120(e), "Housing Capacity" *A city or county may reduce the minimum zoned capacity of a single lot or parcel so long as the reduction has a negligible effect on the city's or county's overall minimum zoned residential capacity.*
Finding: Complies as Proposed. Please refer to the findings in Chapter 10 of the Comprehensive Plan above.

Title 12 - STREETS, SIDEWALKS AND PUBLIC PLACES

Chapter 12.04 - STREETS, SIDEWALKS AND PUBLIC PLACES
12.04.003 Applicability.
A. Compliance with this chapter is required for all land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements.
B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage, of all single and two-family dwellings. All applicable single and two-family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this chapter. In addition, the frontage of the site shall comply with the following prioritized standards identified in this chapter:
1. Improve street pavement, construct curbs, gutters,sidewalks and planter strips; and
2. Plant street trees.
The cost of compliance with the standards identified in 12.04.003.B.1 and 12.04.003.B.2 is limited to ten percent of the total construction costs. The value of the alterations and improvements as determined by the community development director is based on the entire project and not individual building permits. It is the responsibility of the applicant to submit to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal such as access or landscaping requirements.
Finding: Applies. The applicant has indicated that they will comply with the provisions of this chapter, as shown in the response to the approval criteria in this narrative. Street improvements and street trees will comply with the standards of the Oregon City Municipal Code, addressed later in this narrative.

12.04.005 Jurisdiction and management of the public rights-of-way.
A. The city has jurisdiction and exercises regulatory management over all public rights-of-way within the city under authority of the City Charter and state law by issuing separate public works right-of-way permits or permits as part of issued public infrastructure construction plans. No work in the public right-of-way shall be done without the proper permit. Some public rights-of-way within the city are regulated by the State of Oregon Department of Transportation (ODOT) or Clackamas County and as such, any work in these streets shall conform to their respective permitting requirements.
B. Public rights-of-way include, but are not limited to, streets, roads, highways, bridges, alleys, sidewalks, trails, paths, public easements and all other public ways or areas, including the subsurface under and air space over these areas. C. The city has jurisdiction and exercises regulatory management over each public right-of-way whether the city has a fee, easement, or other legal interest in the right-of-way. The city has jurisdiction and regulatory management of each right-of-way whether the legal interest in the right-of-way was obtained by grant, dedication, prescription, reservation, condemnation, annexation, foreclosure or other means.
D. No person may occupy or encroach on a public right-of-way without the permission of the city. The city grants permission to use rightsof-way by franchises, licenses and permits.
E. The exercise of jurisdiction and regulatory management of a public right-of-way by the city is not official acceptance of the right-of-way, and does not obligate the city to maintain or repair any part of the right-of-way.
Finding: Complies as proposed. The applicant understands that the City has jurisdictional management over the future public rights-of-way within the Wheeler Farms Subdivision.

12.04.007 Modifications.
The review body may consider modification of this standard resulting from constitutional limitations restricting the city's ability to require the dedication of property or for any other reason, based upon the criteria listed below and other criteria identified in the standard to be modified. All modifications shall be processed through a Type II Land Use application and may require additional evidence from a transportation engineer or others to verify compliance.
Finding: Complies. This application includes two modifications to the standards of Section 12.04 Streets, Sidewalks and Public Places. Staff finds that it is reasonable to allow these two modification as they provide a design solution based on topography, powerlines and existing development patterns and by doing so enable the remainder of the subdivision to seamlessly connect to existing development and retain a pedestrian friendly block pattern to the extent practicable. Development Services and Planning Staff support the modification request.

<u>Modification 1:</u>
Finding: Complies as proposed. Subsection 12.04.195 Spacing standards, requires that all blocks have a maximum block spacing of 530 feet between streets. A pedestrian accessway must be provided every 330 feet if a block exceeds the maximum spacing of 530 feet. The “island” block created by extending Skellenger Way and Tolstrup Drive through the project between Hazel Creek Drive, and the planned extension of Orchard Grove Drive, exceeds the maximum block length standard of 530 feet by approximately ±26 feet (±556 feet) when considered with the relevant portion of the Ed’s Orchard Subdivision to the north. City staff have suggested in the updated Pre-Application Conference Summary, dated December 28, 2016, that the applicant request a waiver for the requirement for a mid-block pedestrian path. Therefore, the following modification standards are addressed.

<u>Modification 2</u>
Finding: Complies as proposed. Subsection 12.04.225 Street design–Cul-de-sacs and dead-end streets, requires cul-de-sacs to be no greater than 200 feet in length measured from the right-of-way line of the

nearest intersecting street to the back of the cul-de-sac curb face. The planned cul-de-sac in the southeast portion of the project will exceed the maximum 200-foot length standard by approximately ±89 feet due to the project's unique circumstances (adjacent to the Urban Growth Boundary (UGB), and the existing Portland General Electric (PGE) easement running through the southeast end of the project). The following standards are applicable to the necessary modification to exceed the maximum 200-foot length criterion of Subsection 12.04.225.

A. The modification meets the intent of the standard;

Modification 1

Finding: Complies as Proposed. The intent of requiring a midblock pedestrian connection through blocks exceeding the maximum spacing of 530 feet is to minimize pedestrian travel times, and provide safe, and convenient access to local amenities.

As shown in the preliminary plans, the project includes a voluntary ±1.35 acre open space tract (Tract A), which is considered the primary pedestrian destination within the project. Tract A is approximately ±0.2 miles from the intersection of Hazel Creek Drive and Tolstrup Drive, the furthest point of the "island" block from Tract A. According to Industry standards, most walking trips are less than ±0.5 miles. Because the greatest distance required to travel from the "island" block to Tract A is within an acceptable limit, the small amount that the "island" block exceeds the standard (±26 feet), coupled with the small number of future residents a midblock pedestrian connection would serve, the benefits do not justify the construction and future maintenance of such a walkway. In addition, a midblock pedestrian connection between Tolstrup Drive and Skellenger Way through the "island" block would still require residents to travel a maximum distance of ±0.2 miles to the project's open space tract (Tract A).

Potential pedestrian trips from the project to the nearest collector street (South Central Point Road) are also below the ±0.5-mile acceptable walking trip distance. Because this project includes the extension of existing street patterns, future residents will have multiple travel options to South Central Point Road including, Hazeldell Drive, Tolstrup Drive, Skellenger Way, Blanchet Drive, and White Lane. A midblock pedestrian connection through the" island" block will serve no benefit to future residents accessing South Central Point Road. Staff concurs with the applicant's proposed Modification #1.

Modification 2

Finding: Complies as Proposed. As mentioned previously, the modification to exceed the maximum 200-foot length standard by approximately ±89 feet is due to the project's unique circumstances (adjacent to the Urban Growth Boundary (UGB), and the existing Portland General Electric (PGE) easement running through the southeast end of the project). Other than the length, the planned cul-de-sac has been designed with sufficient radius to provide adequate turnaround for emergency vehicles, meet minimum dimensional requirements, and provide access to no more than 25 dwelling units, which meets the intent of Subsection 12.04.225. Staff concurs with the applicant's proposed Modification #2.

B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;

Modification 1

Finding: Complies as Proposed. This project includes fully improved streets, including 5-foot wide sidewalks behind 5-foot wide planter strips, ADA compliant curb ramps, and appropriately marked street crossings, creating an open, safe, and inviting walking environment to both the interior of the project and to South Central Point Road. Historically, midblock pedestrian connections have been areas of low visibility, high maintenance, and are disruptive to adjoining property owners. The benefits of a mid-block pedestrian

connection between Tolstrup Drive and Skellenger Way through the "island" block to alleviate future residents from having to walk an extra ±26 feet does not justify the construction and maintenance of such a walkway. Therefore, it can be concluded that the planned sidewalk improvements within the project provide safe and efficient movement of pedestrians to areas of interest. Staff concurs with the applicant's proposed Modification #1.

Modification 2

Finding: Complies as Proposed. As shown on the preliminary plans, the planned cul-de-sac has been designed with 5-foot wide sidewalks behind 5-foot wide planter strips, sufficient radius to provide adequate turn-around for emergency vehicles and other motor vehicles, and meet minimum dimensional requirements. The necessary modification to exceed the maximum allowable cul-de-sac length of 200 feet will not affect the efficient movement of pedestrians, motor vehicles, bicyclists, and freight using the planned cul-de-sac. Staff concurs with the applicant's proposed Modification #2.

C. The modification is consistent with an adopted plan; and

Modification 1

Finding: Complies as Proposed. Oregon City's Transportation System Plan (TSP) addresses maximum public street spacing standards and the need for sufficiently spaced pedestrian crossings. However, the TSP does not account for infill projects that extend existing street patterns of adjoining projects that create blocks that exceed the maximum street spacing standards, which would otherwise meet the standard. Therefore, the necessary modification to exceed the maximum street spacing standards of Subsection 12.04.195 does not conflict with City's TSP. The requested modification is the least needed to alleviate the construction of unnecessary infrastructure based on the minimal distance the "island" block exceeds the standard, and the number of future residents served. Staff concurs with the applicant's proposed Modification #1.

Modification 2

Finding: Complies as Proposed. Oregon City's TSP limits the use of cul-de-sacs to situations where barriers prevent full street connections. The TSP also limits cul-de-sacs to a maximum length of 200 feet. Based on the irregular shape of the project area, its location adjacent to the Urban Growth Boundary (UGB), and the Portland General Electric (PGE) easement running through the site, the modification to exceed the maximum cul-de-sac length of 200 feet is necessary to provide adequate access to planned lots within the subdivision. Allowing a modification to Title 12 – Streets, Sidewalks and Public Places, coupled with the unique circumstances of the project site, while meeting housing needs within City limits, will not violate the City's TSP. No other plans have been adopted that effect the project area. Staff concurs with the applicant's proposed Modification #2.

D. The modification is complementary with a surrounding street design; or, in the alternative;

Modification 1

Finding: Complies as Proposed. The maximum street spacing standards of Subsection 12.04.195 require a midblock pedestrian connection within the project's "island" block between Tolstrup Drive and Skellenger Way. This modification compliments surrounding street design by extending sidewalks along the project's internal streets to direct pedestrian traffic along pedestrian specific routes that have been designed to capture pedestrian traffic in a controlled, safe, and vibrant pedestrian environment that does not have a negative effect on lots within the "island" block or their future owners. Staff concurs with the applicant's proposed Modification #1.

Modification 2

Finding: Complies as Proposed. The modification to exceed the maximum cul-de-sac length of 200 feet by approximately ±89 feet compliments the irregular shape of the project area, and is the minimum modification needed based on its location adjacent to the UGB, and the PGE easement running through the project area. The necessary modification will have no impact on surrounding street design. Staff concurs with the applicant's proposed Modification #2.

E. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the state or federal constitution. The city shall be under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.
Finding: Not Applicable. The modification is not for constitutional reasons.

CHAPTER 16.08 – SUBDIVISIONS PROCESS AND STANDARDS

16.08.025 - Preliminary subdivision plat—Required plans.
The preliminary subdivision plat shall specifically and clearly show the following features and information on the maps, drawings, application form or attachments. All maps and site drawings shall be at a minimum scale of one inch to fifty feet.
16.08.025.A. Site Plan. A detailed site development plan showing the location and dimensions of lots, streets, pedestrian ways, transit stops, common areas, building envelopes and setbacks, all existing and proposed utilities and improvements including sanitary sewer, stormwater and water facilities, total impervious surface created (including streets, sidewalks, etc.) and an indication of existing and proposed land uses for the site. If required by staff at the pre-application conference, a subdivision connectivity analysis shall be prepared by a transportation engineer licensed by the State of Oregon that describes the existing and future vehicular, bicycle and pedestrian connections between the proposed subdivision and existing or planned land uses on adjacent properties. The subdivision connectivity analysis shall include shadow plats of adjacent properties demonstrating how lot and street patterns within the proposed subdivision will extend to and/or from such adjacent properties and can be developed meeting the existing Oregon City Municipal Code design standards.
Finding: Complies as Proposed. The development application included a preliminary site plan displaying the necessary submittal requirements. This standard is met.

16.08.025.B. Traffic/Transportation Plan. The applicant's traffic/transportation information shall include two elements: (1) A detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the existing system, circulation patterns and connectivity to existing rights-of-way or adjacent tracts, parking and loading areas and any other transportation facilities in relation to the features illustrated on the site plan; and (2) a traffic impact study prepared by a qualified professional transportation engineer, licensed in the state of Oregon, that assesses the traffic impacts of the proposed development on the existing transportation system and analyzes the adequacy of the proposed internal transportation network to handle the anticipated traffic and the adequacy of the existing system to accommodate the traffic from the proposed development. The City Engineer may waive any of the foregoing requirements if determined that the requirement is unnecessary in the particular case.
Finding: Complies as Proposed. The preliminary plans included in the application materials include a Preliminary Conceptual Connectivity Analysis, Traffic/Transportation, Circulation, and Conceptual Redevelopment Plan, which shows the planned connections between the project and adjacent residential projects. A Transportation Impact Study, prepared in accordance with City requirements, is also included in the submittal materials (Exhibit 3a)

16.08.025.C. Natural Features Plan and Topography, Preliminary Grading and Drainage Plan. The applicant shall submit a map illustrating all of the natural features and hazards on the subject property and, where

practicable, within two hundred fifty feet of the property's boundary. The map shall also illustrate the approximate grade of the site before and after development. Illustrated features must include all proposed streets and cul-de-sacs, the location and estimated volume of all cuts and fills, and all stormwater management features. This plan shall identify the location of drainage patterns and courses on the site and within two hundred fifty feet of the property boundaries where practicable. Features that must be illustrated shall include the following:
1. Proposed and existing street rights-of-way and all other transportation facilities;
2. All proposed lots and tracts;
3. All trees proposed to be removed prior to final plat with a diameter six inches or greater diameter at breast height (d.b.h);
4. All natural resource areas pursuant to Chapter 17.49, including all jurisdictional wetlands shown in a delineation according to the Corps of Engineers Wetlands Delineation Manual, January, 1987 edition, and approved by the Division of State Lands and wetlands identified in the City of Oregon Local Wetlands inventory, adopted by reference in the City of Oregon City comprehensive plan;
5. All known geologic and flood hazards, landslides or faults, areas with a water table within one foot of the surface and all flood management areas pursuant to Chapter 17.42
6. The location of any known state or federal threatened or endangered species;
7. All historic areas or cultural features acknowledged as such on any federal, state or city inventory;
8. All wildlife habitat or other natural features listed on any of the city's official inventories.
Finding: Complies as Proposed. The development application included preliminary site and drainage plans as well as the proposed lots, street, and trees proposed to be removed. A portion of the subject site is located within the Natural Resource Overlay District, though previously received an exemption.

16.08.025.D. Archeological Monitoring Recommendation. For all projects that will involve ground disturbance, the applicant shall provide,
1. A letter or email from the Oregon State Historic Preservation Office Archaeological Division indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the Oregon State Historic Preservation Office and that the Oregon State Historic Preservation Office had not commented within forty-five days of notification by the applicant; and
2. A letter or email from the applicable tribal cultural resource representative of the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the applicable tribal cultural resource representative and that the applicable tribal cultural resource representative had not commented within forty-five days of notification by the applicant.
If, after forty-five days notice from the applicant, the Oregon State Historic Preservation Office or the applicable tribal cultural resource representative fails to provide comment, the city will not require the letter or email as part of the completeness review. For the purpose of this section, ground disturbance is defined as the movement of native soils. The community development director may waive any of the foregoing requirements if the community development director determines that the requirement is unnecessary in the particular case and that the intent of this chapter has been met.
Finding: Complies as Proposed. A description of the proposed development was sent to the Oregon State Historic Preservation Office (SHPO) as well as various tribes for review.

16.08.030.B. Timely Provision of Public Services and Facilities. The applicant shall explain in detail how and when each of the following public services or facilities is, or will be, adequate to serve the proposed development by the time construction begins:
16.08.030.B.1. Water
Finding: Complies with Condition. This application includes the extension of an existing 8-inch water main located in Orchard Grove Drive through the project and connect to existing water mains located in Larence

Lane, Skellenger Way, and Tolstrup Drive to create a looped water system. Each lot is planned to be provided with an individual meter and service lateral from the extended 8 inch water main.

Temporary looping is required along White Lane ROW until an 8" main is extended when White Lane Right-of-Way is fully developed. This criterion is met. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.08.030.B.2. Sanitary Sewer

Finding: Complies with Condition. This application includes the extension of the existing 8-inch sanitary sewer main located in Orchard Grove Drive through the project. Each lot within the project is planned to be provided an individual service lateral from the extended 8-inch sanitary sewer main.

The Applicant must demonstrate all properties can be served with a gravity sewer system meeting the City's sanitary sewer design standards, and all other applicable city design standards. Otherwise, sanitary sewer pump station or other approved method shall be provided. This criterion is met. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.08.030.B.3. Storm Sewer and Storm Water Drainage

Finding: Complies with Condition. On-site stormwater is planned to be collected and conveyed to a stormwater facility located in Tract B adjacent to the planned Open Space Tract (Tract A). Stormwater is to be detained and treated in the stormwater facility and discharged into an existing drainage channel south of the project. For additional information, please refer to the Preliminary Stormwater Report and preliminary plans included in the application materials. This criterion is met. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.08.030.B.4. Parks and Recreation

Finding: Complies as Proposed. Park System Development Charges will be paid at the time building permits are issued for each lot within the subdivision.

16.08.030.B.5. Traffic and Transportation

Finding: Complies as proposed. The application materials include a Transportation Impact Study for this project, prepared by Lancaster Engineering. Appropriate street improvements, connecting to existing transportation facilities, are shown in the preliminary plans. The TIS found that the existing streets, along with those planned, adequately accommodate the amount of additional traffic created by this project. Transportation Systems Development Charges are planned to be paid for each new home prior to issuance of a building permit. These fees fund future City and County public works street improvement projects. (Exhibit 2). The TAL was reviewed by John Replinger of Replinger and Associates, City transportation consultant, who wrote:

> The engineer concludes that traffic operations would be adequate at all analyzed intersections. He concludes no mitigation is needed for traffic operations. He concludes no safety mitigation is necessary. I concur with the conclusions of the applicant's engineer.

16.08.030.B.6. Schools

Finding: Complies as Proposed. The Oregon City School District provides education services for the children of future residents. School funding is provided through a variety of sources including property taxes and surcharges that will be assessed at the time building permits are issued for each lot in the subdivision. Wes Rogers, Director of Operations for the Oregon City School District submitted comments identifying that there are no issues with the development proposal (Exhibit 5).

The Oregon City School District will provide school services for the children of future residents. School funding is provided through a variety of sources, including construction excise taxes that are to be assessed with issuance of future building permits for the homes and future property taxes. This standard is met.

16.08.030.B.7. Fire and Police Services
Finding: Complies with Condition. Clackamas County Fire District No. 1 will provide fire services to the subject site. There are no noted concerns about fire services and property taxes will be paid by future property owners to fund fire protection services thereby ensuring funding for protection services. In the event that fire hydrants are required by Clackamas County Fire District No. 1 requirements, staff finds there is adequate area available on the subject property for such installation. Prior to public facilities construction plan approval, the applicant shall submit the proposed development plans to Clackamas County Fire District No. 1 for review and install fire hydrants within the proposed development.

The City of Oregon City Police Department will provide police services to the subject site. Property taxes will be paid by future property owners to fund police protection services, thereby ensuring funding for police services.

Per Annexation AN 06-02, each new home submitted before July 1, 2018 is required to mitigate the impact of the new home on the Police services they will provide with a fee of $3,500. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

Where adequate capacity for any of these public facilities and services is not demonstrated to be currently available, the Applicant shall describe how adequate capacity in these services and facilities will be financed and constructed before recording of the plat;
Finding: Not Applicable. All public facilities and services are or are planned to be available to accommodate this project. Therefore, no additional description of financing and construction of adequate capacity is required. Therefore, this standard does not apply to this application.

16.08.030.C. Approval Criteria and Justification for Variances. The applicant shall explain how the proposed subdivision is consistent with the standards set forth in Chapter 16.12, 12.04 and any other applicable approval standards identified in the municipal code. For each instance where the applicant proposes a variance from some applicable dimensional or other numeric requirement, the applicant shall address the approval criteria from Chapter 17.60.
Finding: Not Applicable. This application does not include any requests for variances.

16.08.030.D. Drafts of the proposed covenants, conditions and restrictions (CC&Rs), maintenance agreements, homeowner association agreements, dedications, deeds easements, or reservations of public open spaces not dedicated to the city, and related documents for the subdivision;
Finding: Complies as Proposed. The submitted a copy of the draft CC&Rs for the subdivision. Staff did not see any conflict with adopted city standards.

16.08.030.E. A description of any proposed phasing, including for each phase the time, acreage, number of residential units, amount of area for nonresidential use, open space, development of utilities and public facilities;
Finding: Complies as Proposed. The applicant proposed to construct the subdivision in a single phase.

16.08.030.F. Overall density of the subdivision and the density by dwelling type for each.

Finding: Complies as Proposed. Combined, the Wheeler Family properties total approximately ±22.56 acres of land. As stated previously, the site is subject to a separate application that, upon approval, will designate the site with R-8 zoning. The Wheeler Farms Subdivision is planned to include 77 lots for the future construction of single-family detached homes spread over the majority of the subject site (±21.26 acres). The remaining ±1.3 acres is planned to be retained by Don and Roxanne Wheeler where it is adjacent to their existing home (located off-site to the southeast). If the remainder property (to be retained by Don and Roxanne Wheeler) was to be subdivided at some point in the future, it could support ±7 dwelling units consistent with R-8 zoning.

On a gross acreage basis, the 77-lot subdivision (on ±21.26 acres) equates to ±3.7 dwelling units per acre. Based on the site's net developable area (±14.39 acres – after deduction of steeply sloped areas, open space, and public facilities/right-of-way), the density included in the subdivision is equal to ±5.35 dwelling units per acre. In this case, the applicant is voluntarily preserving a ±1.35-acre open space area within the subdivision. This area is not required to be dedicated as open space and if it was not set aside as open space (and thus included in the net developable area) then the density of the 77-lot subdivision would be lower still (±4.90 dwelling units per acre.) Lot sizes in new subdivisions are permitted to be as small as 80% of the minimum size required in the underlying zone provided the average lot size (for the entire subdivision) is as large or larger than the minimum required lot size in the underlying zone. In the R-8 zone, the minimum average lot size is 8,000 square feet. Based on the site's net developable area (±14.39 acres or ± 626,649 square feet), the maximum number of lots that can be included in the subdivision is 78. Based on the site's net developable area, the minimum number of lots that are required is 63.

As described above, the applicant is voluntarily preserving ±1.35 acres (±58,911 square feet) of open space within the subdivision. If this area was not planned to be preserved as open space, in would have been permitted to be developed as lots for additional homes. However, even with the open space calculated in the density, the site is being developed in excess of the 80% minimum of 68 lots. (626,649+58,911=685,560 685,560/8,000=85.695 85.695*0.8=68). Based upon the above, the 77-lot subdivision does not exceed the maximum number of lots permitted and provides in excess of the minimum number of required lots. Thus, density requirements for the project are satisfied.

16.08.045 - Building site—Frontage width requirement.
Each lot in a subdivision shall abut upon a cul-de-sac or street other than an alley for a width of at least twenty feet.
Finding: Complies as Proposed. As shown in the preliminary plans, each proposed lot's street frontage is in excess of twenty feet.

16.08.050 - Flag lots in subdivisions.
Flag lots shall not be permitted within subdivisions except as approved by the community development director and in compliance with the following standards.
A. Where the applicant can show that the existing parcel configuration, topographic constraints or where an existing dwelling unit is located so that it precludes a land division that meets the minimum density, lot width and/or depth standards of the underlying zone.
Finding: Flag lots are not part of this application.

CHAPTER 17.49 Natural Resource Overlay District-
Finding*:* Not applicable. According to City maps, A Natural Resource Overlay District (NROD) extends onto a portion of three of the six tax lots included in this application (Tax Lots 1180, 1790, and 1700). A Natural Resource Assessment (NRA), was prepared and included in an application for a Type I NROD Verification

which was approved by the City on May 19,2017 (NR 17-03), verifying that no natural resources exist on the Wheeler family properties and that these properties are exempt from further NROD review.

CHAPTER 16.12 - MINIMUM IMPROVEMENTS AND DESIGN STANDARDS FOR LAND DIVISIONS[3]

16.12.020 - Blocks—Generally.
The length, width and shape of blocks shall take into account the need for adequate building site size, convenient motor vehicle, pedestrian, bicycle and transit access, control of traffic circulation, and limitations imposed by topography and other natural features.
Finding*:* Complies as Proposed. The planned lengths, widths, and shapes of blocks are largely determined by the continuation of existing streets, the development pattern abutting the subject property, and the zoning and configuration of the subject property itself. Public streets with sidewalks are planned to extend through the project to provide access to lots and future homes, and enhance neighborhood connectivity and circulation. As mentioned in the Pre-Application Summary, and addressed previously under Subsection 12.04.195 Spacing Standards, the project's "island" block created by the extension of the adjoining Skellenger Way and Tolstrup Drive, exceeds the maximum block length standard of 530 feet by approximately ±26 feet (±556 feet) requiring a midblock pedestrian connection between Skellenger Way and Tolstrup Drive. City staff have suggested in the Pre-Application Summary to include a modification to Subsection 12.04.195 to waive the required midblock pedestrian connection, which has been addressed previously in this narrative under Subsection 12.04.007 Modifications.

16.12.030 - Blocks—Width.
The width of blocks shall ordinarily be sufficient to allow for two tiers of lots with depths consistent with the type of land use proposed.
Finding*:* Complies as Proposed. The widths of the planned blocks within the project will generally allow for two tiers of lots. New lots within the subdivision will average at a minimum, 8,000 square feet in area, pursuant to the requirements of the R-8 zone, and are planned to be suitable for single-family homes. This standard is met. Please refer to the written response provided to Chapter 12.04 for appropriate findings demonstrating compliance with the street design standards.

16.12.040 - Building sites.
The size, width, shape and orientation of building sites shall be appropriate for the primary use of the land division, and shall be consistent with the residential lot size provisions of the zoning ordinance with the following exceptions:
A. Where property is zoned and planned for commercial or industrial use, the community development director may approve other widths in order to carry out the city's comprehensive plan. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated.
B. Minimum lot sizes contained in Title 17 are not affected by those provided herein.
Finding: Complies as Proposed. The size, width, depth, shape, and orientation of the planned lots comply with the requirements for the R-8 zoning district, and the resulting building sites are illustrated on the preliminary plans.

16.12.045 - Building sites—Minimum density.
All subdivision layouts shall achieve at least eighty percent of the maximum density of the base zone for the net developable area as defined in Chapter 17.04.
Finding: Please refer to the analysis in Section 16.08.030.F of this report.

16.12.050 - Calculations of lot area.

A subdivision in the R-10, R-8, R-6, R-5, or R-3.5 dwelling district may include lots that are up to twenty percent less than the required minimum lot area of the applicable zoning designation provided the entire subdivision on average meets the minimum site area requirement of the underlying zone. The average lot area is determined by calculating the total site area devoted to dwelling units and dividing that figure by the proposed number of dwelling lots.
Accessory dwelling units are not included in this determination nor are tracts created for non-dwelling unit purposes such as open space, stormwater tracts, or access ways.
A lot that was created pursuant to this section may not be further divided unless the average lot size requirements are still met for the entire subdivision.
When a lot abuts a public alley, an area equal to the length of the alley frontage along the lot times the width of the alley right-of-way measured from the alley centerline may be added to the area of the abutting lot in order to satisfy the lot area requirement for the abutting lot. It may also be used in calculating the average lot area.
Finding: Complies as Proposed. The project includes 77 lots for the future construction of single-family detached homes in the R-8 zoning district. As permitted above, a number of the planned lots are less than 8,000 square feet. The smallest of the future lots is approximately ±6,406 square feet, which is within the maximum 20% reduction allowed by this standard. A number of the planned lots are also larger than 8,000 square feet with the largest lot being ±26,814 square feet. The average lot area is ±8,279 square feet, which exceeds the minimum square footage requirement of the R-8 zone.

16.12.055 - Building site—Through lots.
Through lots and parcels shall be avoided except where they are essential to provide separation of residential development from major arterials or to overcome specific disadvantages of topography of existing development patterns. A reserve strip may be required. A planting screen restrictive covenant may be required to separate residential development from major arterial streets, adjacent nonresidential development, or other incompatible use, where practicable. Where practicable, alleys or shared driveways shall be used for access for lots that have frontage on a collector or minor arterial street, eliminating through lots.
Finding: Complies as Proposed. No through lots are proposed.

16.12.060 - Building site—Lot and parcel side lines.
The lines of lots and parcels, as far as is practicable, shall run at right angles to the street upon which they face, except that on curved streets they shall be radial to the curve.
Finding: Complies as Proposed. As far as practicable, the proposed lot lines and parcels run at right angles to the street upon which they face. This standard is met.

16.12.065 - Building site—Grading.
Grading of building sites shall conform to the State of Oregon Structural Specialty Code, Chapter 18, any approved grading plan and any approved residential lot grading plan in accordance with the requirements of Chapter 15.48, 16.12 and the Public Works Stormwater and Grading Design Standards, and the erosion control requirements requirements of Chapter 17.47 are met. Please refer to the preliminary plans for additional information.
Finding: Complies as Proposed. The preliminary plans show project grading, including building site grading (where appropriate). The preliminary plans demonstrate that Chapter 15.48, Chapter 16.12, the Public Works Stormwater and Grading Design Standards, and the erosion control requirements of Chapter 17.47 are met. Please refer to the preliminary plans for additional information.

16.12.070 - Building site—Setbacks and building location.
This standard ensures that lots are configured in a way that development can be oriented toward streets to provide a safe, convenient and aesthetically pleasing environment for pedestrians and bicyclists. The

objective is for lots located on a neighborhood collector, collector or minor arterial street locate the front yard setback on and design the most architecturally significant elevation of the primary structure to face the neighborhood collector, collector or minor arterial street.
A. The front setback of all lots located on a neighborhood collector, collector or minor arterial shall be orientated toward the neighborhood collector, collector or minor arterial street.
B. The most architecturally significant elevation of the house shall face the neighborhood collector, collector or minor arterial street.
C. On corner lots located on the corner of two local streets, the main façade of the dwelling may be oriented towards either street.
D. All lots proposed with a driveway and lot orientation on a collector or minor arterial shall combine driveways into one joint access per two or more lots unless the city engineer determines that:
1. No driveway access may be allowed since the driveway(s) would cause a significant traffic safety hazard; or
2. Allowing a single driveway access per lot will not cause a significant traffic safety hazard.
E. The community development director may approve an alternative design, consistent with the intent of this section, where the applicant can show that existing development patterns preclude the ability to practically meet this standard.
Finding: Not applicable. The subject site does not include development along a nonlocal road.

16.12.075 - Building site—Division of lots.
Where a tract of land is to be divided into lots or parcels capable of redivision in accordance with this chapter, the community development director shall require an arrangement of lots, parcels and streets which facilitates future redivision. In such a case, building setback lines may be required in order to preserve future right-of-way or building sites.
Finding: Complies as Conditioned As shown on the preliminary plans, a small number of the planned lots are large enough to be re-divided. However, the existing PGE easement running through the southeast portion of the project limit future building placement to those areas outside of the easement. Therefore, no additional lots created for the construction of single-family dwellings is possible.

Tax lot 1790 that can be further divided, though is not being preserved in a tract, however the applicant proposed voluntary open space for Tract A which is large enough to be subdivided. The plat, or document referenced on the plat shall identify that Tract A is proposed for voluntary open space and shall not be further subdivided or developed without approval of a Type IV application. Additionally, the plat shall clearly state restrictions, purpose, and perpetual ownership of Tract A. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.12.085 - Easements.
The following shall govern the location, improvement and layout of easements:
A. Utilities. Utility easements shall be required where necessary as determined by the city engineer. Insofar as practicable, easements shall be continuous and aligned from block-to-block within the land division and with adjoining subdivisions or partitions. Specific utility easements for water, sanitary or storm drainage shall be provided based on approved final engineering plans.
Finding: Complies with Condition. All appropriate utility easements are planned to be provided on the final subdivision plat.

The applicant proposed 10-foot wide public utility easements (PUE's) along all street frontages. Ten-foot public utility easements along all street frontages and all easements required for the final engineering plans shall be dedicated to the public on the final plat. All existing and proposed utilities and easements shall be indicated on the construction plans.

The public stormwater facility proposed in Tract B is located within the 125-foot PGE transmission easement. The applicant will be required to provide written approval from the easement owner allowing the facility to be placed in the easement.

Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

16.12.085.B. Unusual Facilities. Easements for unusual facilities such as high voltage electric transmission lines, drainage channels and stormwater detention facilities shall be adequately sized for their intended purpose, including any necessary maintenance roads. These easements shall be shown to scale on the preliminary and final plats or maps. If the easement is for drainage channels, stormwater detention facilities or related purposes, the easement shall comply with the requirements of the Public Works Stormwater and Grading Design Standards.
Finding: Not Applicable. There are no unusual facilities proposed or required within this development.

C. Watercourses. Where a land division is traversed or bounded by a watercourse, drainageway, channel or stream, a stormwater easement or drainage right-of-way shall be provided which conforms substantially to the line of such watercourse, drainageway, channel or stream and is of a sufficient width to allow construction, maintenance and control for the purpose as required by the responsible agency. For those subdivisions or partitions which are bounded by a stream of established recreational value, setbacks or easements may be required to prevent impacts to the water resource or to accommodate pedestrian or bicycle paths.
Finding: Not Applicable. The land division is not traversed by a watercourse.

D. Access. When easements are used to provide vehicular access to lots within a land division, the construction standards, but not necessarily width standards, for the easement shall meet city specifications. The minimum width of the easement shall be twenty feet. The easements shall be improved and recorded by the applicant and inspected by the city engineer. Access easements may also provide for utility placement.
Finding: Complies as proposed. The applicant is proposing a 20-foot wide access and utility easement between Lots 50 and 51 as indicated on Preliminary Plans.

E. Resource Protection. Easements or other protective measures may also be required as the community development director deems necessary to ensure compliance with applicable review criteria protecting any unusual significant natural feature or features of historic significance.
Finding: Not Applicable. The land division is not traversed by a water feature.

16.12.090 - Minimum improvements—Procedures.
In addition to other requirements, improvements installed by the applicant either as a requirement of these or other regulations, or at the applicant's option, shall conform to the requirements of this title and be designed to city specifications and standards as set out in the city's facility master plan and Public Works Stormwater and Grading Design Standards. The improvements shall be installed in accordance with the following procedure:
A. Improvement work shall not commence until construction plans have been reviewed and approved by the city engineer and to the extent that improvements are in county or state right-of-way, they shall be approved by the responsible authority. To the extent necessary for evaluation of the proposal, the plans may be required before approval of the preliminary plat of a subdivision or partition. Expenses incurred thereby shall be borne by the applicant and paid for prior to final plan review.
B. Improvements shall be constructed under the inspection and approval of the city engineer. Expenses incurred thereby shall be borne by the applicant and paid prior to final approval. Where required by the city engineer or other city decision-maker, the applicant's project engineer also shall inspect construction.

C. Erosion control or resource protection facilities or measures are required to be installed in accordance with the requirements of Chapter 17.49 and the Public Works Erosion and Sediment Control Standards. Underground utilities, waterlines, sanitary sewers and storm drains installed in streets shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed beyond the public utility easement behind to the lot lines.
D. As-built construction plans and digital copies of as-built drawings shall be filed with the city engineer upon completion of the improvements.
E. The city engineer may regulate the hours of construction and access routes for construction equipment to minimize impacts on adjoining residences or neighborhoods.
Finding: Complies as Proposed. The preliminary plans show the public improvements for this project. Work is planned to commence when construction plans have been reviewed and approved by the City Engineer. Inspections of the planned improvements, including erosion control measures are required. Upon completion of the improvements, as-built drawings are planned to be filed with the City Engineer.

16.12.095 - Minimum improvements—Public facilities and services.
The following minimum improvements shall be required of all applicants for a land division under Title 16, unless the decision-maker determines that any such improvement is not proportional to the impact imposed on the city's public systems and facilities:
A. Transportation System. Applicants and all subsequent lot owners shall be responsible for improving the city's planned level of service on all public streets, including alleys within the land division and those portions of public streets adjacent to but only partially within the land division. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for street improvements that benefit the applicant's property. Applicants are responsible for designing and providing adequate vehicular, bicycle and pedestrian access to their developments and for accommodating future access to neighboring undeveloped properties that are suitably zoned for future development. Storm drainage facilities shall be installed and connected to off-site natural or man-made drainageways. Upon completion of the street improvement survey, the applicant shall reestablish and protect monuments of the type required by ORS 92.060 in monument boxes with covers at every public street intersection and all points or curvature and points of tangency of their center line, and at such other points as directed by the city engineer.
Finding: Complies with Condition. *Public streets with sidewalks are planned within the project to provide access to the lots/future homes of the project and provide for neighborhood connectivity/circulation. As shown on the preliminary plans, this project will result in fully-improved streets extending from adjoining residential projects to accommodate all modes of travel. Monument boxes at street centerline intersections and other required locations are*
planned to be installed and/or protected. This standard is met.

B. Stormwater Drainage System. Applicants shall design and install drainage facilities within land divisions and shall connect the development's drainage system to the appropriate downstream storm drainage system as a minimum requirement for providing services to the applicant's development. The applicant shall obtain county or state approval when appropriate. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for stormwater drainage improvements that benefit the applicant's property. Applicants are responsible for extending the appropriate storm drainage system to the development site and for providing for the connection of upgradient properties to that system. The applicant shall design the drainage facilities in accordance with city drainage master plan requirements, Chapter 13.12 and the Public Works Stormwater and Grading Design Standards.
Finding: Complies with Condition. Refer to Section 16.08.030. B.3 of this report. The developer shall execute the City's standard non-remonstrance agreement for future public improvements benefitting the properties.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

C. Sanitary Sewer System. The applicant shall design and install a sanitary sewer system to serve all lots or parcels within a land division in accordance with the city's sanitary sewer design standards, and shall connect those lots or parcels to the city's sanitary sewer system, except where connection is required to the county sanitary sewer system as approved by the county. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for sanitary sewer improvements that benefit the applicant's property. Applicants are responsible for extending the city's sanitary sewer system to the development site and through the applicant's property to allow for the future connection of neighboring undeveloped properties that are suitably zoned for future development. The applicant shall obtain all required permits and approvals from all affected jurisdictions prior to final approval and prior to commencement of construction. Design shall be approved by the city engineer before construction begins.
Finding: Refer to section 16.08.030.B.2 of this report.

16.12.095.D. Water System. The applicant shall design and install a water system to serve all lots or parcels within a land division in accordance with the city public works water system design standards, and shall connect those lots or parcels to the city's water system. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for water improvements that benefit the applicant's property. Applicants are responsible for extending the city's water system to the development site and through the applicant's property to allow for the future connection of neighboring undeveloped properties that are suitably zoned for future development.
Finding: Refer to section 16.08.030.B.1 of this report.

16.12.095.E. Sidewalks. The applicant shall provide for sidewalks on both sides of all public streets, on any private street if so required by the decision-maker, and in any special pedestrian way within the land division. Exceptions to this requirement may be allowed in order to accommodate topography, trees or some similar site constraint. In the case of major or minor arterials, the decision-maker may approve a land division without sidewalks where sidewalks are found to be dangerous or otherwise impractical to construct or are not reasonably related to the applicant's development. The decision-maker may require the applicant to provide sidewalks concurrent with the issuance of the initial building permit within the area that is the subject of the land division application. Applicants for partitions may be allowed to meet this requirement by executing a binding agreement to not remonstrate against the formation of a local improvement district for sidewalk improvements that benefit the applicant's property.
Finding: Complies as Proposed. Sidewalks are proposed on Orchard Grove Drive and on proposed interior streets.

16.12.095.F. Bicycle Routes. If appropriate to the extension of a system of bicycle routes, existing or planned, the decision-maker may require the installation of separate bicycle lanes within streets and separate bicycle paths.
Finding: Complies as Proposed. The planned street system, which includes public sidewalks, provides convenient pedestrian and bicycle access and connectivity. This standard is met.

16.12.095.G. Street Name Signs and Traffic Control Devices. The applicant shall install street signs and traffic control devices as directed by the city engineer. Street name signs and traffic control devices shall be in conformance with all applicable city regulations and standards.
Finding: Complies as Proposed. Street name signs and stop signs are planned to be installed for new and continued streets, as required by City Engineering staff in compliance with applicable regulations and standards. This standard is met.

16.12.095.H. Street Lights. The applicant shall install street lights which shall be served from an underground source of supply. Street lights shall be in conformance with all city regulations.

Finding: Complies as Proposed. The applicant shall install street lights in conformance with city standards and will be served from an underground source of supply. This standard is met.

16.12.095.I. Street Trees.
Finding: Please refer to the analysis in section 12.08 of this report. This standard is met.

16.12.095.J. Bench Marks. At least one bench mark shall be located within the subdivision boundaries using datum plane specified by the city engineer.
Finding: Complies as Proposed. The final subdivision plat will reference a benchmark utilizing the datum plane specified by the City Engineer, if required. This standard is met.

16.12.095.K. Other. The applicant shall make all necessary arrangements with utility companies or other affected parties for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting and cable television, shall be placed underground.
Finding: Complies as Proposed. All appropriate easements are planned to be provided for public and private utility providers. Arrangements with utility providers for the installation of these facilities is planned. This standard is met.

16.12.095.L. Oversizing of Facilities. All facilities and improvements shall be designed to city standards as set out in the city's facility master plan, public works design standards, or other city ordinances or regulations. Compliance with facility design standards shall be addressed during final engineering. The city may require oversizing of facilities to meet standards in the city's facility master plan or to allow for orderly and efficient development. Where oversizing is required, the applicant may request reimbursement from the city for oversizing based on the city's reimbursement policy and funds available, or provide for recovery of costs from intervening properties as they develop.
Finding: Complies as Proposed. Properly sized public facilities are planned to be provided throughout the project to serve future homes. All public improvements have been designed by a registered professional engineer which are planned to be reviewed and approved by City Engineering staff. This standard is met.

16.12.095.M. Erosion Control Plan—Mitigation. The applicant shall be responsible for complying with all applicable provisions of Chapter 17.47 with regard to erosion control.
Finding: Please refer to the analysis in section 17.47 of this report. This standard is met.

16.12.100 Same—Road standards and requirements.
A. The creation of a public street and the resultant separate land parcels shall be in conformance with requirements for subdivisions or partitions and the applicable street design standards of Chapter 12.04. However, the decision-maker may approve the creation of a public street to be established by deed without full compliance with the regulations applicable to subdivisions or partitions where any of the following conditions exist:
1. The establishment of the public street is initiated by the city commission and is declared essential for the purpose of general traffic circulation and the partitioning of land is an incidental effect rather than the primary objective of the street;
2. The tract in which the street is to be dedicated is within an isolated ownership either not over one acre or of such size and characteristics as to make it impossible to develop building sites for more than three dwelling units.
B. For any public street created pursuant to subsection A of this section, a copy of a preliminary plan and the proposed deed shall be submitted to the community development director and city engineer at least ten days prior to any public hearing scheduled for the matter. The plan, deed and any additional information the

applicant may submit shall be reviewed by the decision-maker and, if not in conflict with the standards of Title 16 and Title 17, may be approved with appropriate conditions.
Finding: Not Applicable. The proposed streets will be dedicated by plat and not by deed.

16.12.105 Same—Timing requirements.
A. Prior to applying for final plat approval, the applicant shall either complete construction of all public improvements required as part of the preliminary plat approval or guarantee the construction of those improvements. Whichever option the applicant elects shall be in accordance with this section.
B. Construction. The applicant shall construct the public improvements according to approved final engineering plans and all applicable requirements of this Code, and under the supervision of the city engineer. Under this option, the improvement must be complete and accepted by the city engineer prior to final plat approval.
C. Financial Guarantee. The applicant shall provide the city with a financial guarantee in a form acceptable to the city attorney and equal to one hundred ten percent of the cost of constructing the public improvements in accordance with Oregon City Municipal Code Chapter 17.50. Possible forms of guarantee include an irrevocable or standby letter of credit, guaranteed construction loan set-aside, reserve account, or performance guarantee, but the form of guarantee shall be specified by the city engineer and, prior to execution and acceptance by the city, must be reviewed and approved by the city attorney. The amount of the guarantee shall be based upon approved final engineering plans, equal to at least one hundred ten percent of the estimated cost of construction, and shall be supported by a verified engineering estimate and approved by the city engineer.
Finding: Complies with Condition. Construction of public improvements will comply with City standard, any additional conditions of approval relative to this land use application, and the procedures described in this section. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.12.110 Minimum improvements—Financial guarantee.
When conditions of permit approval require a permittee to construct certain improvements, the city may, in its discretion, allow the permitee to submit a performance guarantee in lieu of actual construction of the improvement. Performance guarantees shall be governed by this section.
A. Form of Guarantee. Performance guarantees shall be in a form approved by the city attorney Approvable methods of performance guarantee include irrevocable standby letters of credit to the benefit of the city issued by a recognized lending institution, certified checks, dedicated bank accounts or allocations of construction loans held in reserve by the lending institution for the benefit of the city. The form of guarantee shall be specified by the city engineer and, prior to execution and acceptance by the city shall be reviewed and approved by the city attorney. The guarantee shall be filed with the city engineer.
B. Timing of Guarantee. A permittee shall be required to provide a performance guarantee as follows:
1. After Final Approved Design by the City: A permittee may request the option of submitting a performance guarantee when prepared for temporary/final occupancy. The guarantee shall be one hundred twenty percent of the estimated cost of constructing the remaining public improvements as submitted by the permittee's engineer. The engineer's estimated costs shall be supported by a verified engineering estimate and approved by the city engineer.
2. Before Complete Design Approval and Established Engineered Cost Estimate: A permittee may request the option of submitting a performance guarantee before public improvements are designed and completed. The guarantee shall be one hundred fifty percent of the estimated cost of constructing the public improvements as submitted by the permittee's engineer and approved by the city engineer. The engineer's estimated costs shall be supported by a verified engineering estimate and approved by the city engineer. This scenario applies for a fee-in-lieu situation to ensure adequate funds for the future work involved in design, bid, contracting, and construction management and contract closeout. In this case, the fee-in-lieu must be submitted as cash, certified check, or other negotiable instrument as approved to form by the city attorney.

C. Duration of the Guarantee. The guarantee shall remain in effect until the improvement is actually constructed and accepted by the city. Once the city has inspected and accepted the improvement, the city shall release the guarantee to the permittee. If the improvement is not completed to the city's satisfaction within the time limits specified in the permit approval, the city engineer may, at their discretion, draw upon the guarantee and use the proceeds to construct or complete construction of the improvement and for any related administrative and legal costs incurred by the city in completing the construction, including any costs incurred in attempting to have the permittee complete the improvement. Once constructed and approved by the city, any remaining funds shall be refunded to the permittee. The city shall not allow a permittee to defer construction of improvements by using a performance guarantee, unless the permittee agrees to construct those improvements upon written notification by the city, or at some other mutually agreed-to time. If the permittee fails to commence construction of the required improvements within six months of being instructed to do so, the city may, without further notice, undertake the construction of the improvements and draw upon the permittee's performance guarantee to pay those costs.

Finding: Complies with Condition. Construction of public improvements will comply with City standard procedures described in this section. The applicant will submit the required performance guarantees or will perform the improvements required for this application. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

CHAPTER 12.04 - STREETS SIDEWALKS AND PUBLIC PLACES

12.04.003 Applicability

A. Compliance with this chapter is required for all Land Divisions, Site Plan and Design Review, Master Plan, Detailed Development Plan and Conditional Use applications and all public improvements.

Finding: Applicable. The applicant applied for a subdivision, this chapter is applicable.

Sections 12.004, 12.005, and 12.007 have been addressed at the front of the staff report.

12.04.010 Construction specifications—Improved streets.

All sidewalks hereafter constructed in the city on improved streets shall be constructed to city standards and widths required in the Oregon City Transportation System Plan. The curb shall be constructed at the same time as the construction of the sidewalk and shall be located as provided in the ordinance authorizing the improvement of said street next proceeding unless otherwise ordered by the city commission. Both sidewalks and curbs are to be constructed according to plans and specifications provided by the city engineer.

Finding: Complies as Proposed. The applicant has indicated that curb and sidewalk improvements will be constructed in accordance with the City's construction specifications and the approved construction plans.

12.04.020 Construction specifications—Unimproved streets.

Sidewalks constructed on unimproved streets shall be constructed of concrete according to lines and grades established by the city engineer and approved by the city commission. On unimproved streets curbs do not have to be constructed at the same time as the sidewalk.

Finding: Complies with Condition. The project includes the extension and improvement of Orchard Grove Drive, which is currently unimproved on the street's south side. Planned improvements to Orchard Grove Drive include additional dedication of right-of-way and a half-street improvement, which includes sidewalks. Additional right-of-way is to be dedicated at the southwest boundary of the project for the future extension of White Lane. However, a fee-in-lieu of constructing any improvements has been found to be acceptable by City staff. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.025 - Street design—Driveway Curb Cuts.

12.04.025.A. One driveway shall be allowed per frontage. In no case shall more than two driveways be allowed on any single or two-family residential property with multiple frontages.
12.04.025.B. With the exception of the limitations identified in 12.04.025.C, all driveway curb cuts shall be limited to the following dimensions.

Property Use	*Minimum Driveway Width at sidewalk or property line*	*Maximum Driveway Width at sidewalk or property line*
Single or Two-Family Dwelling with one Car Garage/Parking Space	*10 feet*	*12 feet*
Single or Two-Family Dwelling with two Car Garage/Parking Space	*12 feet*	*24 feet*
Single or Two-Family Dwelling with three or more Car Garages/Parking Space	*18 feet*	*30 feet*
Non Residential or Multi-Family Residential Driveway Access	*15 feet*	*40 feet*

The driveway width abutting the street pavement may be extended 3 feet on either side of the driveway to accommodate turn movements. Driveways may be widened onsite in locations other than where the driveway meets sidewalk or property line (for example between the property line and the entrance to a garage).
12.04.025.C. The decision maker shall be authorized through a Type II process, unless another procedure applicable to the proposal applies, to minimize the number and size of curb cuts (including driveways) as far as practicable for any of the following purposes:

1. *To provide adequate space for on-street parking;*
2. *To facilitate street tree planting requirements;*
3. *To assure pedestrian and vehicular safety by limiting vehicular access points; and*
4. *To assure that adequate sight distance requirements are met.*
    a. *Where the decision maker determines any of these situations exist or may occur due to the approval of a proposed development for non-residential uses or attached or multi-family housing, a shared driveway shall be required and limited to twenty-four feet in width adjacent to the sidewalk or property line and may extend to a maximum of thirty feet abutting the street pavement to facilitate turning movements.*
    b. *Where the decision maker determines any of these situations exist or may occur due to approval of a proposed development for detached housing within the "R-5" Single –Family Dwelling District or "R-3.5" Dwelling District, driveway curb cuts shall be limited to twelve feet in width adjacent to the sidewalk or property line and may extend to a maximum of eighteen feet abutting the street pavement to facilitate turning movements.*

12.04.025.D. For all driveways, the following standards apply.
1. Each new or redeveloped curb cut shall have an approved concrete approach or asphalted street connection where there is no concrete curb and a minimum hard surface for at least ten feet and preferably twenty feet back into the lot as measured from the current edge of street pavement to provide for controlling gravel tracking onto the public street. The hard surface may be concrete, asphalt, or other surface approved by the city engineer.
2. Driving vehicles, trailers, boats, or other wheeled objects across a sidewalk or roadside planter strip at a location other than an approved permanent or city-approved temporary driveway approach is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.
3. Placing soil, gravel, wood, or other material in the gutter or space next to the curb of a public street with the intention of using it as a permanent or temporary driveway is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.

4. Any driveway built within public street or alley right-of-way shall be built and permitted per city requirements as approved by the city engineer.
12.04.025.E. Exceptions. The public works director reserves the right to waive this standard, if it is determined through a Type II decision including written findings, that it is in the best interest of the public to do so.
Finding: Complies as Proposed. All future homes within the project are planned to be constructed with no more than one driveway per home. Driveway widths will comply with the above-listed requirements in relation to the sizes of garages or parking spaces. This standard is met.

12.04.030 Maintenance and repair.
The owner of land abutting the street where a sidewalk has been constructed shall be responsible for maintaining said sidewalk and abutting curb, if any, in good repair.
Finding: Complies as Proposed. The applicant is responsible for maintaining said sidewalk and abutting curb.

12.04.031 Liability for sidewalk injuries.
A. The owner or occupant of real property responsible for maintaining the adjacent sidewalk shall be liable to any person injured because of negligence of such owner or occupant in failing to maintain the sidewalk in good condition.
B. If the city is required to pay damages for an injury to persons or property caused by the failure of a person to perform the duty that this ordinance imposes, the person shall compensate the city for the amount of the damages paid. The city may maintain an action in a court of competent jurisdiction to enforce this section.
Finding: Not Applicable. The criterion are applicable to injuries incurred on public sidewalk and will be administered at such time as necessary.

12.04.032 Required sidewalk repair.
A. When the public works director determines that repair of a sidewalk is necessary he or she shall issue a notice to the owner of property adjacent to the sidewalk.
B. The notice shall require the owner of the property adjacent to the defective sidewalk to complete the repair of the sidewalk within ninety days after the service of notice. The notice shall also state that if the repair is not made by the owner, the city may do the work and the cost of the work shall be assessed against the property adjacent to the sidewalk.
C. The public works director shall cause a copy of the notice to be served personally upon the owner of the property adjacent to the defective sidewalk, or the notice may be served by registered or certified mail, return receipt requested. If after diligent search the owner is not discovered, the public works director shall cause a copy of the notice to be posted in a conspicuous place on the property, and such posting shall have the same effect as service of notice by mail or by personal service upon the owner of the property.
D. The person serving the notice shall file with the city recorder a statement stating the time, place and manner of service or notice.
Finding: Not Applicable. The criteria are applicable to repair of sidewalk and will be administered at such time as necessary.

12.04.033 City may do work.
If repair of the sidewalk is not completed within ninety days after the service of notice, the public works director shall carry out the needed work on the sidewalk. Upon completion of the work, the public works director shall submit an itemized statement of the cost of the work to the finance director. The city may, at its discretion, construct, repair or maintain sidewalks deemed to be in disrepair by the public works director for the health, safety and general welfare of the residents of the city.
Finding: Not Applicable. The criterion are applicable to repair of sidewalk and will be administered at such time as necessary.

12.04.034 Assessment of costs.
Upon receipt of the report, the finance director shall assess the cost of the sidewalk work against the property adjacent to the sidewalk. The assessment shall be a lien against the property and may be collected in the same manner as is provided for in the collection of street improvement assessment.
Finding: Not Applicable. The criterion are applicable to repair of sidewalk and will be administered at such time as necessary.

12.04.040 Streets--Enforcement.
Any person whose duty it is to maintain and repair any sidewalk, as provided by this chapter, and who fails to do so shall be subject to the enforcement procedures of Chapters 1.16, 1.20 and 1.24. Failure to comply with the provisions of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Finding: Not Applicable. The criterion are applicable to repair of sidewalk and will be administered at such time as necessary.

***12.04.045** Street design – Constrained local streets and/or rights-of-way*
Any accessway with a pavement width of less than thirty-two feet shall require the approval of the city engineer, community development director and fire chief and shall meet minimum life safety requirements, which may include fire suppression devices as determined by the fire marshal to assure an adequate level of fire and life safety. The standard width for constrained streets is twenty feet of paving with no on-street parking and twenty-eight feet with on-street parking on one side only. Constrained local streets shall maintain a twenty-foot wide unobstructed accessway. Constrained local streets and/or right-of-way shall comply with necessary slope easements, sidewalk easements and altered curve radius, as approved by the city engineer and community development director.

Table 12.04.045		
STREET DESIGN STANDARDS FOR LOCAL CONSTRAINED STREETS		
	Minimum	*Required*
Type of Street	*Right-of-way*	*Pavement Width*
Constrained local street	*20 to 40*	*20 to less than 32 feet*

Finding: Complies with Condition. Although the applicant's narrative omitted this section, the submitted plan shows a constrained street to allow preservation of an adjacent 54-inch Douglas Fir tree in Tract A. The proposed section includes 24 feet of pavement, and sidewalks on both sides, on being curb-tight. The proposal has not been adequately justified, so a condition will be applied to ensure the street section modification is the minimum required to preserve the tree, and will allow adequate vehicular and pedestrian access. The proposed constrained cross-section of Orchard Grove Drive adjacent to Tract A will be approved contingent upon the following requirements; 1. Evaluation by certified arborist stating the 54" Douglas Fir Tree #10012 is likely to survive the proposed grading, and for how long after construction; 2. Submittal of scaled cross-section showing street, sidewalk, grading, tree canopy and tree root zone; 3. Modification of street alignment as far north as practicable, and with abrupt curvature smoothed out to maximum extent practicable.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

12.04.050 Retaining walls--Required.
Every owner of a lot within the city, abutting upon an improved street, where the surface of the lot or tract of land is above the surface of the improved street and where the soil or earth from the lot, or tract of land is liable to, or does slide or fall into the street or upon the sidewalk, or both, shall build a retaining wall, the

outer side of which shall be on the line separating the lot, or tract of land from the improved street, and the wall shall be so constructed as to prevent the soil or earth from the lot or tract of land from falling or sliding into the street or upon the sidewalk, or both, and the owner of any such property shall keep the wall in good repair.

Finding: Complies as Proposed. All future retaining walls associated with the project are planned to be constructed outside of any future right-of-way, and will not be located such that soil or earth will slide onto the street or sidewalk. This standard is satisfied.

12.04.060 Retaining walls--Maintenance.

When a retaining wall is necessary to keep the earth from falling or sliding onto the sidewalk or into a public street and the property owner or person in charge of that property fails or refuses to build such a wall, such shall be deemed a nuisance. The violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Finding: Complies as Proposed. All future retaining walls associated with the project are planned to be maintained by property owners. If, for any reason, retaining walls should fail, they are to be repaired to their original state. This standard is understood.

12.04.070 Removal of sliding dirt.

It shall be the duty of the owner of any property as mentioned in Section 12.04.050, and in case the owner is a nonresident, then the agent or other person in charge of the same, to remove from the street or sidewalk or both as the case may be, any and all earth or dirt falling on or sliding into or upon the same from the property, and to build and maintain in order at all times, the retaining wall as herein required; and upon the failure, neglect or refusal of the land owner, the agent or person in charge of the same to clean away such earth or dirt, falling or sliding from the property into the street or upon the sidewalk, or both, or to build the retaining wall, shall be deemed guilty of a misdemeanor.

Finding: Complies as Proposed. The project is not planned to cause the sliding of dirt onto the future internal streets or sidewalks of the subdivision. Property owners within the project are to be responsible for compliance with City codes and subject to enforcement action by the City for such codes, including the removal of dirt falling on or sliding into streets or sidewalks. This standard is understood.

12.04.080 Excavations--Permit required.

It shall be unlawful for any person to dig up, break, excavate, disturb, dig under or undermine any public street or alley, or any part thereof or any macadam, gravel, or other street pavement or improvement without first applying for and obtaining from the engineer a written permit so to do.

Finding: Complies with Condition. Work is anticipated to be within right-of-way on White Lane and Orchard Grove Drive to connect to existing utilities. The applicant shall obtain all permits as required for any work within the right-of-way. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.090 Excavations--Permit restrictions.

The permit shall designate the portion of the street to be so taken up or disturbed, together with the purpose for making the excavation, the number of days in which the work shall be done, and the trench or excavation to be refilled and such other restrictions as may be deemed of public necessity or benefit.

Finding: Not Applicable. The criteria are applicable to singular permitting of excavation; this development will be permitted within the regulations of a comprehensive construction plan certified by professional engineer and administered by the City.

12.04.095 - *Street Design—Curb Cuts.*

To assure public safety, reduce traffic hazards and promote the welfare of pedestrians, bicyclists and residents of the subject area, such as a cul-de-sac or dead-end street, the decision maker shall be authorized

to minimize the number and size of curb cuts (including driveways) as far as practicable where any of the following conditions are necessary:
A. To provide adequate space for on-street parking;
B. To facilitate street tree planting requirements;
C. To assure pedestrian and vehicular safety by limiting vehicular access points; and
D. To assure that adequate sight distance requirements are met.
Where the decision maker determines any of these situations exist or may occur due to approval of a proposed development, single residential driveway curb cuts shall be limited to twelve feet in width adjacent to the sidewalk and property line and may extend to a maximum of eighteen feet abutting the street pavement to facilitate turning movements. Shared residential driveways shall be limited to twenty-four feet in width adjacent to the sidewalk and property line and may extend to a maximum of thirty feet abutting the street pavement to facilitate turning movements. Non-residential development driveway curb cuts in these situations shall be limited to the minimum required widths based on vehicle turning radii based on a professional engineer's design submittal and as approved by the decision maker.
Finding: Complies as proposed. The applicant will comply with City standards regarding number and design of curb cuts for driveway approaches, sidewalk ramps, etc.

12.04.100 Excavations – Restoration of Pavement
Whenever any excavation shall have been made in any pavement or other street improvement on any street or alley in the city for any purpose whatsoever under the permit granted by the engineer, it shall be the duty of the person making the excavation to put the street or alley in as good condition as it was before it was so broken, dug up or disturbed, and shall remove all surplus dirt, rubbish, or other material from the street or alley.
Finding: Complies as Proposed. The applicant has proposed work in the public right-of-way that will require pavement restoration. This includes new pipe lines. The applicant shall restore the pavement in accordance with the City of Oregon City Public Works Pavement Cut Standards.

12.04.110 Excavations--Nuisance--Penalty.
Any excavation in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Finding: Complies as Proposed. All excavations will comply with this Chapter via the conditions of approval.

12.04.120 Obstructions – Permit Required
Finding: Complies as proposed. The applicant shall obtain all required permits before any obstructions of the right-of-way.

12.04.130 Obstructions--Sidewalk sales.
A. It is unlawful for any person to use the public sidewalks of the city for the purpose of packing, unpacking or storage of goods or merchandise or for the display of goods or merchandise for sale. It is permissible to use the public sidewalks for the process of expeditiously loading and unloading goods and merchandise.
B. The city commission may, in its discretion, designate certain areas of the city to permit the display and sale of goods or merchandise on the public sidewalks under such conditions as may be provided.
Finding: Not Applicable. The applicant has not proposed a sidewalk sale with this application.

12.04.140 Obstructions--Nuisance--Penalty.
Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Finding: Complies as Proposed. The applicant will comply with this Chapter via conditions of approval.

12.04.150 - Street and alley vacations—Cost.

At the time of filing a petition for vacation of a street, alley or any part thereof, a fee as established by city commission resolution shall be paid to the city.
Finding: Not Applicable. The applicant has not proposed a street or alley vacation with this application.

12.04.160 Street vacations--Restrictions.
The commission, upon hearing such petition, may grant the same in whole or in part, or may deny the same in whole or in part, or may grant the same with such reservations as would appear to be for the public interest, including reservations pertaining to the maintenance and use of underground public utilities in the portion vacated.
Finding: Not Applicable. The applicant has not proposed a street or alley vacation with this application.

***12.04.170** - Street design—Purpose and general provisions.*
All development shall be in conformance with the policies and design standards established by this Chapter and with applicable standards in the city's public facility master plan and city design standards and specifications. In reviewing applications for development, the city engineer shall take into consideration any approved development and the remaining development potential of adjacent properties. All street, water, sanitary sewer, storm drainage and utility plans associated with any development must be reviewed and approved by the city engineer prior to construction. All streets, driveways or storm drainage connections to another jurisdiction's facility or right-of-way must be reviewed by the appropriate jurisdiction as a condition of the preliminary plat and when required by law or intergovernmental agreement shall be approved by the appropriate jurisdiction.
Finding: Complies with Condition. The applicant has proposed standard street improvements and other public facilities work in accordance with adopted public facility plans, and is required to conform to Engineering Policy 00-01, which applies to any development requiring provision of public facilities. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.175 Street Design--Generally.
The location, width and grade of street shall be considered in relation to: existing and planned streets, topographical conditions, public convenience and safety for all modes of travel, existing and identified future transit routes and pedestrian/bicycle accessways, and the proposed use of land to be served by the streets. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. To the extent possible, proposed streets shall connect to all existing or approved stub streets that abut the development site. The arrangement of streets shall either:
A. Provide for the continuation or appropriate projection of existing principal streets in the surrounding area and on adjacent parcels or conform to a plan for the area approved or adopted by the city to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical;
B. Where necessary to give access to or permit a satisfactory future development of adjoining land, streets shall be extended to the boundary of the development and the resulting dead-end street (stub) may be approved with a temporary turnaround as approved by the city engineer. Notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future. Access control in accordance with section 12.04 shall be required to preserve the objectives of street extensions.
Finding: Complies as Conditioned. The location, widths, and grades of the proposed street network provide connectivity for future development of adjacent properties, a convenient street system, and for the safety of all modes of travel, including pedestrian and bicycle to, from, and through the subject site. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.180 Street Design.

All development regulated by this Chapter shall provide street improvements in compliance with the standards in Figure 12.04.180 depending on the street classification set forth in the Transportation System Plan and the Comprehensive Plan designation of the adjacent property, unless an alternative plan has been adopted. The standards provided below are maximum design standards and may be reduced with an alternative street design which may be approved based on the modification criteria in 12.04.007. The steps for reducing the maximum design below are found in the Transportation System Plan.

Table 12.04.180 Street Design

To read the table below, select the road classification as identified in the Transportation System Plan and the Comprehensive Plan designation of the adjacent properties to find the maximum design standards for the road cross section. If the Comprehensive Plan designation on either side of the street differs, the wider right-of-way standard shall apply.

Road Classification	***Comprehensive Plan Designation***	***Right-of-Way Width***	***Pavement Width***	***Public Access***	***Sidewalk***	***Landscape Strip***	***Bike Lane***	***Street Parking***	***Travel Lanes***	***Median***
Local	*Mixed Use, Commercial or Public/Quasi Public*	*62 ft.*	*40 ft.*	*0.5 ft.*	*10.5 ft. sidewalk including 5 ft.x5 ft. tree wells*		*N/A*	*8 ft.*	*(2) 12 ft. Lanes*	*N/A*
	Industrial	*60 ft.*	*38 ft.*	*0.5 ft.*	*5 ft.*	*5.5 ft.*	*(2) 19 ft. Shared Space*			*N/A*
	Residential	*54 ft.*	*32 ft.*	*0.5 ft.*	*5 ft.*	*5.5 ft.*	*(2) 16 ft. Shared Space*			*N/A*

1. Pavement width includes, bike lane, street parking, travel lanes and median.

2. Public access, sidewalks, landscape strips, bike lanes and on-street parking are required on both sides of the street in all designations. The right-of-way width and pavement widths identified above include the total street section.

3. A 0.5' foot curb is included in landscape strip or sidewalk width.

4. Travel lanes may be through lanes or turn lanes.

5. The 0.5' foot public access provides access to adjacent public improvements.

6. Alleys shall have a minimum right-of-way width of 20 feet and a minimum pavement width of 16 feet. If alleys are provided, garage access shall be provided from the alley.

Finding: Complies with Condition. All new streets within the proposed development will be functionally classified as a Local (Residential). For a residential local, the Oregon City Municipal Code (OCMC) requires a 54-foot-wide right-of-way (ROW), two (2) 16-foot-wide shared travel lanes, two (2) 5.5-foot-wide planter strips (inclusive of 0.5-foot wide curb), two (2) 5-foot-wide sidewalks, and two (2) 0.5-foot-wide public access strips. Additional requirements include curb, gutter, street trees, and street lights. The applicant has proposed a Right-of- Way dedication of 54-feet for Orchard Grove Drive, Winnie Way, Wheeler Farm Road, Larence Lane, Skellenger Way, and Tolstrup Drive.

Applicant required to meet half-street roadway standards for portions of Orchard Grove Drive and Skellenger Way to roadway centerline.

Applicant to provide full street improvements across Orchard Grove Drive along portion of roadway where existing curb exists in compliance with Oregon City roadway standards.

A constrained street section is proposed adjacent to Tract A, and is described in 12.04.045.

The applicant has proposed a street system that appears to meet City requirements with a few modifications. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.185 Street Design--Access Control.
A. A Street which is dedicated to end at the boundary of the development or in the case of half-streets dedicated along a boundary shall have an access control granted to the City as a City controlled plat restriction for the purposes of controlling ingress and egress to the property adjacent to the end of the dedicated street. The access control restriction shall exist until such time as a public street is created, by dedication and accepted, extending the street to the adjacent property.
B. The City may grant a permit for the adjoining owner to access through the access control.
C. The plat shall contain the following access control language or similar on the face of the map at the end of each street for which access control is required: "Access Control (See plat restrictions)."
D. Said plats shall also contain the following plat restriction note(s): "Access to (name of street or tract) from adjoining tracts (name of deed document number[s]) shall be controlled by the City of Oregon City by the recording of this plat, as shown. These access controls shall be automatically terminated upon the acceptance of a public road dedication or the recording of a plat extending the street to adjacent property that would access through those Access Controls."
Finding: Complies with Condition. Appropriate plat restrictions allowing access to adjoining properties will be placed on the final plat prior to recording for the future extension of White Lane at the project's southwest property line. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.190 Street Design--Alignment.
The centerline of streets shall be:
A. Aligned with existing streets by continuation of the centerlines; or
B. Offset from the centerline by no more than five (5) feet, provided appropriate mitigation, in the judgment of the City Engineer, is provided to ensure that the offset intersection will not pose a safety hazard.
Finding: Complies as Proposed. The extension of adjoining streets through the project will either align or be offset no more than 5 feet with centerlines of other streets in or abutting the project. This standard is met.

12.04.194 Traffic Sight Obstructions
All new streets shall comply with the Traffic Sight Obstructions in Chapter 10.32.
Finding: Complies as Proposed. Clear vision areas are planned to be maintained at intersections in accordance with the applicable standards.

12.04.195 Spacing Standards.
12.04.195.A. All new streets shall be designed as local streets unless otherwise designated as arterials and collectors in Figure 8 in the Transportation System Plan. The maximum block spacing between streets is 530 feet and the minimum block spacing between streets is 150 feet as measured between the right-of-way centerlines. If the maximum block size is exceeded, pedestrian accessways must be provided every 330 feet. The spacing standards within this section do not apply to alleys.
Finding: Complies as Proposed. Planned streets within the subdivision have been designed as local streets. With the exception of the "island" block created by the extension of the adjoining Skellenger Way and Tolstrup Drive, no blocks in the project exceed the maximum block length spacing standard of 530 feet requiring a midblock pedestrian accessway. This application includes a modification to the midblock pedestrian connection required for the "island" block as addressed previously under Subsection 12.04.007 Modifications.

12.04.195.B. All new development and redevelopment shall meet the minimum driveway spacing standards identified in Table 12.04.195.B.

Table 12.04.195.B Minimum Driveway Spacing Standards

Table 12.04.195.B Minimum Driveway Spacing Standards		
Street Functional Classification	***Minimum Driveway Spacing Standards***	***Distance***
Major Arterial Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*175 ft.*
Minor Arterial Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*175 ft.*
Collector Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*100 ft.*
Local Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*25 ft.*
The distance from a street corner to a driveway is measured along the right-of-way from the edge of the intersection right-of-way to the nearest portion of the driveway and the distance between driveways is measured at the nearest portions of the driveway at the right-of-way.		

Finding: Complies as Proposed. Driveways for the future homes accessing the new local streets within the project are planned to be a minimum of 25 feet from the right-of-way line of all intersections. This standard is met.

12.04.199 Pedestrian and Bicycle Accessways

Pedestrian/bicycle accessways are intended to provide direct, safe and convenient connections between residential areas, retail and office areas, institutional facilities, industrial parks, transit streets, neighborhood activity centers, rights-of-way, and pedestrian/bicycle accessways which minimize out-of-direction travel, and transit-orientated developments where public street connections for automobiles, bicycles and pedestrians are unavailable. Pedestrian/bicycle accessways are appropriate in areas where public street options are unavailable, impractical or inappropriate. Pedestrian and bicycle accessways are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding three-hundred-and-thirty feet of frontage; or where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips.

12.04.199.A. Entry points shall align with pedestrian crossing points along adjacent streets and with adjacent street intersections.

12.04.199.B. Accessways shall be free of horizontal obstructions and have a nine-foot, six-inch high vertical clearance to accommodate bicyclists. To safely accommodate both pedestrians and bicycles, accessway right-of-way widths shall be as follows:

1. *Accessways shall have a fifteen-foot-wide right-of-way with a seven-foot wide paved surface between a five foot planter strip and a three foot planter strip.*

2. *If an accessway also provides secondary fire access, the right-of-way width shall be at least twenty-three feet wide with a fifteen-foot paved surface a five foot planter strip and a three foot planter strip.*

12.04.199.C. Accessways shall be direct with at least one end point of the accessway always visible from any point along the accessway. On-street parking shall be prohibited within fifteen feet of the intersection of the accessway with public streets to preserve safe sight distance and promote safety.

2.04.199.D. To enhance pedestrian and bicycle safety, accessways shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances.

12.04.199.E. Accessways shall comply with Americans with Disabilities Act (ADA).

12.04.199.F. The planter strips on either side of the accessway shall be landscaped along adjacent property by installation of the following:

1. *Within the three foot planter strip, an evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average;*
2. *Ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees;*
3. *Within the five foot planter strip, two-inch minimum caliper trees with a maximum of thirty-five feet of separation between the trees to increase the tree canopy over the accessway;*
4. *In satisfying the requirements of this section, evergreen plant materials that grow over forty-two inches in height shall be avoided. All plant materials shall be selected from the Oregon City Native Plant List.*

12.04.199.G. Accessways shall be designed to prohibit unauthorized motorized traffic. Curbs and removable, lockable bollards are suggested mechanisms to achieve this.

12.04.199.H. Accessway surfaces shall be paved with all-weather materials as approved by the city. Pervious materials are encouraged. Accessway surfaces shall be designed to drain stormwater runoff to the side or sides of the accessway. Minimum cross slope shall be two percent.

12.04.199.I. In parks, greenways or other natural resource areas, accessways may be approved with a five-foot wide gravel path with wooden, brick or concrete edgings .

12.04.199.J. The Community Development Director may approve an alternative accessway design due to existing site constraints through the modification process set forth in Section 12.04.007.

12.04.199.K. Ownership, liability and maintenance of accessways.

To ensure that all pedestrian/bicycle accessways will be adequately maintained over time, the hearings body shall require one of the following:

1. *Dedicate the accessways to the public as public right-of-way prior to the final approval of the development; or*
2. *The developer incorporates the accessway into a recorded easement or tract that specifically requires the property owner and future property owners to provide for the ownership, liability and maintenance of the accessway.*

Finding: Complies as Proposed. As demonstrated on the preliminary plans, the planned street system includes public sidewalks on both sides of the project's interior streets. The sidewalks provide convenient pedestrian and bicycle access and connectivity for residents in the area. The planned street system also meets the intent of the "Proposed Metro Regional Trail," as indicated on the Oregon City Conceptual Trails Map and shown on the preliminary plans. This application includes modifying the midblock pedestrian connection required for the "island" block, which exceeds the maximum block spacing standard of Section 12.04.195, addressed previously in this narrative. No additional pedestrian and/or bicycle accessways are required or planned as part of this application.

12.04.205 Mobility Standards.

Development shall demonstrate compliance with intersection mobility standards. When evaluating the performance of the transportation system, the City of Oregon City requires all intersections, except for the facilities identified in subsection D below, to be maintained at or below the following mobility standards during the two-hour peak operating conditions. The first hour has the highest weekday traffic volumes and the second hour is the next highest hour before or after the first hour. Except as provided otherwise below, this may require the installation of mobility improvements as set forth in the Transportation System Plan or as otherwise identified by the City Transportation Engineer.

A. For intersections within the Regional Center, the following mobility standards apply:

1. *During the first hour, a maximum v/c ratio of 1.10 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.*
2. *During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.*
3. *Intersections located on the Regional Center boundary shall be considered within the Regional Center.*

B. For intersections outside of the Regional Center but designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:

1. *During the first hour, a maximum v/c ratio of 0.99 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.*
2. *During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.*

C. For intersections outside the boundaries of the Regional Center and not designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:

1. *For signalized intersections:*

a. *During the first hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.*

b. *During the second hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.*

2. *For unsignalized intersections outside of the boundaries of the Regional Center:*

a. *For unsignalized intersections, during the peak hour, all movements serving more than 20 vehicles shall be maintained at LOS "E" or better. LOS "F" will be tolerated at movements serving no more than 20 vehicles during the peak hour.*

D. Until the City adopts new performance measures that identify alternative mobility targets, the City shall exempt proposed development that is permitted, either conditionally, outright, or through detailed development master plan approval, from compliance with the above-referenced mobility standards for the following state-owned facilities:

I-205 / OR 99E Interchange
I-205 / OR 213 Interchange
OR 213 / Beavercreek Road
State intersections located within or on the Regional Center Boundaries

1. *In the case of conceptual development approval for a master plan that impacts the above references intersections:*

a. *The form of mitigation will be determined at the time of the detailed development plan review for subsequent phases utilizing the Code in place at the time the detailed development plan is submitted; and*

b. *Only those trips approved by a detailed development plan review are vested.*

2. *Development which does not comply with the mobility standards for the intersections identified in 12.04.205.D shall provide for the improvements identified in the Transportation System Plan (TSP) in an effort to improve intersection mobility as necessary to offset the impact caused by development. Where required by other provisions of the Code, the applicant shall provide a traffic impact study that includes an assessment of the development's impact on the intersections identified in this exemption and shall construct the intersection improvements listed in the TSP or required by the Code.*

Finding: Complies as Proposed. Findings within the project's Transportation Impact Study (TIS) prepared by Lancaster Engineering, demonstrate that all Level of Service (LOS) requirements are satisfied. The engineer concluded no mitigation measures are necessary to address the impact of the proposed development. John Replinger in his letter dated September 5, 2017 concurs with this conclusion.

12.04.210 Street design--Intersection Angles.
Except where topography requires a lesser angle, streets shall be laid out to intersect at angles as near as possible to right angles. In no case shall the acute angles be less than eighty degrees unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least one hundred feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least fifty feet of tangent adjacent to the intersection unless topography requires a lesser distance. All street intersections shall be provided with a minimum curb return radius of twenty-five feet for local streets. Larger radii shall be required for higher street classifications as determined by the city engineer. Additional right-of-way shall be required to accommodate curb returns and sidewalks at intersections. Ordinarily, intersections should not have more than two streets at any one point.
Finding: Complies as Proposed. As shown on the preliminary plans, all intersection angles are laid out at right angles, including at least 50 feet of tangent adjacent to the intersection, and have curb return radii of 25 feet. Necessary rights-of-way are planned to accommodate these street improvements. The application complies with the above listed requirements.

12.04.215 Street design--Off-Site Street Improvements.
During consideration of the preliminary plan for a development, the decision maker shall determine whether existing streets impacted by, adjacent to, or abutting the development meet the city's applicable planned minimum design or dimensional requirements. Where such streets fail to meet these requirements, the decision-maker shall require the applicant to make proportional improvements sufficient to achieve conformance with minimum applicable design standards required to serve the proposed development.
Finding: Not Applicable. See section 12.04.180. No proportional off-site improvements are anticipated or needed for this application.

12.04.220 Street Design--Half Street.
Half streets, while generally not acceptable, may be approved where essential to the development, when in conformance with all other applicable requirements, and where it will not create a safety hazard. When approving half streets, the decision maker must first determine that it will be practical to require the dedication of the other half of the street when the adjoining property is divided or developed. Where the decision maker approves a half street, the applicant must construct an additional ten feet of pavement width so as to make the half street safe and usable until such time as the other half is constructed. Whenever a half street is adjacent to property capable of being divided or developed, the other half of the street shall be

provided and improved when that adjacent property divides or develops. Access Control may be required to preserve the objectives of half streets.
When the remainder of an existing half-street improvement is made it shall include the following items: dedication of required right-of-way, construction of the remaining portion of the street including pavement, curb and gutter, landscape strip, sidewalk, street trees, lighting and other improvements as required for that particular street. It shall also include at a minimum the pavement replacement to the centerline of the street. Any damage to the existing street shall be repaired in accordance with the City's "Moratorium Pavement Cut Standard" or as approved by the City Engineer.
Finding: Complies with Condition. The applicant has proposed a half street for portions of Orchard Grove Drive and Skellenger Way. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.225 Street Design--Cul-de-sacs and Dead-End Streets.
The city discourages the use of cul-de-sacs and permanent dead-end streets except where construction of a through street is found by the decision maker to be impracticable due to topography or some significant physical constraint such as geologic hazards, wetland, natural or historic resource areas, dedicated open space, existing development patterns, arterial access restrictions or similar situation as determined by the Community Development Director. When permitted, access from new cul-de-sacs and permanent dead-end streets shall be limited to a maximum of 25 dwelling units and a maximum street length of two hundred feet, as measured from the right-of-way line of the nearest intersecting street to the back of the cul-de-sac curb face. In addition, cul-de-sacs and dead end roads shall include pedestrian/bicycle accessways as required in this Chapter. This section is not intended to preclude the use of curvilinear eyebrow widening of a street where needed.
Where approved, cul-de-sacs shall have sufficient radius to provide adequate turn-around for emergency vehicles in accordance with Fire District and City adopted street standards. Permanent dead-end streets other than cul-de-sacs shall provide public street right-of-way / easements sufficient to provide turn-around space with appropriate no-parking signs or markings for waste disposal, sweepers, and other long vehicles in the form of a hammerhead or other design to be approved by the decision maker. Driveways shall be encouraged off the turnaround to provide for additional on-street parking space.
Finding: Not Applicable. There are no cul-de-sacs or permanent dead-ends proposed.

12.04.230 Street Design--Street Names.
Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street. Street names shall conform to the established standards in the City and shall be subject to the approval of the City.
Finding: Complies as Proposed. The applicant shall work with City staff to provide street names that meet City requirements.

12.04.235 Street Design--Grades and Curves.
Grades and center line radii shall conform to the standards in the City's street design standards and specifications.
Finding: Complies as Conditioned. All grades and centerline radii on Preliminary Plans appear to comply with the City's street design standards and specifications. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.240 Street Design--Development Abutting Arterial or Collector Street.
Where development abuts or contains an existing or proposed arterial or collector street, the decision maker may require: access control; screen planting or wall contained in an easement or otherwise protected by a restrictive covenant in a form acceptable to the decision maker along the rear or side property line; or such other treatment it deems necessary to adequately protect residential properties or afford separation of

through and local traffic. Reverse frontage lots with suitable depth may also be considered an option for residential property that has arterial frontage. Where access for development abuts and connects for vehicular access to another jurisdiction's facility then authorization by that jurisdiction may be required.
Finding: Not Applicable. The development does not abut an Arterial or Collector Street.

12.04.245 Street Design--Pedestrian and Bicycle Safety.
Where deemed necessary to ensure public safety, reduce traffic hazards and promote the welfare of pedestrians, bicyclists and residents of the subject area, the decision maker may require that local streets be so designed as to discourage their use by nonlocal automobile traffic.
All crosswalks shall include a large vegetative or sidewalk area which extends into the street pavement as far as practicable to provide safer pedestrian crossing opportunities. These curb extensions can increase the visibility of pedestrians and provide a shorter crosswalk distance as well as encourage motorists to drive slower. The decision maker may approve an alternative design that achieves the same standard for constrained sites or where deemed unnecessary by the City Engineer.
Finding: Complies as Proposed. The project's internal street system has been designed to City standards. The overall street pattern discourages non-local through traffic. This standard is met.

12.04.255 Street design--Alleys.
Public alleys shall be provided in the following districts R-5, R-3.5, R-2, MUC-1, MUC-2 and NC zones unless other permanent provisions for private access to off-street parking and loading facilities are approved by the decision maker. The corners of alley intersections shall have a radius of not less than ten feet.
Finding: Not Applicable. No alleys are proposed. This project is not within any of the zoning districts listed in this standard. Therefore, Public alleys are not required or included in this application. This standard is not relevant to the application.

12.04.260 Street Design--Transit.
Streets shall be designed and laid out in a manner that promotes pedestrian and bicycle circulation. The applicant shall coordinate with transit agencies where the application impacts transit streets as identified in 17.04.1310. Pedestrian/bicycle access ways shall be provided as necessary in Chapter 12.04 to minimize the travel distance to transit streets and stops and neighborhood activity centers. The decision maker may require provisions, including easements, for transit facilities along transit streets where a need for bus stops, bus pullouts or other transit facilities within or adjacent to the development has been identified.
Finding: Complies as Proposed. Public streets and sidewalks are planned to provide access to the project's future homes and for neighborhood connectivity/circulation. The preliminary plans show the location and arrangement of planned improvements, which promote pedestrian and bicycle circulation. Planned streets and sidewalks, together with off-site connections, minimize the travel distance to transit streets (South Central Point Road) and other off-site destinations. The need for additional transit facilities and bus stops have not been identified and are not warranted. This standard is met.

12.04.265 Street design--Planter Strips.
All development shall include vegetative planter strips that are five feet in width or larger and located adjacent to the curb. This requirement may be waived or modified if the decision maker finds it is not practicable. The decision maker may permit constrained sites to place street trees on the abutting private property within 10 feet of the public right-of-way if a covenant is recorded on the title of the property identifying the tree as a city street tree which is maintained by the property owner. Development proposed along a collector, minor arterial, or major arterial street may use tree wells with root barriers located near the curb within a wider sidewalk in lieu of a planter strip, in which case each tree shall have a protected area to ensure proper root growth and reduce potential damage to sidewalks, curbs and gutters.
To promote and maintain the community tree canopy adjacent to public streets, trees shall be selected and planted in planter strips in accordance with Chapter 12.08, Street Trees. Individual abutting lot owners shall

be legally responsible for maintaining healthy and attractive trees and vegetation in the planter strip. If a homeowners' association is created as part of the development, the association may assume the maintenance obligation through a legally binding mechanism, e.g., deed restrictions, maintenance agreement, etc., which shall be reviewed and approved by the city attorney. Failure to properly maintain trees and vegetation in a planter strip shall be a violation of this code and enforceable as a civil infraction.
Finding: Complies with Condition. Please refer to section 12.04.180.

12.04.270 Standard Construction Specifications.
The workmanship and materials for any work performed under permits issued per this chapter shall be in accordance with the edition of the "Standard Specifications for Public Works Construction," as prepared by the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the city, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Street Design Drawings provide other design details, in which case the requirements of this chapter and the Public Works Street Design Drawings shall be complied with. In the case of work within ODOT or Clackamas County rights-of-way, work shall be in conformance with their respective construction standards.
Finding: Complies as Proposed . All public improvements have been designed by a professional engineer licensed in the State of Oregon. The plans for these improvements are planned to be submitted to the City and reviewed for consistency with all City requirements. After the appropriate City construction permits are obtained, the improvements are planned to be constructed by a licensed General Contractor, in accordance with the approved plans. Finally, the improvements are to be inspected for consistency with the approved final plans prior to City acceptance. This standard is met.

12.04.280 Violation--Penalty.
Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Finding: Applicable. It is understood that any act in violation of this Chapter is to be deemed a nuisance and be subject to code enforcement procedures.

Chapter 12.08 - PUBLIC AND STREET TREES[2]

12.08.015 - Street tree planting and maintenance requirements.
All new construction or major redevelopment shall provide street trees adjacent to all street frontages. Species of trees shall be selected based upon vision clearance requirements, but shall in all cases be selected from the Oregon City Street Tree List or be approved by a certified arborist. If a setback sidewalk has already been constructed or the Development Services determines that the forthcoming street design shall include a setback sidewalk, then all street trees shall be installed with a planting strip. If existing street design includes a curb-tight sidewalk, then all street trees shall be placed within the front yard setback, exclusive of any utility easement.
Finding: Complies with condition. The applicant submitted a street tree plan which included trees placed along the frontages of the development but indicated that the species will be street trees from the Oregon City Street Tree List (or approved by a certified arborist) are to be planted in conformance with this Section.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

A. One street tree shall be planted for every thirty-five feet of property frontage. The tree spacing shall be evenly distributed throughout the total development frontage. The community development director may approve an alternative street tree plan if site or other constraints prevent meeting the placement of one street tree per thirty-five feet of property frontage.
Finding: Complies with condition. The applicant indicated that one tree will be planted for every 30 feet of frontage, and provided a calculation of 7,315 lineal feet of frontage, which requires 209 street trees to be

planted. A street tree plan was submitted with the preliminary locations of street trees, but did not include the final proposed locations, location of street lights, fire hydrants or power lines. Prior to issuance of a permit associated with the proposed development the applicant shall submit a plan for street trees in compliance with OCMC 12.08. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

B. The following clearance distances shall be maintained when planting trees:
1. Fifteen feet from streetlights;
2. Five feet from fire hydrants;
3. Twenty feet from intersections;
4. A minimum of five feet (at mature height) below power lines.
Finding: Complies with condition. A street tree plan was submitted with the preliminary locations of street trees, but did not include the final proposed locations, location of street lights, fire hydrants or power lines. Prior to issuance of a permit associated with the proposed development the applicant shall submit a plan for street trees in compliance with OCMC 12.08. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

C. All trees shall be a minimum of two inches in caliper at six inches above the root crown and installed to city specifications.
Finding: Complies with condition. The street trees shall be a minimum of 2" in diameter. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

D. All established trees shall be pruned tight to the trunk to a height that provides adequate clearance for street cleaning equipment and ensures ADA complaint clearance for pedestrians.
Finding: Not applicable. The proposal does not include pruning trees.

12.08.020 - Street tree species selection.
The community development director may specify the species of street trees required to be planted if there is an established planting scheme adjacent to a lot frontage, if there are obstructions in the planting strip, or if overhead power lines are present.
Finding: Complies with condition. The applicant submitted a street tree plan which included trees placed along the frontages of the development but indicated that the species will be street trees from the Oregon City Street Tree List (or approved by a certified arborist) are to be planted in conformance with this Section. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.08.025 - General tree maintenance.
Abutting property owners shall be responsible for the maintenance of street trees and planting strips. Topping of trees is permitted only under recommendation of a certified arborist, or other qualified professional, if required by city staff. Trees shall be trimmed appropriately. Maintenance shall include trimming to remove dead branches, dangerous limbs and to maintain a minimum seven-foot clearance above all sidewalks and ten-foot clearance above the street. Planter strips shall be kept clear of weeds, obstructing vegetation and trash.
Finding: Complies as proposed. The applicant indicated that "General tree and planter strip maintenance is planned to be the responsibility of future home owners, as indicated in this standard." (Exhibit 2).

12.08.035 - Public tree removal.
Existing street trees shall be retained and protected during construction unless removal is specified as part of a land use approval or in conjunction with a public facilities construction project, as approved by the

community development director. A diseased or hazardous street tree, as determined by a registered arborist and verified by the City, may be removed if replaced. A non-diseased, non-hazardous street tree that is removed shall be replaced in accordance with the Table 12.08.035.
All new street trees will have a minimum two-inch caliper trunk measured six inches above the root crown. The community development director may approve off-site installation of replacement trees where necessary due to planting constraints. The community development director may additionally allow a fee in-lieu of planting the tree(s) to be placed into a city fund dedicated to planting trees in Oregon City in accordance with Oregon City Municipal Code 12.08.
Table 12.08.035

Replacement Schedule for Trees Determined to be Dead, Diseased or Hazardous by a Certified Arborist		*Replacement Schedule for Trees Not Determined to be Dead, Diseased or Hazardous by a Certified Arborist*	
Diameter of tree to be Removed (Inches of diameter at 4-ft height)	*Number of Replacement Trees to be Planted*	*Diameter of tree to be Removed (Inches of diameter at 4-ft height)*	*Number of Replacement Trees to be Planted*
Any Diameter	*1 Tree*	*Less than 6"*	*1 Tree*
		6" to 12"	*2 Trees*
		13" to 18"	*3 Trees*
		19" to 24"	*4 Trees*
		25" to 30"	*5 Trees*
		31" and over	*8 Trees*

Finding: Not applicable. No public tree removal is proposed, however tree removal is proposed in to accommodate the proposed development in accordance with OCMC 17.41.

12.08.040 - Heritage Trees and Groves.
Finding: Not applicable. The applicant did not propose to designate or remove a heritage tree or grove.

Chapter 13.12 - STORMWATER MANAGEMENT

13.12.050 - Applicability and exemptions.
This chapter establishes performance standards for stormwater conveyance, quantity and quality. Additional performance standards for erosion prevention and sediment control are established in OCMC 17.47.
A. Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:
1. The conveyance facilities are located entirely on one privately owned parcel;
2. The conveyance facilities are privately maintained; and
3. The conveyance facilities receive no stormwater runoff from outside the parcel's property limits.
Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the building official.

Finding: Applicable. Construction of improvements to public stormwater conveyance facilities is required to serve this development.

B. Water Quality and Flow Control. The water quality and flow control requirements of this chapter shall apply to the following proposed uses or developments, unless exempted under subsection C:

1. Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given five-year period; or

2. Activities that create or replace more than five thousand square feet of impervious surface per parcel or lot, cumulated over any given five-year period.

Finding: Applicable. The proposed development will create or replace more than 5000 sf of impervious area.

C. Exemptions. The following exemptions to subsection B of this section apply:

1. An exemption to the flow control requirements of this chapter will be granted when the development site discharges to the Willamette River, Clackamas River or Abernethy Creek; and either lies within the one hundred-year floodplain or is up to ten feet above the design flood elevation as defined in Chapter 17.42, provided that the following conditions are met:

a. The project site is drained by a conveyance system that is comprised entirely of manmade elements (e.g. pipes, ditches, culverts outfalls, outfall protection, etc.) and extends to the ordinary high water line of the exempt receiving water; and

b. The conveyance system between the project site and the exempt receiving water has sufficient hydraulic capacity and erosion stabilization measures to convey discharges from the proposed conditions of the project site and the existing conditions from non-project areas from which runoff is collected.

2. Projects in the following categories are generally exempt from the water quality and flow control requirements:

a. Stream enhancement or restoration projects approved by the city.

b. Farming practices as defined by ORS 30.960 and farm use as defined in ORS 214.000; except that buildings associated with farm practices and farm use are subject to the requirements of this chapter.

c. Actions by a public utility or any other governmental agency to remove or alleviate an emergency condition.

d. Road and parking area preservation/maintenance projects such as pothole and square cut patching, surface sealing, replacing or overlaying of existing asphalt or concrete pavement, provided the preservation/maintenance activity does not expand the existing area of impervious coverage above the thresholds in subsection B of this section.

e. Pedestrian and bicycle improvements (sidewalks, trails, pathways, and bicycle paths/lands) where no other impervious surfaces are created or replaced, built to direct stormwater runoff to adjacent vegetated areas.

f. Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics.

g. Maintenance or repair of existing utilities.

Finding: Not Applicable. The proposed development does not meet the criteria for exemption.

D. Uses Requiring Additional Management Practices. In addition to any other applicable requirements of this chapter, the following uses are subject to additional management practices, as defined in the Public Works Stormwater and Grading Design Standards:

1. *Bulk petroleum storage facilities;*
2. *Above ground storage of liquid materials;*
3. *Solid waste storage areas, containers, and trash compactors for commercial, industrial, or multi-family uses;*
4. *Exterior storage of bulk construction materials;*
5. *Material transfer areas and loading docks;*
6. *Equipment and/or vehicle washing facilities;*
7. *Development on land with suspected or known contamination;*
8. *Covered vehicle parking for commercial or industrial uses;*
9. *Industrial or commercial uses locating in high traffic areas, defined as average daily count trip of two thousand five hundred or more trips per day; and*
10. *Land uses subject to DEQ 1200-Z Industrial Stormwater Permit Requirements.*

Finding: Not Applicable. The proposal does not contain elements requiring additional stormwater management practices.

13.12.080 - Submittal requirements.

A. Applications subject to stormwater conveyance, water quality, and/or flow control requirements of this chapter shall prepare engineered drainage plans, drainage reports, and design flow calculation reports in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards.

B. Each project site, which may be composed of one or more contiguous parcels of land, shall have a separate valid city approved plan and report before proceeding with construction.

Finding: Complies as Conditioned. A final stormwater report is required to fully address stormwater management facilities for the site, the public street improvements, and downstream analysis. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

13.12.090 - Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

A. The plan and report demonstrate how the proposed development and stormwater facilities will accomplish the purpose statements of this chapter.

B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under Section 13.12.020.

C. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.

D. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams.

E. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.

Complies as Conditioned. The proposed preliminary design depicts stormwater conveyance, treatment, and maintenance facilities that are generally in conformance with the standards. However, further refinement is required to ensure the public stormwater facilities can be maintained by City crews. The maintenance access to the Tract B stormwater facility follows a lengthy, indirect path from Orchard Grove Drive through Tract A. The access will need to be relocated to a more direct route, such as from Wheeler Farm Road cul-de-sac. Additionally, the applicant has proposed stormwater piping and structures from Orchard Grove Drive, traversing Tract A. These facilities will need to be relocated to a more direct route, such as the border of Lots 54 and 55, unless shown that the proposed location is the only feasible route.

A final stormwater report is required to fully address stormwater management facilities for the site, the public street improvements, and downstream analysis, plus the above mentioned revisions. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

13.12.100 - Alternative materials, alternative design and methods of construction.

The provisions of this chapter are not intended to prevent the use of any material, alternate design or method of construction not specifically prescribed by this chapter or the Public Works Stormwater and Grading Design Standards, provided any alternate has been approved and its use authorized by the city engineer. The city engineer may approve any such alternate, provided that the city engineer finds that the proposed design is satisfactory and complies with the intent of this chapter and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed by this chapter in effectiveness, suitability, strength, durability and safety. The city engineer shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the city files.

Finding: Not Applicable. The applicant has not proposed alternative design methods requiring special approval by the City Engineer. However, should the applicant propose such methods with the public facilities construction plan submittal, the proposal will be reviewed and approved by the City Engineer as required.

13.12.120 - Standard construction specifications.

The workmanship and materials shall be in accordance with the edition of the "Standard Specifications for Public Works Construction," as prepared by the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the city, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Stormwater and Grading Design Standards provide other design details, in which case the requirements of this chapter and the Public Works Stormwater and Grading Design Standards shall be complied with.

Finding: Complies as Conditioned. A condition will be applied to ensure the public facilities construction plan submittal will comply with the current standards.

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

15.48.030 Applicability—Grading permit required.

A. A city-issued grading permit shall be required before the commencement of any of the following filling or grading activities:

1. Grading activities in excess of ten cubic yards of earth;

2. Grading activities which may result in the diversion of existing drainage courses, both natural and man-made, from their natural point of entry or exit from the grading site;

3. Grading and paving activities resulting in the creation of impervious surfaces greater than two thousand square feet or more in area;

4. Any excavation beyond the limits of a basement or footing excavation, having an unsupported soil height greater than five feet after the completion of such a structure; or

5. Grading activities involving the clearing or disturbance of one-half acres (twenty-one thousand seven hundred eighty square feet) or more of land.

Finding: Complies with Condition. The applicant provided a preliminary grading plan demonstrating general compliance with the City's Public Works requirements for grading standards. The preliminary plan presents grading and paving activities that will result in the disturbance of more than one-half acre.

A final site Residential Lot Grading Plan shall be required as part of the final construction plans per the City's Residential Lot Grading Criteria and the International Building Code. **Staff has determined that it is**

possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

15.48.090 Submittal requirements.
An engineered grading plan or an abbreviated grading plan shall be prepared in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards whenever a city approved grading permit is required. In addition, a geotechnical engineering report and/or residential lot grading plan may be required pursuant to the criteria listed below.
A. Abbreviated Grading Plan. The city shall allow the applicant to submit an abbreviated grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards if the following criteria are met:
1. No portion of the proposed site is within the flood management area overlay district pursuant to Chapter 17.42, the unstable soils and hillside constraints overlay district pursuant to Chapter 17.44, or a water quality resource area pursuant to Chapter 17.49; and
2. The proposed filling or grading activity does not involve more than fifty cubic yards of earth.
B. Engineered Grading Plan. The city shall require an engineered grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer if the proposed activities do not qualify for abbreviated grading plan.
C. Geotechnical Engineering Report. The city shall require a geotechnical engineering report in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer who specializes in geotechnical work when any of the following site conditions may exist in the development area:
1. When any publicly maintained facility (structure, street, pond, utility, park, etc.) will be supported by any engineered fill;
2. When an embankment for a stormwater pond is created by the placement of fill;
3. When, by excavation, the soils remaining in place are greater than three feet high and less than twenty feet wide.
D .Residential Lot Grading Plan. The city shall require a residential lot grading plan in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer for all land divisions creating new residential building lots or where a public improvement project is required to provide access to an existing residential lot.
Finding: Complies as Proposed. Submittal requirements for engineered grading plan and residential lot grading plan will be prepared in compliance with submittal requirements of the Public Works Stormwater and Grading Design Standards.

CHAPTER 17.44 – GEOLOGIC HAZARDS
17.44.025 - When required; regulated activities; permit and approval requirements.
No person shall engage in any of the following regulated activities within the adopted Oregon City Geologic Hazards Overlay Zone as defined in section 17.04.515 of the Oregon City Municipal Code without first obtaining permits or approvals as required by this chapter:
A. Installation or construction of an accessory structure greater than 500 square feet in area;
B. Development of land, construction, reconstruction, structural alteration, relocation or enlargement of any building or structure for which permission is required pursuant to the Oregon City Municipal Code;
C. Tree removal on slopes greater than 25 percent where canopy area removal exceeds 25 percent of the lot.
D. Excavation which exceeds two feet in depth, or which involves twenty-five or more cubic yards of volume;

The requirements of this chapter are in addition to other provisions of the Oregon City Municipal Code. Where the provisions of this chapter conflict with other provisions of the Oregon City Municipal Code, the provisions that are the more restrictive of regulated development activity shall govern.
Finding: Applicable. The project exceeds the thresholds stated in Subsection B and D; therefore, this Chapter applies.

17.44.030 - Procedures.
No building or site development permit or other authorization for development shall be issued until the plans and other documents required by this chapter have been reviewed and found by the review authority to comply with the requirements of this chapter.
A. Where the development is part of a land use permit application, review shall occur in the manner established in Chapter 17.50 for review of land use decisions.
B. Where the development is part of a limited land use permit application, review shall occur in the manner established in Chapter 17.50 for review of limited land use decisions.
C. Where the development is solely part of a grading permit or building permit, the city engineer may allow review to occur in the manner established in Title 15, Chapters 15.04 and 15.48 if the application meets Section 17.44.060 development standards.
D. For any other proposed development not otherwise subject to review as a land use or limited land use permit application, review shall occur in the manner established in Chapter 17.50 for limited land use decisions.
Finding: Complies with Condition. A building permit will not be issued until the public facilities construction plans are reviewed and approved by the City. The plans will need to clearly depict the Geologic Hazard delineation, and the stormwater management facility will need to be approved by the applicant's geotechnical engineer. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.44.035 - Exemptions.
The following activities, and persons engaging in same, are EXEMPT from the provisions of this chapter.
A. An excavation which is less than two feet in depth, or which involves less than twenty-five cubic yards of volume;
B. A fill which does not exceed two feet in depth or twenty-five cubic yards of volume;
C. Structural alteration of any structure of less than five hundred square feet that does not involve grading as defined in this chapter;
D. Installation, construction, reconstruction, or replacement of utility lines in city right-of-way, or public easement, not including electric substations;
E. The removal or control of noxious vegetation;
F. Emergency actions which must be undertaken immediately to prevent an imminent threat to public health or safety, or prevent imminent danger to public or private property. The person undertaking emergency action shall notify the building official on all regulated activities associated with any building permit or city engineer/public works director on all others within one working day following the commencement of the emergency activity. If the city engineer/public works director or building official determine that the action or part of the action taken is beyond the scope of allowed emergency action, enforcement action may be taken.
Finding: Not applicable. The proposed development does not meet the threshold for exemption to the standards.

17.44.050 Development - Application Requirements and Review Procedures and Approvals.
Except as provided by subsection B of this section, the following requirements apply to all development proposals subject to this chapter:

A. A geological assessment and geotechnical report that specifically includes, but is not limited to:

1) Comprehensive information and data regarding the nature and distribution of underlying geology, the physical and chemical properties of existing soils and groundwater; an opinion of site geologic stability, and conclusions regarding the effect of geologic conditions on the proposed development. In addition to any field reconnaissance or subsurface investigation performed for the site, the following resources, as a minimum, shall be reviewed to obtain this information and data:

a) The State of Oregon Department of Geology and Mineral Industries (DOGAMI) in Bulletin 99, Geology and Geological Hazards of North Clackamas County, Oregon (1979), or in any subsequent DOGAMI mapping for the Oregon City area;

b) Portland State University study entitled "Environmental Assessment of Newell Creek Canyon, Oregon City, Oregon" (1992);

c) Portland State University study, "Landslides in the Portland, Oregon, Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation" (Burns and others, 1998);

d) DOGAMI Open File Report O-06-27, "Map of Landslide Geomorphology of Oregon City, Oregon, and Vicinity Interpreted from LIDAR Imagery and Aerial Photographs" (Madin and Burns, 2006);

e) "Preliminary Geologic Map of the Oregon City Quadrangle, Clackamas County, Oregon" (Madin, in press);

2) Information and recommendations regarding existing local drainage, proposed permit activity impacts on local drainage, and mitigation to address adverse impacts;

3) Comprehensive information about site topography;

4) Opinion as to the adequacy of the proposed development from an engineering standpoint;

5) Opinion as to the extent that instability on adjacent properties may adversely affect the project;

6) Description of the field investigation and findings, including logs of subsurface conditions and laboratory testing results;

7) Conclusions regarding the effect of geologic conditions on the proposed development, tree removal, or grading activity;

8) Specific requirements and recommendations for plan modification, corrective grading, and special techniques and systems to facilitate a safe and stable site;

9) Recommendations and types of considerations as appropriate for the type of proposed development:

a. General earthwork considerations, including recommendations for temporary and permanent cut and fill slopes and placement of structural fill,

b. Location of residence on lot,

c. Building setbacks from slopes,

d. Erosion control techniques applicable to the site,

e. Surface drainage control to mitigate existing and potential geologic hazards,

f. Subdrainage and/or management of groundwater seepage,

g. Foundations,

h. Embedded/retaining walls,

i. Management of surface water and irrigation water, and

j. Impact of the development on the slope stability of the lot and the adjacent properties.

10) Scaled drawings that describe topography and proposed site work, including:

a. Natural physical features, topography at two or ten-foot contour intervals locations of all test excavations or borings, watercourses both perennial and intermittent, ravines and all existing and manmade structures or features all fully dimensioned, trees six- inch caliper or greater measured four feet from ground level, rock outcroppings and drainage facilities;

b. All of the features and detail required for the site plan above, but reflecting preliminary finished grades and indicating in cubic yards whether and to what extent there will be a net increase or loss of soil.

c. A cross-section diagram, indicating depth, extent and approximate volume of all excavation and fills.

11) For properties greater than 1 acre, a preliminary hydrology report, prepared by a suitably qualified and experienced hydrology expert, addressing the effect upon the watershed in which the proposed

development is located; the effect upon the immediate area's stormwater drainage pattern of flow, the impact of the proposed development upon downstream areas and upon wetlands and water resources; and the effect upon the groundwater supply.

Finding: **Complies with Condition.** The applicant has submitted a geotechnical report that demonstrates the development can be constructed in accordance with the standards. Further detail is needed to guide the design, and will be provided in the final geotechnical report that will be submitted with public facilities construction plans. The plans will need to clearly depict the Geologic Hazard delineation, and the stormwater management facility will need to be approved by the applicant's geotechnical engineer. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.44.050.B. Review Procedures and Approvals require the following:

1) *Examination to ensure that:*
   a) Required application requirements are completed;
   b) Geologic assessme nt and geotechnical report procedures and assumptions are generally accepted; and
   c) All conclusions and recommendations are supported and reasonable.

2) *Conclusions and recommendations stated in an approved assessment or report shall then be directly incorporated as permit conditions or provide the basis for conditions of approval for the regulated activity.*

3) *All geologic assessments and geotechnical reports shall be reviewed by an engineer certified for expertise in geology or geologic engineering and geotechnical engineering, respectively, as determined by the City. The City will prepare a list of prequalified consultants for this purpose. The cost of review by independent review shall be paid by the applicant.*

Finding: **Complies with Condition.** The applicant's submitted geotechnical report has been reviewed by the City's Geotechnical consultant for general compliance with the standards, who noted, "the geologic hazards are limited to a portion of lots 51 to 53 and a corner of lots 63 and 64. The geotechnical report recommends a 50-foot setback from the top of the steep slope. This keeps the disruption well away from the slopes. No disturbance is planned for the hazard area. The stormwater facility is located near the slope and we should ask that the geotechnical engineer review the location and grading for the stormwater facility in relation to the geologic hazards. Otherwise the Geotechnical report appears to cover the geologic hazards sufficiently considering no construction is proposed near the slopes." Conditions will be applied to ensure the public facilities construction submittal includes the needed information, and that the design and construction is carried out per the Geotechnical Report recommendations. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.44.050.C. The city engineer may waive one or more requirements of subsections A and B of this section if the city engineer determines that site conditions, size or type or development of grading requirements do not warrant such detailed information. If one or more requirements are waived, the city engineer shall, in the staff report or decision, identify the waived provision(s), explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority.

Finding: Not applicable. The City Engineer has not waived the code provisions.

17.44.060 Development Standards.

Notwithstanding any contrary dimensional or density requirements of the underlying zone, the following standards shall apply to the review of any development proposal subject to this chapter. Requirements of this chapter are in addition to other provision of the Oregon City Municipal Code. Where provision of this chapter

conflict with other provision of the Oregon City Municipal Code, the provisions that are more restrictive of regulated development activity shall govern.

17.44.060.A All developments shall be designed to avoid unnecessary disturbance of natural topography, vegetation and soils. To the maximum extent practicable as determined by the review authority, tree and ground cover removal and fill and grading for residential development on individual lots shall be confined to building footprints and driveways, to areas required for utility easements and for slope easements for road construction, and to areas of geotechnical remediation.
Finding: Complies as Proposed. Development is proposed to remain outside the geologic hazard overlay.

17.44.060B All grading, drainage improvements, or other land disturbances shall only occur from May 1 to October 31. Erosion control measures shall be installed and functional prior to any disturbances. The City Engineer may allow grading, drainage improvements or other land disturbances to begin before May 1 (but no earlier than March 16) and end after October 31 (but no later than November 30), based upon weather conditions and in consultation with the project geotechnical engineer. The modification of dates shall be the minimum necessary, based upon the evidence provided by the applicant, to accomplish the necessary project goals. Temporary protective fencing shall be established around all trees and vegetation designed for protection prior to the commencement of grading or other soil disturbance.
Finding: Complies as Proposed. Development is proposed to remain outside the geologic hazard overlay.

17.44.060.C Designs shall minimize the number and size of cuts and fills.
Finding: **Complies as proposed.** Development is proposed to remain outside the geologic hazard overlay.

17.44.060.D Cut and fill slopes, such as those for a street, driveway accesses, or yard area, greater than seven feet in height (as measured vertically) shall be terraced. Faces on a terraced section shall not exceed five feet. Terrace widths shall be a minimum of three feet and shall be vegetated. Total cut and fill slopes shall not exceed a vertical height of fifteen feet. Except in connection with geotechnical remediation plans approved in accordance with the chapter, cuts shall not remove the toe of any slope that contains a known landslide or is greater than twenty-five percent slope. The top of cut or fill slopes not utilizing structural retaining walls shall be located a minimum of one-half the height of the cut slope from the nearest property line.
Finding: **Complies as Proposed.** Development is proposed to remain outside the geologic hazard overlay.

17.44.060.E Any structural fill shall be designed by a suitably qualified and experienced civil or geotechnical engineer licensed in Oregon in accordance with standard engineering practice. The applicant's engineer shall certify that the fill has been constructed as designed in accordance with the provisions of this chapter.
Finding: Complies as Conditioned. The geotechnical engineer will need to certify construction has occurred per the geotechnical recommendations. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.44.060.F Retaining walls shall be constructed in accordance with the Oregon Structural Specialty Code adopted by the State of Oregon.
Finding: Not Applicable. Retaining walls have not been proposed near or in the geologic hazard area.

17.44.060.G Roads shall be the minimum width necessary to provide safe vehicle and emergency access, minimize cut and fill and provide positive drainage control. The review authority may grant a variance from the City's required road standards upon findings that the variance would provide safe vehicle and emergency access and is necessary to comply with the purpose and policy of this chapter.
Finding: Not Applicable. Roads are not proposed near or in the geologic hazard area.

17.44.060.H Density shall be determined as follows

1)For those areas with slopes less than twenty-five percent between grade breaks, the allowed density shall be that permitted by the underlying zoning district;

2)For those areas with slopes of twenty-five to thirty-five percent between grade breaks, the density shall not exceed two dwelling units per acre except as otherwise provided in subsection I of this section;

3)For those areas with slopes over thirty-five percent between grade breaks, development shall be prohibited except as otherwise provided in subsection I 4 of this section.

Finding: Complies as Proposed. Development is not proposed within the slope areas above 25%.

17.44.060.I For properties with slopes of twenty-five to thirty-five percent between grade breaks:

1) For those portions of the property with slopes of twenty-five to thirty-five percent, the maximum residential density shall be limited to two dwelling units per acre; provided, however, that where the entire site is less than one-half acre in size, a single dwelling shall be allowed on a lot or parcel existing as of January 1, 1994 and meeting the minimum lot size requirements of the underlying zone;

2)An individual lot or parcel with slopes between twenty-five and thirty-five percent shall have no more than fifty percent or four thousand square feet of the surface area, whichever is smaller, graded or stripped of vegetation or covered with structures or impermeable surfaces.

3)No cut into a slope of twenty-five to thirty-five percent for the placement of a housing unit shall exceed a maximum vertical height of 15 feet for the individual lot or parcel.

4)For those portions of the property with slopes over thirty-five percent between grade breaks:

a. Notwithstanding any other City land use regulation, development other than roads, utilities, public facilities and geotechnical remediation shall be prohibited; provided, however, that the review authority may allow development upon such portions of land upon demonstration by an applicant that failure to permit development would deprive the property owner of all economically beneficial use of the property. This determination shall be made considering the entire parcel in question and contiguous parcels in common ownership on or after January 1, 1994, not just the portion where development is otherwise prohibited by this chapter. Where this showing can be made on residentially zoned land, development shall be allowed and limited to one single-family residence. Any development approved under this chapter shall be subject to compliance with all other applicable City requirements as well as any applicable State, Federal or other requirements;

b. To the maximum extent practicable as determined by the review authority, the applicant shall avoid locating roads, utilities, and public facilities on or across slopes exceeding thirty-five percent.

Finding: Complies as Proposed. Development is not proposed within the slope areas above 25%.

17.44.060.J The geotechnical engineer of record shall review final grading, drainage, and foundation plans and specifications and confirm in writing that they are in conformance with the recommendations provided in their report.

Finding: **Complies with Condition.** The geotechnical engineer of record shall provide documentation that the final grading and drainage plan is in conformance with their recommendations. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.44.060.K At the City's discretion, peer review shall be required for the geotechnical evaluation/investigation report submitted for the development and/or lot plans. The peer reviewer shall be selected by the City. The applicant's geotechnical engineer shall respond to written comments provided by the City's peer reviewer prior to issuance of building permit.

Finding: Complies with Condition. Per standard procedure, the City's on-call geotechnical engineer provides peer review services for all geotechnical reports submitted as part of this development. The applicant shall pay the City's geotechnical review costs. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.44.060.L The review authority shall determine whether the proposed methods of rendering a known or potential hazard site safe for construction, including proposed geotechnical remediation methods, are feasible and adequate to prevent landslides or damage to property and safety. The review authority shall consult with the City's geotechnical engineer in making this determination. Costs for such consultation shall be paid by the applicant. The review authority may allow development in a known or potential hazard area as provided in this chapter if specific findings are made that the specific provisions in the design of the proposed development will prevent landslides or damage. The review authority may impose any conditions, including limits on type or intensity of land use, which it determines are necessary to assure that landslides or property damage will not occur.

Finding: Complies with Condition. The applicant will need to comply with recommendations of the geotechnical report.

17.44.070 Access to Property.

A. *Shared private driveways may be required if the city engineer or principal planner determines that their use will result in safer location of the driveway and lesser amounts of land coverage than would result if separate private driveways are used.*
B. *Innovations in driveway design and road construction shall be permitted in order to keep grading and cuts or fills to a minimum and to achieve the purpose and policy of this chapter.*
C. *Points of access to arterials and collectors shall be minimized.*
D. *The city engineer or principal planner shall verify that adequate emergency services can be provided to the site.*

Finding: **Complies as Proposed.** The proposed design provides minimum access required within the geologic hazard area.

17.44.080 Utilities.

All new service utilities, both on-site and off-site, shall be placed underground and under roadbeds where practicable. Every effort shall be made to minimize the impact of utility construction. Underground utilities require the geologic hazards permitting and review prescribed herein.

Finding: Not Applicable. Utilities are not proposed within the geologic hazard area.

17.44.090 Stormwater Drainage.

The applicant shall submit a permanent and complete stormwater control plan. The program shall include, but not be limited to the following items as appropriate: curbs, gutters, inlets, catch basins, detention facilities and stabilized outfalls. Detention facilities shall be designed to City standards as set out in the City's drainage master plan and design standards. The review authority may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality consistent with Oregon City's Title III section of the Oregon City Municipal Code Chapter 17.49 and the Oregon City Public Works Stormwater Management Design Manual and Standards Plan or other adopted standards subsequently adopted by the City Commission. Drainage design shall be approved by the city engineer before construction, including grading or other soil disturbance, has begun.

Finding: Complies with Condition. See discussion in 13.12.

17.44.100. Construction Standards.

During construction on land subject to this chapter, the following standards shall be implemented by the developer:

A. *All development activity shall minimize vegetation removal and soil disturbance and shall provide positive erosion prevention measures in conformance with OCMC Chapter 17.47 – Erosion and Sediment Control.*

B. No grading, clearing or excavation of any land shall be initiated prior to approval of the grading plan, except that the city engineer shall authorize the site access, brush to be cleared and the location of the test pit digging prior to approval of such plan to the extent needed to complete preliminary and final engineering and surveying. The grading plan shall be approved by the city engineer as part of the city's review under this chapter. The developer shall be responsible for the proper execution of the approved grading plan.

C. Measures shall be taken to protect against landslides, mudflows, soil slump and erosion. Such measures shall include sediment fences, straw bales, erosion blankets, temporary sedimentation ponds, interceptor dikes and swales, undisturbed buffers, grooving and stair stepping, check dams, etc. The applicant shall comply with the measures described in the Oregon City Public Works Standards for Erosion and Sedimentation Control (Ordinance 99-1013).

D. All disturbed vegetation shall be replanted with suitable vegetation upon completion of the grading of the steep slope area.

E. Existing vegetative cover shall be maintained to the maximum extent practicable. No grading, compaction or change in ground elevation, soil hydrology and/or site drainage shall be permitted within the drip line of trees designated for protection, unless approved by the City.

F. Existing perennial and intermittent watercourses shall not be disturbed unless specifically authorized by the review authority. This includes physical impacts to the stream course as well as siltation and erosion impacts.

G. All soil erosion and sediment control measures shall be maintained during construction and for one year after development is completed, or until soils are stabilized by revegetation or other measures to the satisfaction of the city engineer. Such maintenance shall be the responsibility of the developer. If erosion or sediment control measures are not being properly maintained or are not functioning properly due to faulty installation or neglect, the City may order work to be stopped.

H. All newly created lots, either by subdivision or partition, shall contain building envelopes with a slope of 35% or less.

I. The applicant's geotechnical engineer shall provide special inspection during construction to confirm that the subsurface conditions and assumptions made as part of their geotechnical evaluation/investigation are appropriate. This will allow for timely design changes if site conditions are encountered that are different from those anticipated.

J. Prior to issuing an occupancy permit, the geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations.

Finding: Complies as Proposed. The applicant's proposed design avoids construction within the geologic hazard area.

17.44.110 Approval of Development.

The city engineer shall review the application and verify, based on the applicant's materials and the land use record, whether the proposed development constitutes a hazard to life, property, natural resources or public facilities. If, in the city engineer's opinion, a particular development poses such a hazard, the city engineer shall recommend to the review authority permit conditions designed to reduce or eliminate the hazard. These conditions may include, but are not limited to, prohibitions on construction activities between November 1st and March 31st.

Finding: Complies with condition. The application has been reviewed and conditions recommended in accordance with this section. The geologist of record shall observe the excavations and geologic conditions exposed during construction and document that the conditions are consistent with the conditions assumed in the geotechnical hazard evaluation. If the conditions are different than expected, the effect of the new observations shall be evaluated and mitigation provided if required. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.44.120 Liability.

Approval of an application for development on land subject to this chapter shall not imply any liability on the part of the city for any subsequent damage due to earth slides. Prior to the issuance of a building permit, a waiver of damages and an indemnity and hold harmless agreement shall be required which releases the City from all liability for any damages resulting from the development approved by the City's decision.
Finding: Complies with Condition. Prior to issuance of a building permit, the applicant shall submit a completed a waiver of damages and an indemnity and hold harmless agreement provided by the City. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.44.130 Compliance.

Nothing contained in this chapter shall relieve the developer of the duty to comply with any other provision of law. In the case of a conflict, the more restrictive regulation shall apply.
Finding: Acknowledged. Upon discovery of any conflicting code, the more restrictive code will be deemed applicable.

17.44.140 Appeal.

The review authority's decision may be appealed in the manner set forth in Chapter 17.50.
Finding: Acknowledged. Any appeal will be administered in accordance with Chapter 17.50.

CHAPTER 17.47 - EROSION AND SEDIMENT CONTROL

17.47.030 - *Applicability.*
A. This chapter, which may also be referred to as "erosion control" in this Code, applies to development that may cause visible or measurable erosion on any property within the city limits of Oregon City.
B. This chapter does not apply to work necessary to protect, repair, maintain or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies, provided that after the emergency has passed, adverse impacts are mitigated in accordance with applicable standards.
Finding: Applicable. The applicant has proposed to construct a new subdivision with associated street improvements.

17.47.060 - *Permit required.*
The applicant must obtain an erosion and sediment control permit prior to, or contemporaneous with, the approval of an application for any building, land use or other city-issued permit that may cause visible or measurable erosion.
Finding: Complies with Condition. The applicant has proposed to construct a new subdivision with associated street improvements. The applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.47.070 - *Erosion and sediment control plans.*
A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.
B. Approval Standards. An erosion and sediment control plan shall be approved only upon making the following findings:

1.The erosion and sediment control plan meets the requirements of the City of Oregon City public works standards for erosion and sediment control incorporated by reference as part of this chapter;
2.The erosion and sediment control plan indicates that erosion and sediment control measures will be managed and maintained during and following development. The erosion and sediment control plan indicates that erosion and sediment control measures will remain in place until disturbed soil areas are permanently stabilized by landscaping, grass, approved mulch or other permanent soil stabilizing measures.

C. The erosion and sediment control plan shall be reviewed in conjunction with the requested development approval. If the development does not require additional review, the manager may approve or deny the permit with notice of the decision to the applicant.

D. The city may inspect the development site to determine compliance with the erosion and sediment control plan and permit.

E. Erosion that occurs on a development site that does not have an erosion and sediment control permit, or that results from a failure to comply with the terms of such a permit, constitutes a violation of this chapter.

F. If the manager finds that the facilities and techniques approved in an erosion and sediment control plan and permit are not sufficient to prevent erosion, the manager shall notify the owner or his/her designated representative. Upon receiving notice, the owner or his/her designated representative shall immediately install interim erosion and sediment control measures as specified in the City of Oregon City public works standards for erosion and sediment control. Within three days from the date of notice, the owner or his/her designated representative shall submit a revised erosion and sediment control plan to the city. Upon approval of the revised plan and issuance of an amended permit, the owner or his/her designated representative shall immediately implement the revised plan.

G. Approval of an erosion and sediment control plan does not constitute an approval of permanent road or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).

Finding: Complies with Condition. The applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

CHAPTER 17.41 - TREE PROTECTION STANDARDS

17.41.020 - Tree protection—Applicability.

1. Applications for development subject to Chapters 16.08 or 16.12 (Subdivision or Minor Partition) or Chapter 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments.

2. For public capital improvement projects, the city engineer shall demonstrate compliance with these standards pursuant to a Type II process.

3. Tree canopy removal greater than twenty-five percent on sites greater than twenty-five percent slope, unless exempted under Section 17.41.040, shall be subject to these standards.

4. A heritage tree or grove which has been designated pursuant to the procedures ofChapter 12.08.050 shall be subject to the standards of this section.

Finding: Applicable. The proposed development includes a Subdivision, therefore this section applies.

17.41.030 - Tree protection—Conflicting code provisions.

Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in Section 17.04, shall govern.

Finding: Applicable. The trees within the boundaries of the property or associated with the proposed development onsite are regulated under this section of code and do not fall under any other protections within the City's development codes.

17.41.040 - Same—Exemptions.
These regulations are not intended to regulate normal cutting, pruning and maintenance of trees on private property except where trees are located on lots that are undergoing development review or are otherwise protected within the Natural Resource Overlay District (NROD) of section 17.49. These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930. The community development director has the authority to modify or waive compliance in this case.
Finding: Complies as conditioned. The project site has historically been used as a farm, as evidenced by the Farm Deferral tax status shown on the 2016 Property Tax Statements for Tax Lots 1001, 1100, and 1700 included in the application materials. More specifically, the property has been used as a hazelnut and Christmas tree farm, and is currently occupied with both hazelnut and Christmas trees. A number of stands of the larger trees located on the property were originally planted as Christmas trees that were never harvested. The hazelnut trees have been overcome with Eastern Filbert Blight, a common disease among hazelnut orchards that is spread during wet weather. The existing hazelnut trees have been deemed "diseased" by a certified arborist, as addressed in the project's Arborist Report. Based on the project site's farm use status within one year of this application, the trees mentioned in this response are considered exempt from Chapter 17.41 and are not included in the project's mitigation calculation. However, the removal of 9 trees are subject to compliance with this standard. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.41.050 - Same—Compliance options.
Applicants for review shall comply with these requirements through one or a combination of the following procedures:
A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.
B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to Sections 17.41.080—17.41.100; or
C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to Sections 17.41.110—17.41.120; or
D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130.
A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.
The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:
1. Preclude achieving eighty percent of minimum density with reduction of lot size; or
2. Preclude meeting minimum connectivity requirements for subdivisions.
Finding: Complies with Condition. Based on the health of the trees, as detailed in the "Detailed Tree Inventory" Located in the preliminary plans, 9 trees are subject to mitigation. Using Table 17.41.060-1 (Tree Replacement Requirements) to calculate the number of trees required for mitigation, 36 mitigation trees are required. This application chooses to use a combination of Option 1 and Option 4 to satisfy this

requirement. A final tree mitigation plan is planned to be submitted based on the City's final decision. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.41.060 - Tree removal and replanting—Mitigation (Option 1).
A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in Chapter 17.04to the extent practicable. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. At the applicant's expense, the city may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under section 12.08—Community Forest and Street Trees.
B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:
1. Trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or
2. Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in Section 17.04.1360, may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.
Table 17.41.060-1
Tree Replacement Requirements
All replacement trees shall be either:
Two-inch caliper deciduous, or
Six-foot high conifer

Size of tree removed (DBH)	*Column 1* *Number of trees to be planted. (If removed Outside of construction area)*	*Column 2* *Number of trees to be planted. (If removed Within the construction area)*
6 to 12"	*3*	*1*
13 to 18"	*6*	*2*
19 to 24"	*9*	*3*
25 to 30"	*12*	*4*
31 and over"	*15*	*5*

Steps for calculating the number of replacement trees:
1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.
2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.

3. Document any trees that are currently diseased or hazardous.
4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.
5. Define the construction area (as defined in Chapter 17.04).
6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.
7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.
8. Determine the total number of replacement trees from steps 6. and 7.
Finding: Complies with Condition. Of the trees to be removed, a total of 5 are located inside the construction area for project improvements. A total of 4 trees are located outside of the construction area with a total of 36 mitigation trees required. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.41.070 - Planting area priority for mitigation (Option 1).
Development applications which opt for removal of trees with subsequent replanting pursuant to section 17.41.050A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:
A. First Priority. Replanting on the development site.
B. Second Priority. Off-site replacement tree planting locations. If the community development director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and must be approved by the community development director.
Finding: Complies with Condition. Trees located on the project site were inventoried and evaluated by a professional certified arborist. Many of the trees on-site are either hazardous or diseased and need to be removed. Nine (9) trees to be removed are subject to mitigation, (4 trees located "outside of construction area" and 5 trees are located "inside of construction area"). Based on the size of the trees to be removed and their location relative to the "construction area," a total of 36 mitigation trees are planned to be planted per Option 1 or cash-in-lieu of planting paid per Option 4. This standard is met. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.41.075 - Alternative mitigation plan.
The community development director may, subject to a Type II procedure, approve an alternative mitigation plan that adequately protects habitat pursuant to the standards for the natural resource overlay district alternative mitigation plan, Section 17.49.190.
Finding: Not Applicable. The applicant has not proposed alternative mitigation plan.

17.41.080 - Tree preservation within subdivisions and partitions—Dedicated tract (Option 2).
A. Applicants for new subdivision and partition plats may delineate and show the regulated trees or groves as either a separate tract or part of a larger tract that meets the requirements of subsection D. of this section.
B. The standards for land divisions subject to this section shall apply in addition to the requirements of the city land division ordinance and zoning ordinance, provided that the minimum lot area, minimum average lot width, and minimum average lot depth standards of the base zone may be superseded in order to allow for a reduction of dimensional standards pursuant to Section 17.41100 below.C. Prior to preliminary plat approval, the regulated tree or grove area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection D. of this section, which shall not be a part of any parcel used for construction

of a structure. The size of the tract shall be the minimum necessary as recommended by a consulting arborist to adequately encompass the dripline of the tree, protect the critical root zone and ensure long term survival of the tree or grove.
D. Prior to final plat approval, ownership of the regulated tree or grove tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:
1. Private open space held by the owner or a homeowners association; or
2. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or
3. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or
4. Any other ownership proposed by the owner and approved by the community development director.
Finding: Not Applicable. The applicant has not chosen this option.

17.41.090 - Density transfers incentive for tree protection tracts (Option 2).
A. The purpose of this section is to allow dimensional adjustments within a regulated tree protection tract to be transferred outside said tract to the remainder of the site. This provision applies on-site and density shall not be transferred beyond the boundaries of the development site.
B. Development applications for subdivisions and minor partitions that request a density transfer shall:
1. Provide a map showing the net buildable area of the tree protection tract;
2. Provide calculations justifying the requested dimensional adjustments;
3. Demonstrate that the minimum lot size requirements can be met based on an average of all lots created, including the tree protection tract created pursuant toSection 17.41.080;
4. Demonstrate that, with the exception of the tree protection tract created pursuant to Section 17.41.080, no parcels have been created which would be unbuildable in terms of minimum yard setbacks;
5. Meet all other standards of the base zone except as modified in section 17.41.100.
C. The area of land contained in a tree protection tract may be excluded from the calculations for determining compliance with minimum density requirements of the zoning code.
Finding: Not Applicable. The applicant has not chosen this option.

17.41.100 - Permitted modifications to dimensional standards (Option 2 only).
A. An applicant proposing to protect trees in a dedicated tract pursuant to section 17.41.080 may request, and the community development director, pursuant to a Type II procedure, may grant a reduction to, the lot size, width, depth, and setbacks of the underlying zone district in approving a subdivision or partition if necessary to retain a regulated tree or grove in a tract, as long as the calculation of average lot size, including tree protection tracts, meet the minimum lot size for the zone. The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the area of the tree tract.
Finding: Finding: Not Applicable. The applicant has not chosen this option.

17.41.110 - Tree protection by restrictive covenant (Option 3).
Any regulated tree or grove which cannot be protected in a tract pursuant toSection 17.41.080 above shall be protected with a restrictive covenant in a format to be approved by the community development director. Such covenant shall be recorded against the property deed and shall contain provisions to permanently protect the regulated tree or grove unless such tree or grove, as determined by a certified arborist and approved by the community development director, are determined to be diseased or hazardous.
Finding: Not Applicable. The applicant has not chosen this option.

17.41.120 - Permitted adjustments (Option 3 Only).

A. The community development director, pursuant to a Type II procedure, may grant an adjustment to the side, front and rear yard setback standards by up to 50 percent if necessary to retain a Regulated Tree or Grove through a restrictive covenant pursuant to this section. In no case may the side yard setback be reduce less than three feet. The adjustment shall be the minimum necessary to accomplish preservation of trees on the lot and shall not conflict with other conditions imposed on the property.
B. The community development director, pursuant to a Type II procedure, may grant an adjustment to street standards, pursuant to adopted public works standards, in order to preserve a tree. This may include flexibility to redesign sidewalk and planter strip sizes and locations and allow placement of sidewalks and planter strips in an easement within private lots.
C. The community development director, pursuant to a Type II procedure, may allow other adjustments in order to preserve any healthy tree that cannot be moved due to its size, but will contribute to the landscape character of the area and will not present a foreseeable hazard if retained.
Finding: Not Applicable. The applicant has not chosen this option.

17.41.1[25] - Cash-in-lieu of planting (tree bank/fund) (Option 4).
The applicant may choose this option in-lieu-of or in addition to Compliance Options 1 through 3. In this case, the community development director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above.
A. The cash-in-lieu payment per tree shall be as listed on the adopted fee schedule and shall be adjusted annually based on the Consumer Price Index (Index). The price shall include the cost of materials, transportation and planting.
B. The amount of the cash-in-lieu payment into the tree bank shall be calculated as the difference between the value of the total number of trees an applicant is required to plant, including cost of installation and adjusted for Consumer Price Index, minus the value of the trees actually planted. The value of the trees shall be based on the adopted fee schedule.
Finding: Complies with Condition. Mitigation trees are planned to be planted on or off-site and/or cash-in-lieu of planting is to be paid in accordance with this Chapter. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.41.130 - Regulated tree protection procedures during construction.
A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.
B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:
1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.
2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the community development director.
3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.
4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.

5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.
6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.
7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.
8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.
9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.
10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.
C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.
Finding: Complies as Proposed. Tree protection measures for those trees to remain on the project site have been outlined in the project's Arborist Report and shown on the preliminary plans in accordance with the criteria of this standard. Grading and/or construction activity will not commence prior to the installation of planned tree protection.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

17.50.030 Summary of the City's Decision-Making Processes.
Finding: Complies as Proposed. The proposed Subdivision and Zone Change application is being reviewed pursuant to the Type IV process. Notice was posted onsite, online and mailed to property owners within 300 feet of the proposed development site and posted in the paper.

17.50.050 Preapplication Conference
A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.
B.A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend

another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.
Finding: Complies as Proposed. On November 3, 2016, the applicant's consultant submitted a request for a preapplication conference on the required form, and included a short explanatory narrative, preliminary site plan, and the appropriate fee. The pre-application conference was held on December 6, 2016. The original pre-application conference summary, including updated summary dated December 28, 2016, provided by Oregon City Planning and Development Services are included in the application materials. The subdivision application was filed with the City within six months of the pre-application conference.
These criteria are met.

17.50.055 Neighborhood Association Meeting
Finding: Complies as Proposed. Upon receiving approval to communicate with the South End Neighborhood Association (SENA) via email, the applicant's consultant sent an email to SENA Chair Bill McConnel on March 15, 2017, describing the planned project. The SENA responded on April 6, 2017 indicating that the applicant would be included on the May 18, 2017 meeting agenda. The applicant's consultant attended the SENA meeting, presented the project, and answered questions from the neighbors in attendance. In order to show compliance with the applicable criteria, as required by 17.50.055.A.5, the required neighborhood meeting submittal items have been included in the application materials. This standard has been met.

17.50.060 Application Requirements.
Finding: Complies as Proposed. All application materials required are submitted with this narrative. The applicant has provided full-size and two reduced size sets of plans to accompany the submittal items.

17.50.070 Completeness Review and 120-day Rule.
Finding: Complies as Proposed. This land use application was submitted on June 20, 2017. The application was deemed incomplete on July 20, 2017. The City has until November 7, 2017 to make a final determination.

17.50.080 Complete Application--Required Information.
Finding: Complies as Proposed. This land use application was submitted on June 20, 2017. The application was deemed incomplete on July 20, 2017.

17.50.090 Public Notices.
Finding: Complies as Proposed. Staff provided public notice within 300' of the site via mail, the site was posted with multiple Land Use Notices, posted on the Oregon City website and in a general circulation newspaper. Staff provided email transmittal or the application and notice to affected agencies, the Natural Resource Committee and to all Neighborhood Associations requesting comment.

17.50.100 Notice Posting Requirements.
Finding: Complies as Proposed. The site was posted with a sign longer than the minimum requirement.

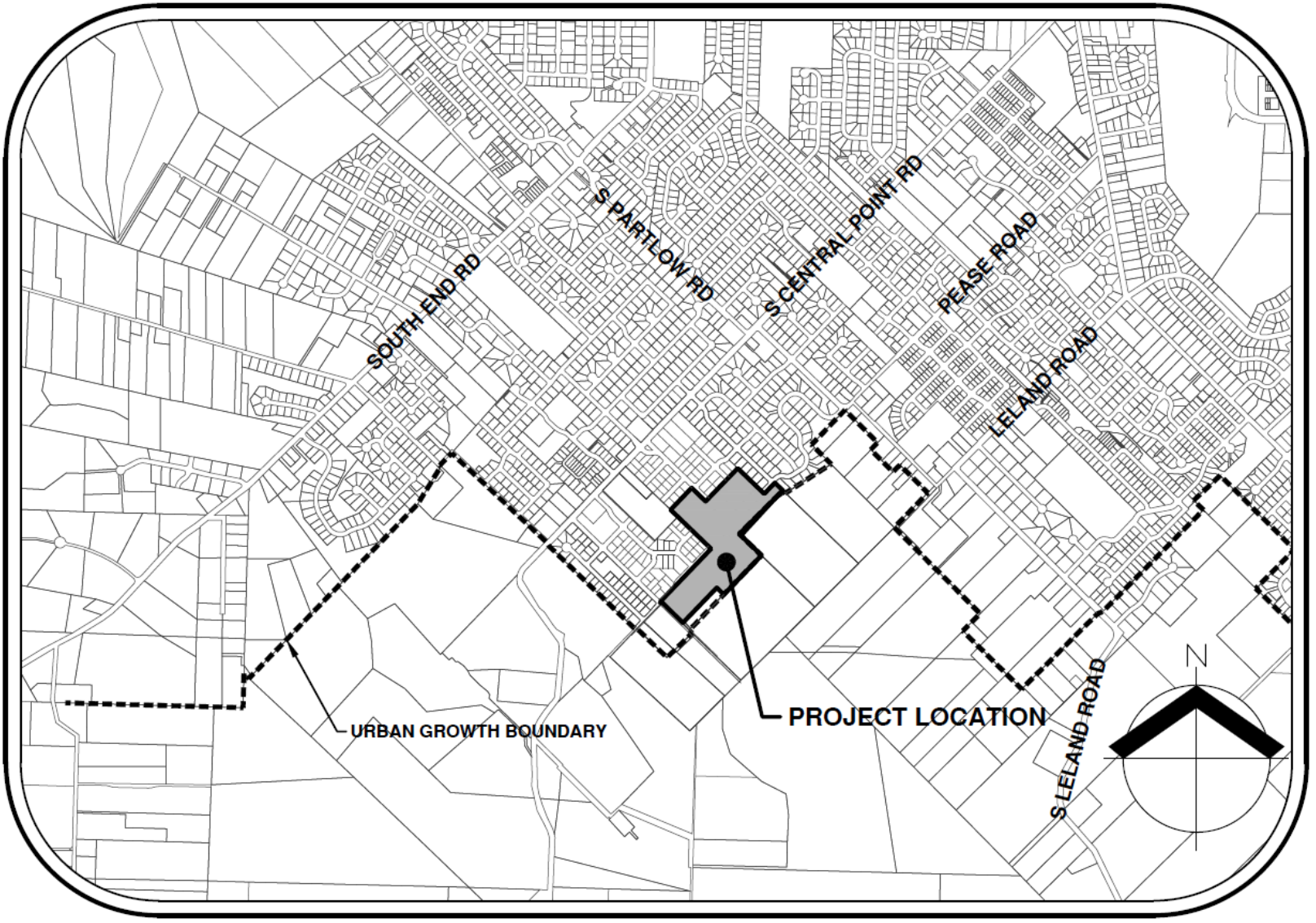
CHAPTER 17.54.100 - FENCES
Finding: Not Applicable. The applicant indicated that no fences or walls are proposed with this development. Future retaining walls (other than a stormwater facility and tract A) shall be reviewed for compliance with this section.

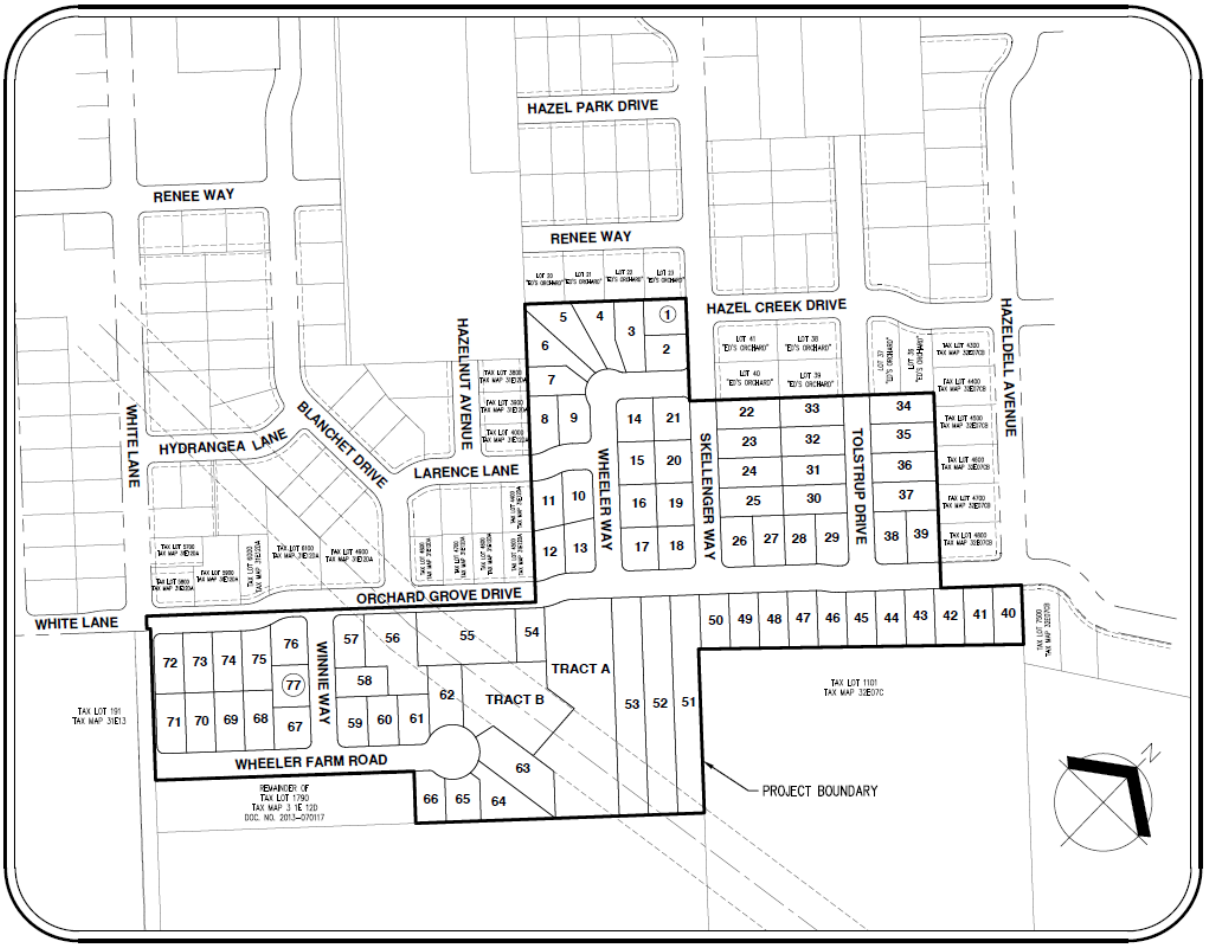
CONCLUSION AND RECOMMENDATION:
Based on the analysis and findings as described above, Staff concludes that the proposed Subdivision and Zone Change Identified as Map 32E07C Tax Lot 1001 (Wheeler Family Enterprises, LLC), Map 32E07C Tax

Lots 1100 (19566 Central Point Rd), and 1180 (David H. Wheeler Sr. Trust), Map 32E07C Tax Lot 1291 (Donald W. & Roxanne O. Wheeler), Map 31E12D Tax Lots 1700, 1790 (Wheeler Family Enterprises, LLC) can meet the requirements as described in the Oregon City Municipal Code by complying with the Conditions of Approval provided in this report. Therefore, staff recommends approval file TP 17-03 and ZC 17-02 with conditions, based upon the findings and exhibits contained in this staff report.

EXHIBITS:

1. Vicinity Map
2. Applicant's Narrative and Plans
    a. ZC 17-02 plans and findings
    b. TP 17-03 plans and findings.
3. Letter from John Replinger
4. Public Comments-West Susan Rictor
5. NR 17-03 Exemption (onfile)


SOUTH END RD
S PARTLOW RD
S CENTRAL POINT RD
PEASE ROAD
LELAND ROAD
S LELAND ROAD
URBAN GROWTH BOUNDARY
PROJECT LOCATION
N


HAZEL PARK DRIVE
RENEE WAY
RENEE WAY
HAZEL CREEK DRIVE
HAZELDELL AVENUE
HAZELNUT AVENUE
WHITE LANE
HYDRANGEA LANE
BLANCHET DRIVE
LARENCE LANE
WHEELER WAY
SKELLENGER WAY
TOLSTRUP DRIVE
ORCHARD GROVE DRIVE
WHITE LANE
WINNIE WAY
TRACT A
TRACT B
WHEELER FARM ROAD
PROJECT BOUNDARY
TAX LOT 191
TAX MAP 31E13
TAX LOT 1101
TAX MAP 36E07C
REMAINDER OF
TAX LOT 1790
TAX MAP 37 1E 12D
DOC. NO. 2013-07017

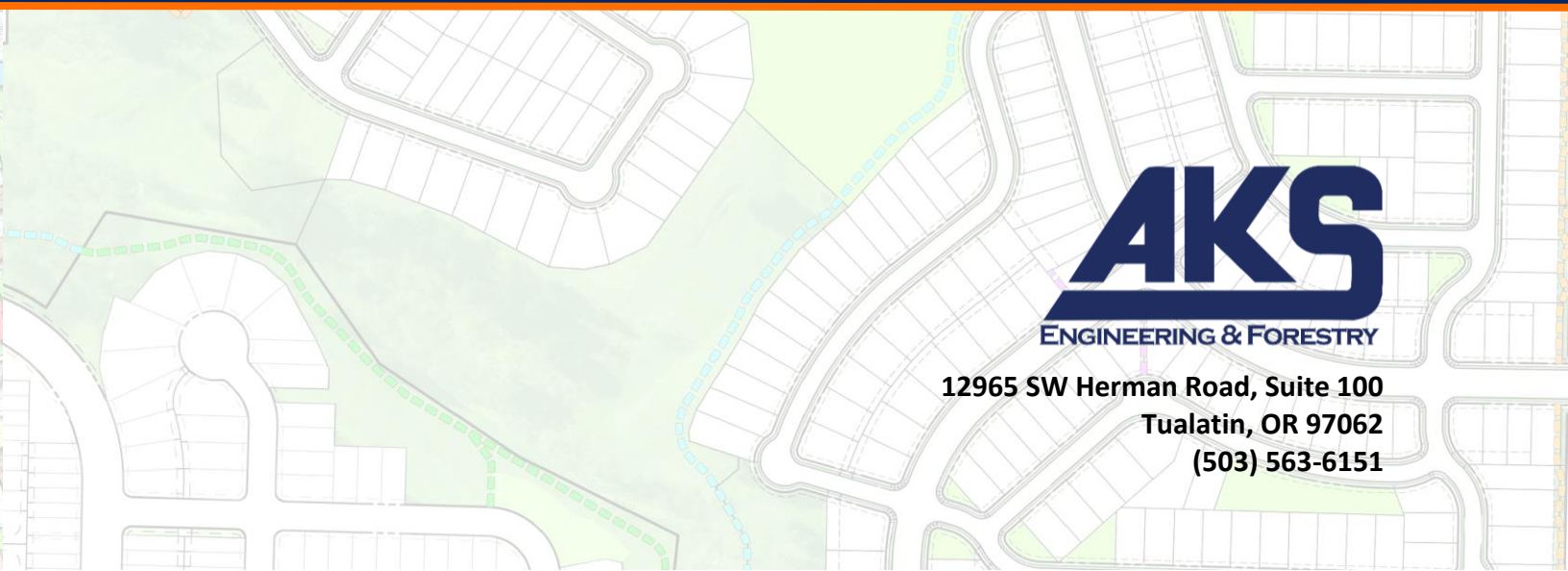
Land Use Application
For
Wheeler Farms Subdivision

Date: June 2017

Submitted to:
City of Oregon City
Planning Division
221 Molalla Avenue
Oregon City, OR 97045

Owners:
Wheeler Family Enterprises, LLC
David H. Wheeler Sr. Trust
Donald W. & Roxanne O. Wheeler

Applicant:
Rian Park Development, Inc.
PO Box 2559
Oregon City, OR 97045



AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151

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Land Use Application
For
Wheeler Farms Subdivision

Submitted to:	City of Oregon City Planning Division 221 Molalla Avenue, Suite 200 Oregon City, OR 97045
Owners:	Map 32E07C Tax Lot 1001 (Wheeler Family Enterprises, LLC) Map 32E07C Tax Lots 1100, 1180 (David H. Wheeler Sr. Trust) Map 32E07C Tax Lot 1291 (Donald W. & Roxanne O. Wheeler) Map 31E12D Tax Lots 1700, 1790 (Wheeler Family Enterprises, LLC)
Applicant:	Rian Park Development, Inc. PO Box 2559 Oregon City, OR 97045
Applicant's Consultant:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062 Contact(s): Monty Hurley (monty@aks-eng.com) Chris Goodell, (chrisg@aks-eng.com) Phone: (503) 563-6151 Fax: (503) 563-6152
Clackamas County Assessor's Information:	Tax Map: 32E07C, Tax Lots: 1001, 1100, 1180, & 1291 Tax Map: 31E12D, Tax Lots: 1700 & 1790
Site Size:	±22.56 Acres
Land Use Districts:	R-8 Single-Family Dwelling District

I. Executive Summary

On behalf of Rian Park Development, Inc. (applicant), AKS Engineering & Forestry, LLC is submitting this application for a 77-lot subdivision (Wheeler Farms) in the City of Oregon City for the future construction of single-family detached residential homes. The project includes the necessary streets, sidewalks, services, utilities, and other needed public improvements to support the project.

The essential components of this application include:

- 77 lots that meet the dimensional and density standards of the R-8 zone
- A voluntary 1.35-acre open space area
- An interconnected pedestrian and vehicular circulation system
- Creation of a cohesive neighborhood with the continuation of Orchard Grove Drive, Larence Lane, Skellenger Way, and Tolstrup Drive through the project site
- An integrated on-site stormwater management system including street side vegetated filtration swales and flow control
- An approximately ±1.3-acre remainder property to be incorporated into the abutting Wheeler property located off-site to the southeast

II. Site Description/Setting

The project includes six tax lots that comprise a total of approximately ±22.56 acres that are in process of being rezoned from R-10 to R-8 through a separate land use application to provide a community consistent with the density of surrounding residential projects. The project site is generally located south of the Ed's Orchard Subdivision, west of the Hazel Creek Farms Subdivision, east of the Highland Park Subdivision. The subject site is also north of the abutting Urban Growth Boundary. The subject properties have been historically used as a hazelnut orchard and Christmas tree farm. There are no designated or identified wetlands or perennial streams on the project site as verified through a previous Type I NROD Verification application.

III. Applicable Review Criteria

OREGON CITY MUNICIPAL CODE

Title 10 - VEHICLES AND TRAFFIC

Chapter 10.32 - TRAFFIC SIGHT OBSTRUCTIONS

10.32.020 Definitions.

"Clear vision area" means a triangular area at the intersection of two streets or a street and a railroad, the area of which is to be determined by the city engineer or his designee, using the following criteria:

1. **Type of intersection;**
2. **Site characteristics;**
3. **Types of vehicle controls;**
4. **Vehicle speed;**
5. **Traffic volume;**
6. **Suggested intersection sight distances prescribed in the Transportation and Traffic Engineering Handbook published by the Institute of Traffic Engineers, 1976 Edition, as follows:**

Corner Sight Distance Table						
Speed Limit:	20	25	30	35	40	45
Sight Distance:	200	250	300	350	400	450

Corner sight distance is measured from a point on the center line of the minor road at least fifteen feet from the edge of the major road pavement and measured from a height of eye of three and seventy-five hundredths feet on the minor road to a height of object of four and five-tenths feet on the major road. The clear vision area is in the form of a triangle, two sides of which are lot lines measured from the corner intersection of the street lines. Where the lot lines have rounded corners, the lot lines are extended in a straight line to a point of intersection. The third side of the clear vision area is a line across the corner of the lot joining the nonintersecting ends of the other two sides.

Response: Clear vision areas are planned to be maintained at intersections in accordance with the applicable standards. These criteria are met.

10.32.030 Sight line requirements

A clear vision area shall contain no vegetation or fences or other artificial obstruction exceeding three feet in height measured from the top of the curb or, where no curb exists, from the established street center line grade, except that trees exceeding this height may be located in this area provided all branches and foliage are removed to a height of eight feet above the grade.

Response: Clear vision areas will contain no vegetation, fences, or other obstructions exceeding 3 feet in height, except for allowed trees branched up to 8 feet in height. This standard is met.

Title 12 - STREETS, SIDEWALKS AND PUBLIC PLACES

Chapter 12.04 - STREETS, SIDEWALKS AND PUBLIC PLACES

12.04.003 Applicability.

A. Compliance with this chapter is required for all land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements.

B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage, of all single and two-family dwellings. All applicable single and two-family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this chapter. In addition, the frontage of the site shall comply with the following prioritized standards identified in this chapter:

1. Improve street pavement, construct curbs, gutters, sidewalks and planter strips; and

2. Plant street trees.

The cost of compliance with the standards identified in 12.04.003.B.1 and 12.04.003.B.2 is limited to ten percent of the total construction costs. The value of the alterations and improvements as determined by the community development director is based on the entire project and not individual building permits. It is the responsibility of the applicant to submit to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal such as access or landscaping requirements.

RESPONSE: The Wheeler Farms Subdivision will comply with the provisions of this chapter, as shown in the response to the approval criteria in this narrative. Street improvements and street trees will comply with the standards of the Oregon City Municipal Code, addressed later in this narrative.

12.04.005 Jurisdiction and management of the public rights-of-way.

A. The city has jurisdiction and exercises regulatory management over all public rights-of-way within the city under authority of the City Charter and state law by issuing separate public works right-of-way permits or permits as part of issued public infrastructure construction plans. No work in the public right-of-way shall be done without the proper permit. Some public rights-of-way within the city are regulated by the State of Oregon Department of Transportation (ODOT) or Clackamas County and as such, any work in these streets shall conform to their respective permitting requirements.

B. Public rights-of-way include, but are not limited to, streets, roads, highways, bridges, alleys, sidewalks, trails, paths, public easements and all other public ways or areas, including the subsurface under and air space over these areas.

C. The city has jurisdiction and exercises regulatory management over each public right-of-way whether the city has a fee, easement, or other legal interest in the right-of-way. The city has jurisdiction and regulatory management of each right-of-way whether the legal interest in the right-of-way was obtained by grant, dedication, prescription, reservation, condemnation, annexation, foreclosure or other means.

D. No person may occupy or encroach on a public right-of-way without the permission of the city. The city grants permission to use rights-of-way by franchises, licenses and permits.

E. The exercise of jurisdiction and regulatory management of a public right-of-way by the city is not official acceptance of the right-of-way, and does not obligate the city to maintain or repair any part of the right-of-way.

RESPONSE: The applicant understands that the City has jurisdictional management over the future public rights-of-way within the Wheeler Farms Subdivision.

12.04.007 Modifications.

The review body may consider modification of this standard resulting from constitutional limitations restricting the city's ability to require the dedication of property or for any other reason, based upon the criteria listed below and other criteria identified in the standard to be modified. All modifications shall be processed

through a Type II Land Use application and may require additional evidence from a transportation engineer or others to verify compliance. Compliance with the following criteria is required:

Response: This application includes two modifications to the standards of Section 12.04 Streets, Sidewalks and Public Places.

Modification 1:

Subsection 12.04.195 Spacing standards, requires that all blocks have a maximum block spacing of 530 feet between streets. A pedestrian accessway must be provided every 330 feet if a block exceeds the maximum spacing of 530 feet. The "island" block created by extending Skellenger Way and Tolstrup Drive through the project between Hazel Creek Drive, and the planned extension of Orchard Grove Drive, exceeds the maximum block length standard of 530 feet by approximately ±26 feet (±556 feet) when considered with the relevant portion of the Ed's Orchard Subdivision to the north. City staff have suggested in the updated Pre-Application Conference Summary, dated December 28, 2016, that the applicant request a waiver for the requirement for a mid-block pedestrian path. Therefore, the following modification standards are addressed.

Modification 2:

Subsection 12.04.225 Street design–Cul-de-sacs and dead-end streets, requires cul-de-sacs to be no greater than 200 feet in length measured from the right-of-way line of the nearest intersecting street to the back of the cul-de-sac curb face. The planned cul-de-sac in the southeast portion of the project will exceed the maximum 200-foot length standard by approximately ±89 feet due to the project's unique circumstances (adjacent to the Urban Growth Boundary (UGB), and the existing Portland General Electric (PGE) easement running through the southeast end of the project). The following standards are applicable to the necessary modification to exceed the maximum 200-foot length criterion of Subsection 12.04.225.

A. The modification meets the intent of the standard;

Response: **Modification 1:**

The intent of requiring a midblock pedestrian connection through blocks exceeding the maximum spacing of 530 feet is to minimize pedestrian travel times, and provide safe, and convenient access to local amenities.

As shown in the preliminary plans, the project includes a voluntary ±1.35 acre open space tract (Tract A), which is considered the primary pedestrian destination within the project. Tract A is approximately ±0.2 miles from the intersection of Hazel Creek Drive and Tolstrup Drive, the furthest point of the "island" block from Tract A. According to Industry standards, most walking trips are less than ±0.5 miles. Because the greatest distance required to travel from the "island" block to Tract A is within an acceptable limit, the small amount that the "island" block exceeds the standard (±26 feet), coupled with the small number of future residents a midblock pedestrian connection would serve, the benefits do not justify the construction and future maintenance of such a walkway. In addition, a midblock pedestrian connection between Tolstrup Drive and Skellenger Way through the "island" block would still require residents to travel a maximum distance of ±0.2 miles to the project's open space tract (Tract A).

Potential pedestrian trips from the project to the nearest collector street (South Central Point Road) are also below the ±0.5-mile acceptable walking trip distance. Because this project includes the extension of existing street patterns, future residents will have multiple travel options to South Central Point Road including, Hazeldell Drive, Tolstrup Drive, Skellenger Way, Blanchet Drive, and White Lane. A midblock pedestrian connection through the" island" block will serve no benefit to future residents accessing South Central Point Road.

Modification 2:

As mentioned previously, the modification to exceed the maximum 200-foot length standard by approximately ±89 feet is due to the project's unique circumstances (adjacent to the Urban Growth Boundary (UGB), and the existing Portland General Electric (PGE) easement running through the southeast end of the project). Other than the length, the planned cul-de-sac has been designed with sufficient radius to provide adequate turn-around for emergency vehicles, meet minimum dimensional requirements, and provide access to no more than 25 dwelling units, which meets the intent of Subsection 12.04.225.

B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;

Response:

Modification 1:

This project includes fully improved streets, including 5-foot wide sidewalks behind 5-foot wide planter strips, ADA compliant curb ramps, and appropriately marked street crossings, creating an open, safe, and inviting walking environment to both the interior of the project and to South Central Point Road. Historically, midblock pedestrian connections have been areas of low visibility, high maintenance, and are disruptive to adjoining property owners. The benefits of a mid-block pedestrian connection between Tolstrup Drive and Skellenger Way through the "island" block to alleviate future residents from having to walk an extra ±26 feet does not justify the construction and maintenance of such a walkway. Therefore, it can be concluded that the planned sidewalk improvements within the project provide safe and efficient movement of pedestrians to areas of interest.

Modification 2:

As shown on the preliminary plans, the planned cul-de-sac has been designed with 5-foot wide sidewalks behind 5-foot wide planter strips, sufficient radius to provide adequate turn-around for emergency vehicles and other motor vehicles, and meet minimum dimensional requirements. The necessary modification to exceed the maximum allowable cul-de-sac length of 200 feet will not affect the efficient movement of pedestrians, motor vehicles, bicyclists, and freight using the planned cul-de-sac. This criterion is met.

C. The modification is consistent with an adopted plan; and

Response: **Modification 1:**

Oregon City's Transportation System Plan (TSP) addresses maximum public street spacing standards and the need for sufficiently spaced pedestrian crossings. However, the TSP does not account for infill projects that extend existing street patterns of adjoining projects that create blocks that exceed the maximum street spacing standards, which would otherwise meet the standard. Therefore, the necessary modification to exceed the maximum street spacing standards of Subsection 12.04.195 does not conflict with City's TSP. The requested modification is the least needed to alleviate the construction of unnecessary infrastructure based on the minimal distance the "island" block exceeds the standard, and the number of future residents served.

Modification 2:

Oregon City's TSP limits the use of cul-de-sacs to situations where barriers prevent full street connections. The TSP also limits cul-de-sacs to a maximum length of 200 feet. Based on the irregular shape of the project area, its location adjacent to the Urban Growth Boundary (UGB), and the Portland General Electric (PGE) easement running through the site, the modification to exceed the maximum cul-de-sac length of 200 feet is necessary to provide adequate access to planned lots within the subdivision. Allowing a modification to Title 12 – Streets, Sidewalks and Public Places, coupled with the unique circumstances of the project site, while meeting housing needs within City limits, will not violate the City's TSP. No other plans have been adopted that effect the project area. This criterion is met.

D. The modification is complementary with a surrounding street design; or, in the alternative;

Response: **Modification 1:**

The maximum street spacing standards of Subsection 12.04.195 require a midblock pedestrian connection within the project's "island" block between Tolstrup Drive and Skellenger Way. This modification compliments surrounding street design by extending sidewalks along the project's internal streets to direct pedestrian traffic along pedestrian-specific routes that have been designed to capture pedestrian traffic in a controlled, safe, and vibrant pedestrian environment that does not have a negative effect on lots within the "island" block or their future owners.

Modification 2:

The modification to exceed the maximum cul-de-sac length of 200 feet by approximately ±89 feet compliments the irregular shape of the project area, and is the minimum modification needed based on its location adjacent to the UGB, and the PGE easement running through the project area. The necessary modification will have no impact on surrounding street design.

E. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the state or federal constitution. The city shall be under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.

Response: Modifying the street spacing standards of Subsection 12.04.195 and maximum cul-de-sac length standards of Subsection 12.04.225 are necessary based on existing street patterns of adjacent projects, the irregular shape of the project area, its location adjacent to the UGB, and the PGE easement running through the project area. The modification is not for constitutional reasons.

> **12.04.010 Construction specifications—Improved streets.**
>
> All sidewalks hereafter constructed in the city on improved streets shall be constructed to city standards and widths required in the Oregon City Transportation System Plan. The curb shall be constructed at the same time as the construction of the sidewalk and shall be located as provided in the ordinance authorizing the improvement of said street next proceeding unless otherwise ordered by the city commission. Both sidewalks and curbs are to be constructed according to plans and specifications provided by the city engineer.

Response: All future sidewalks within the Wheeler Farms Subdivision will comply with City construction specifications. This standard will be met.

> **12.04.020 Construction specifications—Unimproved streets.**
>
> Sidewalks constructed on unimproved streets shall be constructed of concrete according to lines and grades established by the city engineer and approved by the city commission. On unimproved streets curbs do not have to be constructed at the same time as the sidewalk.

Response: The project includes the extension and improvement of Orchard Grove Drive, which is currently unimproved on the street's south side. Planned improvements to Orchard Grove Drive include additional dedication of right-of-way and a half-street improvement, which includes sidewalks. Additional right-of-way is to be dedicated at the southwest boundary of the project for the future extension of White Lane. However, a fee-in-lieu of constructing any improvements has been found to be acceptable by City staff. Therefore, this standard has been met.

> **12.04.025 Street design—Driveway curb cuts.**
>
> **A.** One driveway shall be allowed per frontage. In no case shall more than two driveways be allowed on any single or two-family residential property with multiple frontages.
>
> **B.** With the exception of the limitations identified in 12.04.025.C, all driveway curb cuts shall be limited to the following dimensions.

Property Use	Minimum Driveway Width at sidewalk or property line	Maximum Driveway Width at sidewalk or property line
Single or two-family dwelling with one car garage/parking space	10 feet	12 feet
Single or two-family dwelling with two car garage/parking space	12 feet	24 feet
Single or two-family dwelling with three or more car garages/parking space	18 feet	30 feet

The driveway width abutting the street pavement may be extended three feet on either side of the driveway to accommodate turn movements. Driveways may be widened onsite in locations other than where the driveway meets sidewalk or property line (for example between the property line and the entrance to a garage).

(***)

E. Exceptions. The public works director reserves the right to waive this standard, if it is determined through a Type II decision including written findings that it is in the best interest of the public to do so.

Response: All future homes within the project are planned to be constructed with no more than one driveway per home. Driveway widths will comply with the above-listed requirements in relation to the sizes of garages or parking spaces. This standard is met.

12.04.030 Maintenance and repair.
The owner of land abutting the street where a sidewalk has been constructed shall be responsible for maintaining said sidewalk and abutting curb, if any, in good repair.

Response: All future home owners within the project are to be responsible for maintaining sidewalks and abutting curbs along their frontage. This standard is understood.

12.04.031 Liability for sidewalk injuries.

A. The owner or occupant of real property responsible for maintaining the adjacent sidewalk shall be liable to any person injured because of negligence of such owner or occupant in failing to maintain the sidewalk in good condition.

B. If the city is required to pay damages for an injury to persons or property caused by the failure of a person to perform the duty that this ordinance imposes, the person shall compensate the city for the amount of the damages paid. The city may maintain an action in a court of competent jurisdiction to enforce this section.

Response: All future home owners within the project are to be responsible for maintaining sidewalks and abutting curbs along their frontage. This standard is understood.

12.04.032 Required sidewalk repair.

A. When the public works director determines that repair of a sidewalk is necessary he or she shall Issue a notice to the owner of property adjacent to the sidewalk.

B. The notice shall require the owner of the property adjacent to the defective sidewalk to complete the repair of the sidewalk within ninety days after the service of notice. The notice shall also state that if the repair is not made by the owner, the city may do the work and the cost of the work shall be assessed against the property adjacent to the sidewalk.

C. The public works director shall cause a copy of the notice to be served personally upon the owner of the property adjacent to the defective sidewalk, or the notice may be served by registered or certified mail, return receipt requested. If after diligent search the owner is not discovered, the public works director shall cause a copy of the notice to be posted in a conspicuous place on the property, and such posting shall have the same effect as service of notice by mail or by personal service upon the owner of the property.

D. The person serving the notice shall file with the city recorder a statement stating the time, place and manner of service or notice.

Response: It is understood that all future home owners within the project are to be responsible for maintaining sidewalks along their frontage. This standard is understood.

12.04.033 City may do work.

If repair of the sidewalk is not completed within ninety days after the service of notice, the public works director shall carry out the needed work on the sidewalk. Upon completion of the work, the public works director shall submit an itemized statement of the cost of the work to the finance director. The city may, at its discretion, construct, repair or maintain sidewalks deemed to be in disrepair by the public works director for the health, safety and general welfare of the residents of the city.

Response: As mentioned above, it is understood that all future home owners within the project are to be responsible for maintaining sidewalks and abutting curbs along their frontage. It is also understood that if repairs are not completed within 90 days of a "Service of Notice," the Public Works Director shall carry out the needed work and bill the property owner.

12.04.034 Assessment of costs.

Upon receipt of the report, the finance director shall assess the cost of the sidewalk work against the property adjacent to the sidewalk. The assessment shall be a lien against the property and may be collected in the same manner as is provided for in the collection of street improvement assessment.

Response: It is understood that a lien against any property may be collected for any necessary repairs to sidewalks by the City.

12.04.040 Streets – Enforcement.

Any person whose duty it is to maintain and repair any sidewalk, as provided by this chapter, and who fails to do so shall be subject to

the enforcement procedures of Chapters 1.16, 1.20 and 1.24. Failure to comply with the provisions of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: It is understood that failure of future home owners to comply with a request to maintain sidewalks will be subject to code enforcement procedures.

12.04.050 Retaining walls— Required.

Every owner of a lot within the city, abutting upon an improved street, where the surface of the lot or tract of land is above the surface of the improved street and where the soil or earth from the lot, or tract of land is liable to, or does slide or fall into the street or upon the sidewalk, or both, shall build a retaining wall, the outer side of which shall be on the line separating the lot, or tract of land from the improved street, and the wall shall be so constructed as to prevent the soil or earth from the lot or tract of land from falling or sliding into the street or upon the sidewalk, or both, and the owner of any such property shall keep the wall in good repair.

Response: All future retaining walls associated with the project are planned to be constructed outside of any future right-of-way, and will not be located such that soil or earth will slide onto the street or sidewalk. This standard is satisfied.

12.04.060 Retaining walls— Maintenance.

When a retaining wall is necessary to keep the earth from falling or sliding onto the sidewalk or into a public street and the property owner or person in charge of that property fails or refuses to build such a wall, such shall be deemed a nuisance. The violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: All future retaining walls associated with the project are planned to be maintained by property owners. If, for any reason, retaining walls should fail, they are to be repaired to their original state. This standard is met.

12.04.070 Removal of sliding dirt.

It shall be the duty of the owner of any property as mentioned in Section 12.04.050, and in case the owner is a nonresident, then the agent or other person in charge of the same, to remove from the street or sidewalk or both as the case may be, any and all earth or dirt falling on or sliding into or upon the same from the property, and to build and maintain in order at all times, the retaining wall as herein required; and upon the failure, neglect or refusal of the land owner, the agent or person in charge of the same to clean away such earth or dirt, falling or sliding from the property into the street or upon the sidewalk, or both, or to build the retaining wall, shall be deemed guilty of a misdemeanor.

Response: The project is not planned to cause the sliding of dirt onto the future internal streets or sidewalks of the subdivision. Property owners within the project are to be responsible for compliance with City codes and subject to enforcement action by the City for such codes, including the removal of dirt falling on or sliding into streets or sidewalks. This standard is understood.

12.04.080 Excavations – Permit required.

It shall be unlawful for any person to dig up, break, excavate, disturb, dig under or undermine any public street or alley, or any part thereof or any macadam, gravel, or other street pavement or improvement without first applying for and obtaining from the engineer a written permit so to do.

Response: All appropriate permits are planned to be obtained prior to any excavation activities within the boundaries of the subdivision. This standard will be satisfied.

12.04.090 Excavations – Permit restrictions.

The permit shall designate the portion of the street to be so taken up or disturbed, together with the purpose for making the excavation, the number of days in which the work shall be done, and the trench or excavation to be refilled and such other restrictions as may be deemed of public necessity or benefit.

Response: All work specified within issued permits to be performed within the public right-of-way are planned to be conducted within the approved timelines indicated in the permit. If a violation of this standard occurs, the appropriate party may be cited in accordance with the penalties carried by said permit. This standard is met.

12.04.100 Excavations – Restoration of Pavement.

Whenever any excavation shall have been made in any pavement or other street improvement on any street or alley in the city for any purpose whatsoever under the permit granted by the engineer, it shall be the duty of the person making the excavation to restore the pavement in accordance with the City of Oregon City Public Works Pavement Cut Standard in effect at the time a right-of-way permit application is filed. The city commission may adopt and modify the City of Oregon City Public Works Pavement Cut Standards by resolution as necessary to implement the requirements of this chapter.

Response: It is understood that any street or alley on which excavation activities are performed are to be repaired to their original condition. This standard is met.

12.04.110 Excavations – Nuisance – Penalty.

Any excavation in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: Excavations that violate this Chapter are not planned. It is understood that any party in violation of any provision of this Chapter are to be subject to the enforcement procedures of Chapters 1.16, 1.20, and 1.24 of the Oregon City Municipal Code. This standard is met.

12.04.120 Obstructions – Permit required.

A. Permanent Obstructions. It is unlawful for any person to place, put or maintain any obstruction, other than a temporary obstruction, as defined in subsection B. of this section, in any public street or alley in the city, without obtaining approval for a right-of-way permit from the commission by passage of a resolution.

B. Temporary Obstructions.

C. Fees. The fee for obtaining a right-of-way permit for either a permanent obstruction or a temporary obstruction shall be set by resolution of the commission.

Response: No permanent obstructions are planned with this application. If a temporary obstruction is required as part of the construction of the subdivision, a right-of-way permit application and appropriate fee are to be submitted to the City for review and approval. These standards can be satisfied, if applicable.

12.04.130 Obstructions – Sidewalk sales.

A. It is unlawful for any person to use the public sidewalks of the city for the purpose of packing, unpacking or storage of goods or merchandise or for the display of goods or merchandise for sale. It is permissible to use the public sidewalks for the process of expeditiously loading and unloading goods and merchandise.

B. The city commission may, in its discretion, designate certain areas of the city to permit the display and sale of goods or merchandise on the public sidewalks under such conditions as may be provided.

Response: Sidewalk sales are not associated with this subdivision application. Therefore, this standard does not apply.

12.04.140 Obstructions – Nuisance – Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: Violating acts or omissions are not associated with this subdivision application. This standard does not apply.

12.04.150 Street and alley vacations – Cost.

At the time of filing a petition for vacation of a street, alley or any part thereof, a fee as established by city commission resolution shall be paid to the city.

Response: No street or alley vacations are associated with this subdivision application. Therefore, this standard does not apply.

12.04.160 Street vacations – Restrictions.

The commission, upon hearing such petition, may grant the same in whole or in part, or may deny the same in whole or in part, or may grant the same with such reservations as would appear to be for the public interest, including reservations pertaining to the maintenance and use of underground public utilities in the portion vacated.

Response: No street or alley vacations are associated with the application. Therefore, this standard does not apply.

12.04.170 Street design – Purpose and general provisions.

All development shall be in conformance with the policies and design standards established by this chapter and with applicable standards in the city's public facility master plan and city design standards and specifications. In reviewing applications for development, the city

engineer shall take into consideration any approved development and the remaining development potential of adjacent properties. All street, water, sanitary sewer, storm drainage and utility plans associated with any development must be reviewed and approved by the city engineer prior to construction. All streets, driveways or storm drainage connections to another jurisdiction's facility or right-of-way must be reviewed by the appropriate jurisdiction as a condition of the preliminary plat and when required by law or intergovernmental agreement shall be approved by the appropriate jurisdiction.

Response: Street and utility stubs to adjoining properties to the southwest of the project are planned to accommodate future development. In addition, a 20-foot access and utility easement is planned to extend to the abutting property southeast of the project. However, this property is located outside of the UGB. There are no other opportunities to extend services to adjoining properties. This standard is met.

12.04.175 Street design—Generally.

The location, width and grade of street shall be considered in relation to: existing and planned streets, topographical conditions, public convenience and safety for all modes of travel, existing and identified future transit routes and pedestrian/bicycle accessways, overlay districts, and the proposed use of land to be served by the streets. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. To the extent possible, proposed streets shall connect to all existing or approved stub streets that abut the development site. The arrangement of streets shall either:

A. Provide for the continuation or appropriate projection of existing principal streets in the surrounding area and on adjacent parcels or conform to a plan for the area approved or adopted by the city to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical;

B. Where necessary to give access to or permit a satisfactory future development of adjoining land, streets shall be extended to the boundary of the development and the resulting dead-end street (stub) may be approved with a temporary turnaround as approved by the city engineer. Notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future. Access control in accordance with [Chapter] 12.04 shall be required to preserve the objectives of street extensions.

Response: Public streets are planned in the subdivision to provide access to lots/future homes and provide for neighborhood connectivity/circulation. The preliminary plans show the locations and arrangement of these improvements. The project will extend Orchard Grove Drive, Larence Lane, Skellenger Way, and Tolstrup Drive. This project includes dedicating property along the project's southwest property line for the future extension of White Lane, which will allow future development of adjoining underdeveloped property. This standard is met.

12.04.180 Street design.

All development regulated by this chapter shall provide street improvements in compliance with the standards in Figure 12.04.180 depending on the street classification set forth in the Transportation System Plan and the Comprehensive Plan designation of the adjacent property, unless an alternative plan has been adopted. The standards provided below are maximum design standards and may be reduced with an alternative street design which may be approved based on the modification criteria in [Section] 12.04.007. The steps for reducing the maximum design below are found in the Transportation System Plan.

Table 12.04.180 Street Design										
Road Classification	Comprehensive Plan Designation	Right-of-Way Width	Pavement Width	Public Access	Sidewalk	Landscape Strip	Bike Lane	Street Parking	Travel Lanes	Median
Local	Residential	54 ft.	32 ft.	0.5 ft.	5 ft.	5.5 ft.	(2) 16 ft Shared Space			N/A

1. Pavement width includes, bike lane, street parking, travel lanes and median.
2. Public access, sidewalks, landscape strips, bike lanes and on-street parking are required on both sides of the street in all designations. The right-of-way width and pavement widths identified above include the total street section.
3. A 0.5 foot curb is included in landscape strip or sidewalk width.
4. Travel lanes may be through lanes or turn lanes.
5. The 0.5 foot public access provides access to adjacent public improvements.
6. Alleys shall have a minimum right-of-way width of twenty feet and a minimum pavement width of sixteen feet. If alleys are provided, garage access shall be provided from the alley.

Response: As shown on the preliminary plans, the planned extension of adjoining residential streets and new internal streets have been designed to meet the minimum requirements outlined in the above table. The planned design is consistent with the guidance provided by City staff at the pre-application conference and in the City Pre-Application Conference Summary (PA 16-54) dated 12/28/16. This standard is met.

12.04.185 Street design—Access control.

A. A street which is dedicated to end at the boundary of the development or in the case of half-streets dedicated along a boundary shall have an access control granted to the city as a city controlled plat restriction for the purposes of controlling ingress and egress to the property adjacent to the end of the dedicated street. The access control restriction shall exist until such time as a public street is created, by dedication and accepted, extending the street to the adjacent property.

B. The city may grant a permit for the adjoining owner to access through the access control.

C. The plat shall contain the following access control language or similar on the face of the map at the end of each street for which access control is required: "Access Control (See plat restrictions)."

D. Said plats shall also contain the following plat restriction note(s): "Access to (name of street or tract) from adjoining tracts (name of deed document number[s]) shall be controlled by the City of Oregon City by the recording of this plat, as shown. These access controls shall be automatically terminated upon the acceptance of a public road dedication or the recording of a plat extending the street to adjacent property that would access through those Access Controls."

Response: The area planned to be dedicated for the future extension of White Lane at the project's southwest property line includes appropriate plat restrictions allowing access to underdeveloped property to the southwest, which are planned to be placed on the final plat prior to recording. This standard is met.

12.04.190 Street design—Alignment.

The centerline of streets shall be:

A. Aligned with existing streets by continuation of the centerlines; or

B. Offset from the centerline by no more than five (5) feet, provided appropriate mitigation, in the judgment of the city engineer, is provided to ensure that the offset intersection will not pose a safety hazard.

Response: The extension of adjoining streets through the project will either align or be offset no more than 5 feet with centerlines of other streets in or abutting the project. This standard is met.

12.04.194 Traffic sight obstructions.

All new streets shall comply with the Traffic Sight Obstructions in Chapter 10.32.

Response: Traffic sight obstructions detailed in Chapter 10.32 have been addressed previously in this narrative. This standard is met.

12.04.195 Spacing standards.

A. All new streets shall be designed as local streets unless otherwise designated as arterials and collectors in Figure 8 in the transportation system plan. The maximum block spacing between streets is five hundred thirty feet and the minimum block spacing between streets is one hundred fifty feet as measured between the right-of-way centerlines. If the maximum block size is exceeded, pedestrian accessways must be provided every three hundred thirty feet. The spacing standards within this section do not apply to alleys.

Response: Planned streets within the subdivision have been designed as local streets. With the exception of the "island" block created by the extension of the adjoining Skellenger Way and Tolstrup Drive, no blocks in the project exceed the maximum block length spacing standard of 530 feet requiring a midblock pedestrian accessway. This application includes

a modification to the midblock pedestrian connection required for the "island" block as addressed previously under Subsection 12.04.007 Modifications.

B. **All new development and redevelopment shall meet the minimum driveway spacing standards identified in Table 12.04.195.B.**

Table 12.04.195.B Minimum Driveway Spacing Standards		
Street Functional Classification	**Minimum Driveway Spacing Standards**	**Distance**
Local Streets	Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings	25 ft.

The distance from a street corner to a driveway is measured along the right-of-way from the edge of the intersection right-of-way to the nearest portion of the driveway and the distance between driveways is measured at the nearest portions of the driveway at the right-of-way.

Response: Driveways for the future homes accessing the new local streets within the project are planned to be a minimum of 25 feet from the right-of-way line of all intersections. This standard is met.

12.04.199 **Pedestrian and bicycle accessways.**

Pedestrian/bicycle accessways are intended to provide direct, safe and convenient connections between residential areas, retail and office areas, institutional facilities, industrial parks, transit streets, neighborhood activity centers, rights-of-way, and pedestrian/bicycle accessways which minimize out-of-direction travel, and transit-orientated developments where public street connections for automobiles, bicycles and pedestrians are unavailable. Pedestrian/bicycle accessways are appropriate in areas where public street options are unavailable, impractical or inappropriate. Pedestrian and bicycle accessways are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding three hundred thirty feet of frontage; or where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips.

Response: As demonstrated on the preliminary plans, the planned street system includes public sidewalks on both sides of the project's interior streets. The sidewalks provide convenient pedestrian and bicycle access and connectivity for residents in the area. The planned street system also meets the intent of the "Proposed Metro Regional Trail," as indicated on the Oregon City Conceptual Trails Map and shown on the preliminary plans.

This application includes modifying the midblock pedestrian connection required for the "island" block, that exceeds the maximum block spacing standard of Section 12.04.195, addressed previously in this narrative. No additional pedestrian and/or bicycle accessways are required or planned as part of this application.

12.04.205 **Mobility standards.**

Development shall demonstrate compliance with intersection mobility standards. When evaluating the performance of the

transportation system, the City of Oregon City requires all intersections, except for the facilities identified in subsection D below, to be maintained at or below the following mobility standards during the two-hour peak operating conditions. The first hour has the highest weekday traffic volumes and the second hour is the next highest hour before or after the first hour. Except as provided otherwise below, this may require the installation of mobility improvements as set forth in the transportation system plan or as otherwise identified by the city transportation engineer.

Response: Findings within the project's Transportation Impact Study (TIS) prepared by Lancaster Engineering, demonstrate that all Level of Service (LOS) requirements are satisfied. Please refer to the TIS for further information regarding LOS. This standard is met.

12.04.210 Street design—Intersection angles.

Except where topography requires a lesser angle, streets shall be laid out to intersect at angles as near as possible to right angles. In no case shall the acute angles be less than eighty degrees unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least one hundred feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least fifty feet of tangent adjacent to the intersection unless topography requires a lesser distance. All street intersections shall be provided with a minimum curb return radius of twenty-five feet for local streets. Larger radii shall be required for higher street classifications as determined by the city engineer. Additional right-of-way shall be required to accommodate curb returns and sidewalks at intersections. Ordinarily, intersections should not have more than two streets at any one point.

Response: As shown on the preliminary plans, all intersection angles are laid out at right angles, including at least 50 feet of tangent adjacent to the intersection, and have curb return radii of 25 feet. Necessary rights-of-way are planned to accommodate these street improvements. The application complies with the above listed requirements.

12.04.215 Street design—Off-site street improvements.

During consideration of the preliminary plan for a development, the decision maker shall determine whether existing streets impacted by, adjacent to, or abutting the development meet the city's applicable planned minimum design or dimensional requirements. Where such streets fail to meet these requirements, the decision-maker shall require the applicant to make proportional improvements sufficient to achieve conformance with minimum applicable design standards required to serve the proposed development.

Response: Appropriate street improvements are planned along the project's frontage on Orchard Grove Drive and at connection points of other abutting streets planned to be extended through the project. This requirement is met.

12.04.220 Street design—Half street.

Half streets, while generally not acceptable, may be approved where essential to the development, when in conformance with all other applicable requirements, and where it will not create a safety hazard.

When approving half streets, the decision maker must first determine that it will be practical to require the dedication of the other half of the street when the adjoining property is divided or developed. Where the decision maker approves a half street, the applicant must construct an additional ten feet of pavement width so as to make the half street safe and usable until such time as the other half is constructed. Whenever a half street is adjacent to property capable of being divided or developed, the other half of the street shall be provided and improved when that adjacent property divides or develops. Access control may be required to preserve the objectives of half streets.

When the remainder of an existing half-street improvement is made it shall include the following items: dedication of required right-of-way, construction of the remaining portion of the street including pavement, curb and gutter, landscape strip, sidewalk, street trees, lighting and other improvements as required for that particular street. It shall also include at a minimum the pavement replacement to the centerline of the street. Any damage to the existing street shall be repaired in accordance with the city's "Moratorium Pavement Cut Standard" or as approved by the city engineer.

Response: As shown on the preliminary plans, street improvements are planned along the project's frontage on Orchard Grove Drive, where it abuts the project. Planned improvements along Orchard Grove Drive include ±12 to ±37 feet of right-of-way dedication, additional pavement, curb and gutter, 5-foot wide planter strip, and 5-foot wide sidewalk. The future extension of internal street improvements includes a 54-foot right-of-way, 32 feet of asphalt pavement, curb and gutter, 5-foot wide planter strip, and 5-foot wide sidewalk. This standard is met.

12.04.225 Street design—Cul-de-sacs and dead-end streets.

The city discourages the use of cul-de-sacs and permanent dead-end streets except where construction of a through street is found by the decision maker to be impracticable due to topography or some significant physical constraint such as geologic hazards, wetland, natural or historic resource areas, dedicated open space, existing development patterns, arterial access restrictions or similar situation as determined by the community development director. When permitted, access from new cul-de-sacs and permanent dead-end streets shall be limited to a maximum of twenty-five dwelling units and a maximum street length of two hundred feet, as measured from the right-of-way line of the nearest intersecting street to the back of the cul-de-sac curb face. In addition, cul-de-sacs and dead end roads shall include pedestrian/bicycle accessways as required in this chapter. This section is not intended to preclude the use of curvilinear eyebrow widening of a street where needed.

Where approved, cul-de-sacs shall have sufficient radius to provide adequate turn-around for emergency vehicles in accordance with fire district and city adopted street standards. Permanent dead-end streets other than cul-de-sacs shall provide public street right-of-way/easements sufficient to provide turn-around space with appropriate no-parking signs or markings for waste disposal, sweepers, and other long vehicles in the form of a hammerhead or other design to be approved by the decision maker. Driveways shall

be encouraged off the turnaround to provide for additional on-street parking space.

Response: As shown on the preliminary plans, a cul-de-sac is planned in the southeast portion of the project due to the irregular shape of the subject site, abutting property to the south being outside the UGB, and a large PGE easement running through the property. The planned cul-de-sac has been designed with sufficient radius to provide adequate turn-around for emergency vehicles, and does not provide access to no more than 25 dwelling units. No-parking signs are planned to be installed within the cul-de-sac to accommodate future waste disposal and street sweeper vehicles. The planned cul-de-sac does however exceed the maximum street length of 200 feet, which has been addressed previously under Subsection 12.04.007 Modifications. This standard is met.

12.04.230 Street design—Street names.

Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street. Street names shall conform to the established standards in the city and shall be subject to the approval of the city.

Response: The majority of the project's internal street system include extensions of existing streets with established street names from adjoining residential projects. All other streets within the project are planned to be named in accordance to this subsection and submitted to the City and Clackamas County for approval. This standard is met.

12.04.235 Street design—Grades and curves.

Grades and center line radii shall conform to the standards in the city's street design standards and specifications.

Response: As shown on the preliminary plans, all grade lines and center line radii comply with the City's street design standards and specifications. This standard is met.

12.04.245 Street design—Pedestrian and bicycle safety.

Where deemed necessary to ensure public safety, reduce traffic hazards and promote the welfare of pedestrians, bicyclists and residents of the subject area, the decision maker may require that local streets be so designed as to discourage their use by nonlocal automobile traffic.

All crosswalks shall include a large vegetative or sidewalk area which extends into the street pavement as far as practicable to provide safer pedestrian crossing opportunities. These curb extensions can increase the visibility of pedestrians and provide a shorter crosswalk distance as well as encourage motorists to drive slower. The decision maker may approve an alternative design that achieves the same standard for constrained sites or where deemed unnecessary by the city engineer.

Response: The project's internal street system has been designed to City standards. The overall street pattern discourages non-local through traffic. This standard is met.

12.04.255 Street design—Alleys.

Public alleys shall be provided in the following districts R-5, R-3.5, R-2, MUC-1, MUC-2 and NC zones unless other permanent

provisions for private access to off-street parking and loading facilities are approved by the decision maker. The corners of alley intersections shall have a radius of not less than ten feet.

Response: This project is not within any of the zoning districts listed in this standard. Therefore, Public alleys are not required or included in this application. This standard is not relevant to the application.

12.04.260 Street design—Transit.

Streets shall be designed and laid out in a manner that promotes pedestrian and bicycle circulation. The applicant shall coordinate with transit agencies where the application impacts transit streets as identified in [Section] 17.04.1310. Pedestrian/bicycle access ways shall be provided as necessary in Chapter 12.04 to minimize the travel distance to transit streets and stops and neighborhood activity centers. The decision maker may require provisions, including easements, for transit facilities along transit streets where a need for bus stops, bus pullouts or other transit facilities within or adjacent to the development has been identified.

Response: Public streets and sidewalks are planned to provide access to the project's future homes and for neighborhood connectivity/circulation. The preliminary plans show the location and arrangement of planned improvements, which promote pedestrian and bicycle circulation. Planned streets and sidewalks, together with off-site connections, minimize the travel distance to transit streets (South Central Point Road) and other off-site destinations. The need for additional transit facilities and bus stops have not been identified and are not warranted. This standard is met.

12.04.265 Street design—Planter strips.

All development shall include vegetative planter strips that are five feet in width or larger and located adjacent to the curb. This requirement may be waived or modified if the decision maker finds it is not practicable. The decision maker may permit constrained sites to place street trees on the abutting private property within ten feet of the public right-of-way if a covenant is recorded on the title of the property identifying the tree as a city street tree which is maintained by the property owner. Development proposed along a collector, minor arterial, or major arterial street may use tree wells with root barriers located near the curb within a wider sidewalk in lieu of a planter strip, in which case each tree shall have a protected area to ensure proper root growth and reduce potential damage to sidewalks, curbs and gutters.

To promote and maintain the community tree canopy adjacent to public streets, trees shall be selected and planted in planter strips in accordance with Chapter 12.08, Street Trees. Individual abutting lot owners shall be legally responsible for maintaining healthy and attractive trees and vegetation in the planter strip. If a homeowners' association is created as part of the development, the association may assume the maintenance obligation through a legally binding mechanism, e.g., deed restrictions, maintenance agreement, etc., which shall be reviewed and approved by the city attorney. Failure to properly maintain trees and vegetation in a planter strip shall be a violation of this code and enforceable as a civil infraction.

Response: As shown on the preliminary plans, planter strips constructed to City standards are shown along all public streets within and/or adjacent to the project. These areas are planned to be improved and planted with street trees when new homes are built. This standard is met.

12.04.270 Standard construction specifications.

The workmanship and materials for any work performed under permits issued per this chapter shall be in accordance with the edition of the "Oregon Standard Specifications for Construction" as prepared by the Oregon Department of Transportation (ODOT) and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the city in accordance with this ordinance, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Street Design Drawings provide other design details, in which case the requirements of this chapter and the Public Works Street Design Drawings shall be complied with. In the case of work within ODOT or Clackamas County rights-of-way, work shall be in conformance with their respective construction standards.

Response: All public improvements have been designed by a professional engineer licensed in the State of Oregon. The plans for these improvements are planned to be submitted to the City and reviewed for consistency with all City requirements. After the appropriate City construction permits are obtained, the improvements are planned to be constructed by a licensed General Contractor, in accordance with the approved plans. Finally, the improvements are to be inspected for consistency with the approved final plans prior to City acceptance. This standard is met.

12.04.280 Violation—Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: It is understood that any act in violation of this Chapter is to be deemed a nuisance and be subject to code enforcement procedures.

Chapter 12.08 - PUBLIC AND STREET TREES

12.08.015 Street tree planting and maintenance requirements.

All new construction or major redevelopment shall provide street trees adjacent to all street frontages. Species of trees shall be selected based upon vision clearance requirements, but shall in all cases be selected from the Oregon City Street Tree List or be approved by a certified arborist. If a setback sidewalk has already been constructed or the Development Services determines that the forthcoming street design shall include a setback sidewalk, then all street trees shall be installed with a planting strip. If existing street design includes a curb-tight sidewalk, then all street trees shall be placed within the front yard setback, exclusive of any utility easement.

A. One street tree shall be planted for every thirty-five feet of property frontage. The tree spacing shall be evenly distributed throughout the total development frontage. The community development director may approve an alternative street tree plan if site or other constraints

prevent meeting the placement of one street tree per thirty-five feet of property frontage.

B. The following clearance distances shall be maintained when planting trees:

1. Fifteen feet from streetlights;

2. Five feet from fire hydrants;

3. Twenty feet from intersections;

4. A minimum of five feet (at mature height) below power lines.

C. All trees shall be a minimum of two inches in caliper at six inches above the root crown and installed to city specifications.

D. All established trees shall be pruned tight to the trunk to a height that provides adequate clearance for street cleaning equipment and ensures ADA complaint clearance for pedestrians.

Response: As shown on the preliminary plans, the total street frontage for the project is approximately ±7,315 linear feet. If one street tree is required for every 35 feet of property frontage, then ±209 street trees from the Oregon City Street Tree List (or approved by a certified arborist) are to be planted in conformance with this Section. Precise street tree placement is planned to be addressed at the time building permits are reviewed. These standards are met.

12.08.020 Street tree species selection.

The community development director may specify the species of street trees required to be planted if there is an established planting scheme adjacent to a lot frontage, if there are obstructions in the planting strip, or if overhead power lines are present.

Response: Street trees from the Oregon City Street Tree List (or approved by a certified arborist) are planned to be planted in conformance with this Section, as shown on the preliminary plans. Precise street tree placement is to be addressed at the time building permits are reviewed. This standard is met.

12.08.025 General tree maintenance.

Abutting property owners shall be responsible for the maintenance of street trees and planting strips. Topping of trees is permitted only under recommendation of a certified arborist, or other qualified professional, if required by city staff. Trees shall be trimmed appropriately. Maintenance shall include trimming to remove dead branches, dangerous limbs and to maintain a minimum seven-foot clearance above all sidewalks and ten-foot clearance above the street. Planter strips shall be kept clear of weeds, obstructing vegetation and trash.

Response: General tree and planter strip maintenance is planned to be the responsibility of future home owners, as indicated in this standard. This standard does not apply at this time.

12.08.030 Public property tree maintenance

The city shall have the right to plant, prune, maintain and remove trees, plants and shrubs in all public rights-of-way and public grounds, as may be necessary to ensure public safety or to preserve

and enhance the symmetry or other desirable characteristics of such public areas. The natural resources committee may recommend to the community development director the removal of any tree or part thereof which is in an unsafe condition, or which by reason of its nature is injurious to above or below-ground public utilities or other public improvements.

Response: It is understood that the City has the right to maintain trees in the public right-of-way as mentioned in this standard. This standard is met.

12.08.035 Public tree removal.

Existing street trees shall be retained and protected during construction unless removal is specified as part of a land use approval or in conjunction with a public facilities construction project, as approved by the community development director. A diseased or hazardous street tree, as determined by a registered arborist and verified by the City, may be removed if replaced. A non-diseased, non-hazardous street tree that is removed shall be replaced in accordance with the Table 12.08.035.

All new street trees will have a minimum two-inch caliper trunk measured six inches above the root crown. The community development director may approve off-site installation of replacement trees where necessary due to planting constraints. The community development director may additionally allow a fee in-lieu of planting the tree(s) to be placed into a city fund dedicated to planting trees in Oregon City in accordance with Oregon City Municipal Code 12.08.

Replacement Schedule for Trees Determined to be Dead, Diseased or Hazardous by a Certified Arborist		Replacement Schedule for Trees Not Determined to be Dead, Diseased or Hazardous by a Certified Arborist	
Diameter of tree to be Removed (inches of diameter at 4-ft. height)	Number of Replacement Trees to be Planted	Diameter of tree to be Removed (inches of diameter at 4-ft. height)	Number of Replacement Trees to be Planted
Any diameter	1 tree	Less than 6”	1 Tree
		6” to 12”	2 Trees
		13” to 18”	3 Trees
		19” to 24”	4 Trees
		25” to 30”	5 Trees
		31” and over	8 Trees

Response: There are no existing street trees associated with the parent properties. Existing street trees on abutting properties are planned to be retained and protected during future construction. This standard is met.

Title 13 - PUBLIC SERVICES

Chapter 13.12 - STORMWATER MANAGEMENT

13.12.050 Applicability and exemptions.

This chapter establishes performance standards for stormwater conveyance, quantity and quality. Additional performance standards

for erosion prevention and sediment control are established in OCMC 17.47.

A. Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:

1. The conveyance facilities are located entirely on one privately owned parcel;

2. The conveyance facilities are privately maintained; and

3. The conveyance facilities receive no stormwater runoff from outside the parcel's property limits.

Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the building official.

Response: The project is subject to applicable City stormwater conveyance requirements. Refer to the Preliminary Stormwater Report included in the application materials for additional information regarding the project's planned stormwater conveyance system.

B. Water Quality and Flow Control. The water quality and flow control requirements of this chapter shall apply to the following proposed uses or developments, unless exempted under subsection C:

1. Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given five-year period; or

2. Activities that create or replace more than five thousand square feet of impervious surface per parcel or lot, cumulated over any given five-year period.

Response: This project is subject to applicable City stormwater quantity control requirements. Refer to the Preliminary Stormwater Report included in the application materials for additional information regarding the project's planned stormwater system. This standard is met.

13.12.080 Submittal requirements.

A. Applications subject to stormwater conveyance, water quality, and/or flow control requirements of this chapter shall prepare engineered drainage plans, drainage reports, and design flow calculation reports in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards.

B. Each project site, which may be composed of one or more contiguous parcels of land, shall have a separate valid city approved plan and report before proceeding with construction.

Response: A Preliminary Stormwater Report is included in the application materials, in accordance with the Oregon City Municipal Code (OCMC). The Preliminary Stormwater Report includes additional details. These standards are met.

13.12.090 Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

A. The plan and report demonstrate how the proposed development and stormwater facilities will accomplish the purpose statements of this chapter.

Response: The purpose statements found in Section 13.12.010 discuss minimizing increases to stormwater runoff, preventing runoff from exceeding downstream capacities, preventing irresponsible discharge of stormwater onto adjacent property, and similar goals. These purpose criteria are reflected in the approval criteria found in this Section. As shown on the preliminary plans, the project's stormwater is planned to be collected and conveyed to Tract B, which is planned to be a public stormwater facility. Stormwater detained and treated in the stormwater facility is planned to be discharged to an existing drainage channel to the south of the project site. For additional information, please refer to the preliminary plans and Preliminary Stormwater Report included in the application materials.

B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under Section 13.12.020.

Response: The Preliminary Stormwater Report and preliminary plans included in the application materials meet the requirements of the Public Works Stormwater and Grading Design Standards adopted under Section 13.12.020. This criterion is met.

C. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.

Response: The Preliminary Stormwater Report included in the application materials demonstrates that the planned stormwater system has adequate capacity to receive runoff from all public and private streets, roof, footing, and area drains within the project. Please refer to the Preliminary Stormwater Report for additional information. This criterion is met.

D. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams.

Response: The Preliminary Stormwater Report included in the application materials demonstrates that the potential for streambank erosion is not increased as a result of this project through stormwater detention and protection of outfall locations. This criterion is met.

E. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.

Response: Specific operation and maintenance measures are planned to be provided to ensure that the stormwater facility is properly operated and maintained. For further information, please refer to the Preliminary Stormwater Report included in the application materials. This criterion is satisfied.

Title 16 - LAND DIVISIONS

Chapter 16.08 - SUBDIVISIONS—PROCESS AND STANDARDS

16.08.015 Preapplication conference required.

Before the city will accept a subdivision application, the applicant must schedule and attend a preapplication conference in accordance with Section 17.50.050. At a minimum, an applicant should bring to the preapplication conference a tax map of the subject tax lot(s) and surrounding tax lots, scale drawings of the proposed subdivision lotting pattern, streets, utilities and important site features and improvements, and a topographic map of the property.

Response: A pre-application conference was held for this project on December 6, 2016. A copy of the Pre-Application Conference Summary is included in the application materials. This standard is met.

16.08.020 Preliminary subdivision plat application.

Within six months of the preapplication conference, an applicant may apply for preliminary subdivision plat approval. The applicant's submittal must provide a complete description of existing conditions, the proposed subdivision and an explanation of how the application meets all applicable approval standards. The following sections describe the specific submittal requirements for a preliminary subdivision plat, which include plan drawings, a narrative statement and certain tabular information. Once the application is deemed to be complete, the community development director shall provide notice of the application and an invitation to comment for a minimum of fourteen days to surrounding property owners in accordance with Section 17.50.090(A). At the conclusion of the comment period, the community development director will evaluate the application, taking into consideration all relevant, timely filed comments, and render a written decision in accordance with Chapter 17.50. The community development director's decision may be appealed to the city commission with notification to the planning commission.

Response: A pre-application conference was held for this project on December 6, 2016. This application contains all necessary submittal requirements. This requirement is met.

16.08.025 Preliminary subdivision plat—Required plans.

The preliminary subdivision plat shall specifically and clearly show the following features and information on the maps, drawings, application form or attachments. All maps and site drawings shall be at a minimum scale of one inch to fifty feet.

A. Site Plan. A detailed site development plan showing the location and dimensions of lots, streets, pedestrian ways, transit stops, common areas, building envelopes and setbacks, all existing and proposed utilities and improvements including sanitary sewer, stormwater and

water facilities, total impervious surface created (including streets, sidewalks, etc.) and an indication of existing and proposed land uses for the site. If required by staff at the pre-application conference, a subdivision connectivity analysis shall be prepared by a transportation engineer licensed by the state of Oregon that describes the existing and future vehicular, bicycle and pedestrian connections between the proposed subdivision and existing or planned land uses on adjacent properties. The subdivision connectivity analysis shall include shadow plats of adjacent properties demonstrating how lot and street patterns within the proposed subdivision will extend to and/or from such adjacent properties and can be developed meeting the existing Oregon City Municipal Code design standards and adopted Transportation System Plan, street design standards, and adopted concept plans, corridor and access management studies, engineering standards and infrastructure analyses.

Response: The preliminary plans include the above listed information, as applicable. This submittal requirement is met.

B. Traffic/Transportation Plan. The applicant's traffic/transportation information shall include two elements: (1) A detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the existing system, circulation patterns and connectivity to existing rights-of-way or adjacent tracts, parking and loading areas and any other transportation facilities in relation to the features illustrated on the site plan; and (2) a traffic impact study prepared by a qualified professional transportation engineer, licensed in the state of Oregon, that assesses the traffic impacts of the proposed development on the existing transportation system and analyzes the adequacy of the proposed internal transportation network to handle the anticipated traffic and the adequacy of the existing system to accommodate the traffic from the proposed development. In the preparation of the Traffic/Transportation Plan, the applicant shall reference the adopted Transportation System Plan. The city engineer may waive any of the foregoing requirements if determined that the requirement is unnecessary in the particular case.

Response: The preliminary plans included in the application materials include a Preliminary Conceptual Connectivity Analysis, Traffic/Transportation, Circulation, and Conceptual Redevelopment Plan, which shows the planned connections between the project and adjacent residential projects. A Transportation Impact Study, prepared in accordance with City requirements, is also included in the submittal materials. This requirement is met.

C. Natural Features Plan and Topography, Preliminary Grading and Drainage Plan. The applicant shall submit a map illustrating all of the natural features and hazards on the subject property and, where practicable, within two hundred fifty feet of the property's boundary. The map shall also illustrate the approximate grade of the site before and after development. Illustrated features must include all proposed streets and cul-de-sacs, the location and estimated volume of all cuts and fills, and all stormwater management features. This plan shall identify the location of drainage patterns and courses on the site and within two hundred fifty feet of the property boundaries where practicable. Features that must be illustrated shall include the following:

1. Proposed and existing street rights-of-way and all other transportation facilities;

2. All proposed lots and tracts;

3. All trees proposed to be removed prior to final plat with a diameter six inches or greater diameter at breast height (d.b.h);

4. All natural resource areas pursuant to Chapter 17.49, including all jurisdictional wetlands shown in a delineation according to the Corps of Engineers Wetlands Delineation Manual, January 1987 edition, and approved by the Division of State Lands and wetlands identified in the city of Oregon [City] Local Wetlands Inventory, adopted by reference in the city of Oregon City comprehensive plan;

5. All known geologic and flood hazards, landslides or faults, areas with a water table within one foot of the surface and all flood management areas pursuant to Chapter 17.42;

6. The location of any known state or federal threatened or endangered species;

7. All historic areas or cultural features acknowledged as such on any federal, state or city inventory;

8. All wildlife habitat or other natural features listed on any of the city's official inventories.

Response: The preliminary plans illustrate that no natural features exist on the project site or within 250 feet of the project's boundary. This has been confirmed by the project's Natural Resource Assessment, included in the application materials, and accepted by the City through the approval of a previous Type I NROD Verification application. The preliminary plans also illustrate planned grading associated with the project. This standard is met.

D. Archeological Monitoring Recommendation. For all projects that will involve ground disturbance, the applicant shall provide,

1. A letter or email from the Oregon State Historic Preservation Office Archaeological Division indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the Oregon State Historic Preservation Office and that the Oregon State Historic Preservation Office had not commented within forty-five days of notification by the applicant; and

2. A letter or email from the applicable tribal cultural resource representative of the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the applicable tribal cultural resource representative and that the applicable tribal cultural resource representative had not commented within forty-five days of notification by the applicant.

If, after forty-five days notice from the applicant, the Oregon State Historic Preservation Office or the applicable tribal cultural resource representative fails to provide comment, the city will not require the letter or email as part of the completeness review. For the purpose of this section, ground disturbance is defined as the movement of native soils.

The community development director may waive any of the foregoing requirements if the community development director determines that the requirement is unnecessary in the particular case and that the intent of this chapter has been met.

Response: City staff provided notice to the Oregon State Historic Preservation Office (OSHPO) of the project following the December 6, 2016 pre-application conference. OSHPO has not commented to the best of the applicant's knowledge. This submittal requirement is met.

16.08.030 Preliminary subdivision plat—Narrative statement.

In addition to the plans required in the previous section, the applicant shall also prepare and submit a narrative statement that addresses the following issues:

A. Subdivision Description. A detailed description of the proposed development, including a description of proposed uses, number and type of residential units, allocation and ownership of all lots, tracts, streets, and public improvements, the structure of any homeowner's association, and each instance where the proposed subdivision will vary from some dimensional or other requirement of the underlying zoning district. For each such variance, a separate application will be required pursuant to Chapter 17.60, Variances;

Response: A detailed description of the project, including the above listed information, as applicable, is included in Sections I and II of this written statement. No variances are requested. This submittal requirement is met.

B. Timely Provision of Public Services and Facilities. The applicant shall explain in detail how and when each of the following public services or facilities is, or will be, adequate to serve the proposed development by the time construction begins:

1. Water,

Response: This application includes the extension of an existing 8-inch water main located in Orchard Grove Drive through the project and connect to existing water mains located in Larence Lane, Skellenger Way, and Tolstrup Drive to create a looped water system. Each lot is planned to be provided with an individual meter and service lateral from the extended 8-inch water main. This criterion is met.

2. Sanitary sewer,

Response: This application includes the extension of the existing 8-inch sanitary sewer main located in Orchard Grove Drive through the project. Each lot within the project is planned to be provided an individual service lateral from the extended 8-inch sanitary sewer main. This criterion is met.

3. Storm sewer and stormwater drainage,

Response: On-site stormwater is planned to be collected and conveyed to a stormwater facility located in Tract B adjacent to the planned Open Space Tract (Tract A). Stormwater is to be detained and treated in the stormwater facility and discharged into an existing drainage channel south of the project. For additional information, please refer to the Preliminary Stormwater Report and preliminary plans included in the application materials. This criterion is met.

4. Parks and recreation,

Response: An Open Space Tract is planned to be provided in the southeast portion of the project (Tract A). Any additional Park System Development Charges are to be assessed and paid at the time building permits are issued for future park development in the area. This ensures required funding for parks and satisfies this requirement.

5. Traffic and transportation,

Response: Site access is planned to be provided through the extension of abutting street stubs from adjoining residential projects. Future extensions of abutting street stubs include 54 feet of right-of-way, 32 feet of paved width, curb and gutters, 5-foot wide planter strips, and 5-foot wide sidewalks on both sides.

The application materials include a Transportation Impact Study for this project, prepared by Lancaster Engineering. Appropriate street improvements, connecting to existing transportation facilities, are shown in the preliminary plans. The TIS found that the existing streets, along with those planned, adequately accommodate the amount of additional traffic created by this project. Transportation Systems Development Charges are planned to be paid for each new home prior to issuance of a building permit. These fees fund future City and County public works street improvement projects. Please refer to the TIS for additional information. This standard is met.

6. Schools,

Response: The Oregon City School District will provide school services for the children of future residents. School funding is provided through a variety of sources, including construction excise taxes that are to be assessed with issuance of future building permits for the homes and future property taxes. This standard is met.

7. Fire and police services;

Response: Clackamas Fire District No. 1 will provide fire services. Property taxes are to be paid by future property owners to fund fire protection services, thereby ensuring funding for fire protection services.

The City of Oregon City Police Department provides police services. Property taxes are to be paid by future property owners to fund police protection services, thereby ensuring funding for police protection services. This standard is met.

Where adequate capacity for any of these public facilities and services is not demonstrated to be currently available, the applicant shall describe how adequate capacity in these services and facilities will be financed and constructed before recording of the plat;

Response: All public facilities and services are or are planned to be available to accommodate this project. Therefore, no additional description of financing and construction of adequate capacity is required.

> **C. Approval Criteria and Justification for Variances. The applicant shall explain how the proposed subdivision is consistent with the standards set forth in Chapter 16.12, 12.04 and any other applicable approval standards identified in the municipal code. For each instance where the applicant proposes a variance from some applicable dimensional or other numeric requirement, the applicant shall address the approval criteria from Chapter 17.60.**

Response: This application does not include any requests for variances. This standard does not apply.

> **D. Drafts of the proposed covenants, conditions and restrictions (CC&Rs), maintenance agreements, homeowner association agreements, dedications, deeds easements, or reservations of public open spaces not dedicated to the city, and related documents for the subdivision;**

Response: Draft CC&R's are included in the application materials. This standard is met.

> **E. A description of any proposed phasing, including for each phase the time, acreage, number of residential units, amount of area for nonresidential use, open space, development of utilities and public facilities;**

Response: Phasing is not planned. This standard does not apply to this application.

> **F. Overall density of the subdivision and the density by dwelling type for each.**

Response: Combined, the Wheeler Family properties total approximately ±22.56 acres of land. As stated previously, the site is subject to a separate application that, upon approval, will designate the site with R-8 zoning. The Wheeler Farms Subdivision is planned to include 77 lots for the future construction of single-family detached homes spread over the majority of the subject site (±21.26 acres). The remaining ±1.3 acres is planned to be retained by Don and Roxanne Wheeler where it is adjacent to their existing home (located off-site to the southeast). If the remainder property (to be retained by Don and Roxanne Wheeler) was to be subdivided at some point in the future, it could support ±7 dwelling units consistent with R-8 zoning.

On a gross acreage basis, the 77-lot subdivision (on ±21.26 acres) equates to ±3.7 dwelling units per acre. Based on the site's net developable area (±14.39 acres – after deduction of steeply sloped areas, open space, and public facilities/right-of-way), the density included in the subdivision is equal to ±5.35 dwelling units per acre. In this case, the applicant is voluntarily preserving a ±1.35-acre open space area within the subdivision. This area is not required to be dedicated as open space and if it was not set aside as open space (and thus included in the net developable area) then the density of the 77-lot subdivision would be lower still (±4.90 dwelling units per acre.)

Lot sizes in new subdivisions are permitted to be as small as 80% of the minimum size required in the underlying zone provided the average lot size (for the entire subdivision)

is as large or larger than the minimum required lot size in the underlying zone. In the R-8 zone, the minimum average lot size is 8,000 square feet. Based on the site's net developable area (±14.39 or ± 626,649 square feet), the maximum number of lots that can be included in the subdivision is 78. Based on the site's net developable area, the minimum number of lots that are required is 63.

As described above, the applicant is voluntarily preserving ±1.35 acres (±58,911 square feet) of open space within the subdivision. If this area was not planned to be preserved as open space, in would have been permitted to be developed as lots for additional homes. However, it will be preserved as open space, thus the number of lots and future homes in the subdivision is less than could have been created.

Based upon the above, the 77-lot subdivision does not exceed the maximum number of lots permitted and provides in excess of the minimum number of required lots. Thus, density requirements for the project are satisfied.

16.08.035 Notice and invitation to comment.

Upon the city's determination that an application for a preliminary subdivision plat is complete, pursuant to Chapter 17.50, the city shall provide notice of the application in accordance with requirements of Chapter 17.50 applicable to Type II decisions.

Response: Upon the City's review and completeness determination for this application, the City will provide notice in accordance with Section 17.50 of the OCMC. This standard is met.

16.08.040 Preliminary subdivision plat—Approval standards and decision.

The minimum approval standards that must be met by all preliminary subdivision plats are set forth in Chapter 16.12, and in the dimensional and use requirements set forth in the chapter of this code that corresponds to the underlying zone. The community development director shall evaluate the application to determine that the proposal does, or can through the imposition of conditions of approval, meet these approval standards. The community development director's decision shall be issued in accordance with the requirements of Section 17.50.

Response: This narrative includes responses demonstrating how this application complies with the applicable approval criteria. This narrative is supported by substantial evidence, including preliminary plans, a TIS, and other written documentation. This information, which is included in the application package, provides the basis for the City to approve the application. Therefore, this standard is met.

16.08.045 Building site—Frontage width requirement.

Each lot in a subdivision shall abut upon a cul-de-sac or street other than an alley for a width of at least twenty feet.

Response: As shown on the preliminary plans, each planned lot has more than 20 feet of frontage on a public street. This standard is met.

16.08.050 Flag lots in subdivisions.

Flag lots shall not be permitted within subdivisions except as approved by the community development director and in compliance with the following standards.

Response: Flag lots are not part of this application. These standards have been omitted from this written response.

16.08.055 Final subdivision plat—Application requirements and approval standards.

The applicant shall apply for final subdivision plat approval within twenty-four months following approval of a preliminary subdivision plat. The applicant shall apply for final plat approval to the city and shall pay the applicable fees as set forth on the city's adopted fee schedule. The final subdivision plat is processed as an administrative decision by the city so long as the final subdivision plat is consistent with the approved preliminary subdivision plat as conditioned by the decision-maker.

A. If the community development director determines that the final subdivision plat submitted by the applicant is not consistent with the approved preliminary subdivision plat, the modified subdivision shall be subject to the same Type II process and review standards as were applicable to the preliminary subdivision plat. However, if such a review is necessary, the review shall be limited only to those aspects of the final subdivision plat that deviate from the approved preliminary subdivision plat. The decision-maker's original approval of all other aspects of the subdivision may be relied upon as a conclusive determination of compliance with the applicable standards.

B. The community development director shall approve a final subdivision plat that is consistent with the approved preliminary subdivision plat, including any conditions attached thereto and required permits for access to facilities owned by another jurisdiction.

Response: A final subdivision plat, consistent with the approved preliminary plat, is planned to be submitted to the City prior to recordation. This standard is met.

Chapter 16.12 - MINIMUM IMPROVEMENTS AND DESIGN STANDARDS FOR LAND DIVISIONS

16.12.015 Street design—Generally.

Development shall demonstrate compliance with Chapter 12.04—Streets, Sidewalks and Public Places.

Response: Please refer to the written response provided to Chapter 12.04 for appropriate findings demonstrating compliance with the street design standards. This standard is met.

16.12.020 Blocks—Generally.

The length, width and shape of blocks shall take into account the need for adequate building site size, convenient motor vehicle, pedestrian, bicycle and transit access, control of traffic circulation, and limitations imposed by topography and other natural features.

Response: The planned lengths, widths, and shapes of blocks are largely determined by the continuation of existing streets, the development pattern abutting the subject property, and the zoning and configuration of the subject property itself. Public streets with sidewalks are planned to extend through the project to provide access to lots and future homes, and enhance neighborhood connectivity and circulation. As mentioned in the Pre-Application Summary, and addressed previously under Subsection 12.04.195 Spacing Standards, the project's "island" block created by the extension of the adjoining Skellenger Way and Tolstrup Drive, exceeds the maximum block length standard of 530 feet by approximately ±26 feet (±556 feet) requiring a midblock pedestrian connection between Skellenger Way and Tolstrup Drive. City staff have suggested in the Pre-Application Summary to include a modification to Subsection 12.04.195 to waive the required midblock pedestrian connection, which has been addressed previously in this narrative under Subsection 12.04.007 Modifications.

16.12.030 Blocks—Width.

The width of blocks shall ordinarily be sufficient to allow for two tiers of lots with depths consistent with the type of land use proposed.

Response: The widths of the planned blocks within the project will generally allow for two tiers of lots. New lots within the subdivision will average at a minimum, 8,000 square feet in area, pursuant to the requirements of the R-8 zone, and are planned to be suitable for single-family homes. This standard is met.

16.12.040 Building sites.

The size, width, shape and orientation of building sites shall be appropriate for the primary use of the land division, and shall be consistent with the residential lot size provisions of the zoning ordinance with the following exceptions:

Response: The size, width, depth, shape, and orientation of the planned lots comply with the requirements for the R-8 zoning district, and the resulting building sites are illustrated on the preliminary plans. This standard is met.

16.12.045 Building sites – Minimum density.

All subdivision layouts shall achieve at least eighty percent of the maximum density of the base zone for the net developable area as defined in Chapter 17.04.

Response: Density has been addressed previously in response to Section 16.08.030.F. This standard has been met.

16.12.050 Calculations of lot area.

A subdivision in the R-10, R-8, R-6, R-5, or R-3.5 dwelling district may include lots that are up to twenty percent less than the required minimum lot area of the applicable zoning designation provided the entire subdivision on average meets the minimum site area requirement of the underlying zone. The average lot area is determined by calculating the total site area devoted to dwelling units and dividing that figure by the proposed number of dwelling lots.

Accessory dwelling units are not included in this determination nor are tracts created for non-dwelling unit purposes such as open space, stormwater tracts, or access ways.

A lot that was created pursuant to this section may not be further divided unless the average lot size requirements are still met for the entire subdivision.

When a lot abuts a public alley, an area equal to the length of the alley frontage along the lot times the width of the alley right-of-way measured from the alley centerline may be added to the area of the abutting lot in order to satisfy the lot area requirement for the abutting lot. It may also be used in calculating the average lot area.

Response: The project includes 77 lots for the future construction of single-family detached homes in the R-8 zoning district. As permitted above, a number of the planned lots are less than 8,000 square feet. The smallest of the future lots is approximately ±6,406 square feet, which is within the maximum 20% reduction allowed by this standard. A number of the planned lots are also larger than 8,000 square feet with the largest lot being ±26,814 square feet. The average lot area is ±8,279 square feet, which exceeds the minimum square footage requirement of the R-8 zone. This standard is met.

16.12.055 Building site—Through lots.

Through lots and parcels shall be avoided except where they are essential to provide separation of residential development from major arterials or to overcome specific disadvantages of topography of existing development patterns. A reserve strip may be required. A planting screen restrictive covenant may be required to separate residential development from major arterial streets, adjacent nonresidential development, or other incompatible use, where practicable. Where practicable, alleys or shared driveways shall be used for access for lots that have frontage on a collector or minor arterial street, eliminating through lots.

Response: No through lots are planned within the project. This standard does not apply.

16.12.060 Building site—Lot and parcel side lines.

The lines of lots and parcels, as far as is practicable, shall run at right angles to the street upon which they face, except that on curved streets they shall be radial to the curve.

Response: Lot lines, as far as is practicable, run at right angles to the street upon which they face. Please see the preliminary plans for additional information. This standard is met.

16.12.065 Building site—Grading.

Grading of building sites shall conform to the State of Oregon Structural Specialty Code, Chapter 18, any approved grading plan and any approved residential lot grading plan in accordance with the requirements of Chapter 15.48, 16.12 and the Public Works Stormwater and Grading Design Standards, and the erosion control requirements of Chapter 17.47.

Response: The preliminary plans show project grading, including building site grading (where appropriate). The preliminary plans demonstrate that Chapter 15.48, Chapter 16.12, the Public Works Stormwater and Grading Design Standards, and the erosion control

requirements of Chapter 17.47 are met. Please refer to the preliminary plans for additional information.

16.12.070 Building site—Setbacks and building location.

This standard ensures that lots are configured in a way that development can be oriented toward streets to provide a safe, convenient and aesthetically pleasing environment for pedestrians and bicyclists. The objective is for lots located on a neighborhood collector, collector or minor arterial street locate the front yard setback on and design the most architecturally significant elevation of the primary structure to face the neighborhood collector, collector or minor arterial street.

A. The front setback of all lots located on a neighborhood collector, collector or minor arterial shall be orientated toward the neighborhood collector, collector or minor arterial street.

Response: This project does not include neighborhood collector, collector, or minor arterial streets. This criterion does not apply.

B. The most architecturally significant elevation of the house shall face the neighborhood collector, collector or minor arterial street.

Response: This project does not include neighborhood collector, collector, or minor arterial streets. This criterion does not apply.

C. On corner lots located on the corner of two local streets, the main façade of the dwelling may be oriented towards either street.

Response: Future homes on corner lots will have their main façades oriented toward one of the abutting streets. This criterion is met.

D. All lots proposed with a driveway and lot orientation on a collector or minor arterial shall combine driveways into one joint access per two or more lots unless the city engineer determines that:

1. No driveway access may be allowed since the driveway(s) would cause a significant traffic safety hazard; or

2. Allowing a single driveway access per lot will not cause a significant traffic safety hazard.

Response: This project does not include collector or minor arterial streets. This criterion does not apply.

E. The community development director may approve an alternative design, consistent with the intent of this section, where the applicant can show that existing development patterns preclude the ability to practically meet this standard.

Response: All future homes in this project are planned to be oriented toward and take access from interior local streets. An alternative design is not necessary.

16.12.075 Building site—Division of lots.

Where a tract of land is to be divided into lots or parcels capable of redivision in accordance with this chapter, the community development director shall require an arrangement of lots, parcels

and streets which facilitates future redivision. In such a case, building setback lines may be required in order to preserve future right-of-way or building sites.

Response: As shown on the preliminary plans, a small number of the planned lots are large enough to be re-divided. However, the existing PGE easement running through the southeast portion of the project limit future building placement to those areas outside of the easement. Therefore, no additional lots created for the construction of single-family dwellings is possible. This standard is satisfied.

16.12.080 Protection of trees.

Protection of trees shall comply with the provisions of Chapter 17.41—Tree Protection.

Response: Please refer to responses to individual criteria of Chapter 17.41 later in this narrative.

16.12.085 Easements.

The following shall govern the location, improvement and layout of easements:

A. Utilities. Utility easements shall be required where necessary as determined by the city engineer. Insofar as practicable, easements shall be continuous and aligned from block-to-block within the land division and with adjoining subdivisions or partitions. Specific utility easements for water, sanitary or storm drainage shall be provided based on approved final engineering plans.

B. Unusual Facilities. Easements for unusual facilities such as high voltage electric transmission lines, drainage channels and stormwater detention facilities shall be adequately sized for their intended purpose, including any necessary maintenance roads. These easements shall be shown to scale on the preliminary and final plats or maps. If the easement is for drainage channels, stormwater detention facilities or related purposes, the easement shall comply with the requirements of the Public Works Stormwater and Grading Design Standards.

C. Watercourses. Where a land division is traversed or bounded by a watercourse, drainageway, channel or stream, a stormwater easement or drainage right-of-way shall be provided which conforms substantially to the line of such watercourse, drainageway, channel or stream and is of a sufficient width to allow construction, maintenance and control for the purpose as required by the responsible agency. For those subdivisions or partitions which are bounded by a stream of established recreational value, setbacks or easements may be required to prevent impacts to the water resource or to accommodate pedestrian or bicycle paths.

D. Access. When easements are used to provide vehicular access to lots within a land division, the construction standards, but not necessarily width standards, for the easement shall meet city specifications. The minimum width of the easement shall be twenty feet. The easements shall be improved and recorded by the applicant and inspected by the city engineer. Access easements may also provide for utility placement.

E. Resource Protection. Easements or other protective measures may also be required as the community development director deems

necessary to ensure compliance with applicable review criteria protecting any unusual significant natural feature or features of historic significance.

Response: All appropriate utility easements are planned to be provided on the final subdivision plat. This standard is satisfied.

16.12.090 Minimum improvements—Procedures.

In addition to other requirements, improvements installed by the applicant either as a requirement of these or other regulations, or at the applicant's option, shall conform to the requirements of this title and be designed to city specifications and standards as set out in the city's facility master plan and Public Works Stormwater and Grading Design Standards. The improvements shall be installed in accordance with the following procedure:

A. Improvement work shall not commence until construction plans have been reviewed and approved by the city engineer and to the extent that improvements are in county or state right-of-way, they shall be approved by the responsible authority. To the extent necessary for evaluation of the proposal, the plans may be required before approval of the preliminary plat of a subdivision or partition. Expenses incurred thereby shall be borne by the applicant and paid for prior to final plan review.

B. Improvements shall be constructed under the inspection and approval of the city engineer. Expenses incurred thereby shall be borne by the applicant and paid prior to final approval. Where required by the city engineer or other city decision-maker, the applicant's project engineer also shall inspect construction.

C. Erosion control or resource protection facilities or measures are required to be installed in accordance with the requirements of Chapter 17.49 and the Public Works Erosion and Sediment Control Standards. Underground utilities, waterlines, sanitary sewers and storm drains installed in streets shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed beyond the public utility easement behind to the lot lines.

D. As-built construction plans and digital copies of as-built drawings shall be filed with the city engineer upon completion of the improvements.

E. The city engineer may regulate the hours of construction and access routes for construction equipment to minimize impacts on adjoining residences or neighborhoods.

Response: The preliminary plans show the public improvements for this project. Work is planned to commence when construction plans have been reviewed and approved by the City Engineer. Inspections of the planned improvements, including erosion control measures are required. Upon completion of the improvements, as-built drawings are planned to be filed with the City Engineer.

16.12.095 Minimum improvements—Public facilities and services.

The following minimum improvements shall be required of all applicants for a land division under Title 16, unless the decision-

maker determines that any such improvement is not proportional to the impact imposed on the city's public systems and facilities:

A. Transportation System. Applicants and all subsequent lot owners shall be responsible for improving the city's planned level of service on all public streets, including alleys within the land division and those portions of public streets adjacent to but only partially within the land division. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for street improvements that benefit the applicant's property. Applicants are responsible for designing and providing adequate vehicular, bicycle and pedestrian access to their developments and for accommodating future access to neighboring undeveloped properties that are suitably zoned for future development. Storm drainage facilities shall be installed and connected to off-site natural or man-made drainageways. Upon completion of the street improvement survey, the applicant shall reestablish and protect monuments of the type required by ORS 92.060 in monument boxes with covers at every public street intersection and all points or curvature and points of tangency of their center line, and at such other points as directed by the city engineer.

Response: Public streets with sidewalks are planned within the project to provide access to the lots/future homes of the project and provide for neighborhood connectivity/circulation. As shown on the preliminary plans, this project will result in fully-improved streets extending from adjoining residential projects to accommodate all modes of travel. Monument boxes at street centerline intersections and other required locations are planned to be installed and/or protected. This standard is met.

B. Stormwater Drainage System. Applicants shall design and install drainage facilities within land divisions and shall connect the development's drainage system to the appropriate downstream storm drainage system as a minimum requirement for providing services to the applicant's development. The applicant shall obtain county or state approval when appropriate. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for stormwater drainage improvements that benefit the applicant's property. Applicants are responsible for extending the appropriate storm drainage system to the development site and for providing for the connection of upgradient properties to that system. The applicant shall design the drainage facilities in accordance with city drainage master plan requirements, Chapter 13.12 and the Public Works Stormwater and Grading Design Standards.

Response: The preliminary plans and the Preliminary Stormwater Report illustrate how on-site stormwater is planned to be collected and conveyed to Tract B, which is to be developed as a public stormwater facility. Stormwater is planned to be detained and treated in the stormwater facility and discharged to an existing drainage channel to the south of the project site. For additional information, please refer to the preliminary plans and Preliminary Stormwater Report included in the application materials. This standard is met.

C. Sanitary Sewer System. The applicant shall design and install a sanitary sewer system to serve all lots or parcels within a land division in accordance with the city's sanitary sewer design

standards, and shall connect those lots or parcels to the city's sanitary sewer system, except where connection is required to the county sanitary sewer system as approved by the county. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for sanitary sewer improvements that benefit the applicant's property. Applicants are responsible for extending the city's sanitary sewer system to the development site and through the applicant's property to allow for the future connection of neighboring undeveloped properties that are suitably zoned for future development. The applicant shall obtain all required permits and approvals from all affected jurisdictions prior to final approval and prior to commencement of construction. Design shall be approved by the city engineer before construction begins.

Response: This application includes the extension of the existing 8-inch sanitary sewer main located in Orchard Grove Drive through the project. Each lot within the project is planned to be provided an individual service lateral from the extended 8-inch sanitary sewer main. Planned sanitary sewer improvements will be available for the future connection of neighboring undeveloped properties suitable for future development. This standard is met.

D. Water System. The applicant shall design and install a water system to serve all lots or parcels within a land division in accordance with the city public works water system design standards, and shall connect those lots or parcels to the city's water system. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for water improvements that benefit the applicant's property. Applicants are responsible for extending the city's water system to the development site and through the applicant's property to allow for the future connection of neighboring undeveloped properties that are suitably zoned for future development.

Response: This application plans to extend the existing 8-inch water main located in Orchard Grove Drive through the project and connect to existing water mains located in Larence Lane, Skellenger Way, and Tolstrup Drive to create a looped water system. Each lot is planned to be provided with an individual meter and water lateral from the extended 8-inch water main. The extension of the planned water system will allow for the future connection of undeveloped abutting properties. This standard is met.

E. Sidewalks. The applicant shall provide for sidewalks on both sides of all public streets, on any private street if so required by the decision-maker, and in any special pedestrian way within the land division. Exceptions to this requirement may be allowed in order to accommodate topography, trees or some similar site constraint. In the case of major or minor arterials, the decision-maker may approve a land division without sidewalks where sidewalks are found to be dangerous or otherwise impractical to construct or are not reasonably related to the applicant's development. The decision-maker may require the applicant to provide sidewalks concurrent with the issuance of the initial building permit within the area that is the subject of the land division application. Applicants for partitions may be allowed to meet this requirement by executing a binding

agreement to not remonstrate against the formation of a local improvement district for sidewalk improvements that benefit the applicant's property.

Response: As shown on the preliminary plans, the planned street system includes public sidewalks on both sides of the project's interior streets. This will provide convenient pedestrian and bicycle access and connectivity between neighborhoods and other pedestrian destinations in the area for existing and future residents, which meets the intent of the "Proposed Metro Regional Trail," indicated on the Oregon City Conceptual Trails Map and shown on the preliminary plans.

F. Bicycle Routes. If appropriate to the extension of a system of bicycle routes, existing or planned, the decision-maker may require the installation of separate bicycle lanes within streets and separate bicycle paths.

Response: The planned street system, which includes public sidewalks, provides convenient pedestrian and bicycle access and connectivity. Pedestrian/bicycle specific connections, other than as shown, are not necessary. This standard is met.

G. Street Name Signs and Traffic Control Devices. The applicant shall install street signs and traffic control devices as directed by the city engineer. Street name signs and traffic control devices shall be in conformance with all applicable city regulations and standards.

Response: Street name signs and stop signs are planned to be installed for new and continued streets, as required by City Engineering staff in compliance with applicable regulations and standards. This standard is met.

H. Street Lights. The applicant shall install street lights which shall be served from an underground source of supply. Street lights shall be in conformance with all city regulations.

Response: Street lights are planned to be installed along new and continued streets in conformance with applicable regulations as required. This standard is met.

I. Street Trees. Refer to Chapter 12.08, Street Trees.

Response: Street trees are addressed in the responses to Section 12.08, above. This standard is met.

J. Bench Marks. At least one bench mark shall be located within the subdivision boundaries using datum plane specified by the city engineer.

Response: The final subdivision plat will reference a benchmark utilizing the datum plane specified by the City Engineer, if required. This standard is met.

K. Other. The applicant shall make all necessary arrangements with utility companies or other affected parties for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting and cable television, shall be placed underground.

Response: All appropriate easements are planned to be provided for public and private utility providers. Arrangements with utility providers for the installation of these facilities is planned. This standard is met.

L. Oversizing of Facilities. All facilities and improvements shall be designed to city standards as set out in the city's facility master plan, public works design standards, or other city ordinances or regulations. Compliance with facility design standards shall be addressed during final engineering. The city may require oversizing of facilities to meet standards in the city's facility master plan or to allow for orderly and efficient development. Where oversizing is required, the applicant may request reimbursement from the city for oversizing based on the city's reimbursement policy and funds available, or provide for recovery of costs from intervening properties as they develop.

Response: Properly sized public facilities are planned to be provided throughout the project to serve future homes. All public improvements have been designed by a registered professional engineer which are planned to be reviewed and approved by City Engineering staff. This standard is met.

M. Erosion Control Plan—Mitigation. The applicant shall be responsible for complying with all applicable provisions of Chapter 17.47 with regard to erosion control.

Response: Erosion control is addressed in the response to Chapter 17.47. This standard is met.

Title 17 – ZONING

Chapter 17.10 - R-8 SINGLE-FAMILY DWELLING DISTRICT

17.10.020 Permitted uses.

Permitted uses in the R-8 district are:

A. Single-family detached residential units;

Response: This subdivision application includes 77 lots located in the R-8 zoning district for the future construction of single-family detached homes. This is recognized as a permitted use in the zone. This standard is met.

17.10.040 Dimensional standards.

Dimensional Standards in the R-8 District are:

A. Minimum lot areas, eight thousand square feet;

Response: The preliminary plans show that the average lot area in this project is approximately ±8,279 square feet. In the responses to Section 16.12.050, several of the planned lots are shown to be less than 8,000 square feet, but the average lot area across the project is approximately ±8,279 square feet. This standard is met.

B. Minimum lot width, sixty feet;

Response: As shown on the preliminary plans, all lots are planned to be at least 60 feet in width. This standard is met.

C. Minimum lot depth, seventy-five feet;

Response: As shown on the preliminary plans, all lots are planned to be at least 75 feet in depth. This standard is met.

D. Maximum building height, two and one-half stories, not to exceed thirty-five feet;

E. Minimum Required Setbacks:

1. Front yard fifteen feet minimum setback;

2. Front porch, ten feet minimum setback;

3. Attached and detached garage, twenty feet minimum setback from the public right-of-way where access is taken, except for alleys. Detached garages on an alley shall be setback a minimum of five feet in residential areas;

4. Interior side yard, nine feet minimum setback for at least one side yard, seven feet minimum setback for the other side yard;

5. Corner side yard, fifteen feet minimum setback;

6. Rear yard, twenty feet minimum setback;

7. Rear porch, fifteen feet minimum setback.

F. Garage Standards: See Chapter 17.20—Residential Design and Landscaping Standards.

G. Maximum Lot Coverage: The footprint of all structures two hundred square feet or greater shall cover a maximum of forty percent of the lot area.

Response: Future homes within the project are planned to comply with the above-listed maximum height, setback, and lot coverage requirements. The preliminary plans show required setbacks for future dwellings, which are planned to be reviewed for compliance at the time of building permit issuance. These standards are met.

Chapter 17.20 - RESIDENTIAL DESIGN AND LANDSCAPING STANDARDS

17.20.015 Street trees.

All new single or two-family dwellings or additions of twenty-five percent or more of the existing square footage of the home (including the living space and garage(s)) shall install a street tree along the frontage of the site, within the abutting developed right-of-way. Existing trees may be used to meet this requirement. A picture of the planted tree shall be submitted to the planning division prior to issuance of occupancy. Upon approval by the community development director, when a planter strip is not present, a tree may be placed within an easement on the abutting private property within ten feet of the public right-of-way if a covenant is recorded for the property with the Clackamas County Recorders Office identifying the tree as a city street tree, subject to the standards in Chapter 12.08 of the Oregon City Municipal Code. The street tree shall be a minimum of two-inches in caliper and either selected from the Oregon City Street Tree List or approved by a certified arborist for the planting location.

Response: As discussed previously, and as shown on the preliminary plans, street trees are planned to be planted along all streets within the project at such time as a building permit is issued and a home is approved for final inspection and occupancy. This standard is met.

17.20.020 Applicability.

The standards in Sections 17.20.030 through 17.20.050 apply to the street-facing facades of all single and two-family dwellings. New dwellings, new garages or expansions of an existing garage require compliance with one of the residential design options in [Section] 17.20.030 or Chapter 17.21.

For the purpose of this chapter, garages are defined as structures, or portions thereof used or designed to be used for the parking of vehicles, including carports. The garage width shall be measured based on the foremost interior garage walls or carport cover. The community development director may approve an alternative measurement location if the exterior facade screens a section of the garage or better accomplishes the goals of this chapter.

Response: This application is for approval of 77 residential lots for the future construction of detached single-family homes. Therefore, the standards of Sections 17.20.030 through 17.20.050 are addressed below.

17.20.030 Residential design options.

A. A dwelling with no garage or a detached garage shall comply with five of the residential design elements in [Section] 17.20.040.A on the front facade of the structure.

Response: Attached garages are planned for each of the future homes constructed on the lots within the project. This standard does not apply.

B. A dwelling without a garage on the primary street-facing facade may be permitted if shall include five of the residential design elements in [Section] 17.20.040A. on the front facade of the structure.

Response: All garages for future homes are planned to be provided on the primary street-facing façade of each home. This standard does not apply.

C. A dwelling with a front garage where the building is less than twenty-four feet wide may be permitted if:

1. The garage is no more than twelve feet wide and;

2. The garage does not extend closer to the street than the furthest forward living space on the street-facing facade; and

3. Six of the residential design elements in [Section] 17.20.040A. are included on the front facade of the structure; and

4. One of the following is provided:

a. Interior living area above the garage is provided. The living area must be set back no more than four feet from the street-facing garage wall; or

b. A covered balcony above the garage is provided. The covered balcony must be at least the same length as the street-facing garage wall, at least six feet deep and accessible from the interior living area of the dwelling unit; or

c. The garage is rear loaded.

Response: No future home associated with this project is planned to be less than 24 feet wide. This standard does not apply.

> **D.** A dwelling with a garage that extends up to fifty percent of the length of the street-facing facade and is not closer to the street than the furthest forward living space on the street-facing facade may be permitted if:
>
> Six of the residential design elements in [Section] 17.20.040A. are included on the front facade of the structure.
>
> (***)

Response: Individual single-family home designs have not been identified for individual lots. These standards are planned to be satisfied at the time building permits are issued.

> **17.20.035** Corner lots and through lots.
>
> **A.** Homes on corner lots and through lots shall comply with one of the options in [Section] 17.20.030 for the front of the home.
>
> **B.** The other street-facing side of the home shall include the following:
>
> **1.** Windows and doors for a minimum of fifteen percent of the lineal length of the ground floor facade; and
>
> **2.** Minimum four-inch window trim; and
>
> **3.** Three additional residential design elements selected from [Section] 17.20.040A.

Response: Individual single-family home designs have not been identified for individual lots within the project. These standards can be satisfied at the time building permits are issued.

> **17.20.040** Residential design elements.

Response: Individual single-family home designs have not been identified for individual lots within the project. The design elements indicated in this standard can be satisfied at the time building permits are issued.

> **17.20.050** Main entrances.
>
> The main entrance for each structure shall:
>
> **A.** Face the street; or
>
> **B.** Be at an angle up to forty-five degrees from the street;
>
> **C.** Open onto a covered porch that is at least sixty square feet with a minimum depth of five feet on the front or, in the case of a corner lot, the side of the home.

Response: Individual single-family home designs have not been identified for individual lots within the project. The design elements indicated in this standard can be satisfied at the time building permits are issued.

> **17.20.060** Residential yard landscaping.
>
> The intent of this section is to ensure that residential lots are landscaped and to encourage the retention of trees, minimize the impact of tree loss during development and ensure a sustainable tree

canopy in Oregon City. Though not required, the use of native species and low water use vegetation is recommended, but in no case may materials identified on the Oregon City Nuisance Plant list be used.

A. Tree Requirement. This requirement may be met using one or any combination of the three options below (Tree Preservation, Tree Planting, or Tree Fund). Table 17.20.060(A) identifies the minimum number of inches of tree diameter per lot that shall be preserved, planted or paid into the Tree Fund. Adjustments from this section are prohibited. The applicant shall submit a residential yard landscaping plan for Options (1) and (2) demonstrating compliance with the requirements of this section.

TABLE 17.20.060(A) - Tree Requirements	
Lot Size (square feet)	Tree Diameter Inches Required to be Protected, Planted or Paid into Tree Fund
0—4,999	4"
5,000—7,999	6"
8,000—9,999	8"
10,000—14,999	10"
15,000 +	12"

1. Tree preservation. The size of existing trees to be preserved shall be measured as Diameter at Breast Height (DBH).

   a. This standard shall be met using trees that are located on the lot and trees that are located within public and private right-of-way shall not be used to meet this standard. When this option is used, a tree preservation plan is required.

   b. Trees to be preserved may be located anywhere on the lot, and shall be a minimum of two inches caliper DBH.

   c. Large Native or Heritage Tree Incentive. If a tree is preserved that is selected from the list in Table 17.20.060(A)(2)(c), the diameter of the tree may be doubled when demonstrating compliance with the minimum tree requirements indicated in Table 17.20.060(A) above. For example, an Oregon White Oak with a two-inch caliper at DBH may count as a tree diameter of four inches.

Response: It is not possible to save all the existing trees for the use of residential yard landscaping based on the location of existing trees on the project site, and the planned layout of the project. This option will not be used to meet this Subsection.

2. Tree planting. All planted trees shall measure a minimum two-inch caliper at six inches above the root crown. When this option is used, a tree planting plan is required.

a. Trees planted pursuant to this section on R-6, R-8 and R-10 zoned lots shall include at least one tree in the front yard setback, unless it is demonstrated that it is not feasible due to site constraints.

b. Trees planted pursuant to this section on R-5 and R-3.5 zoned lots may be planted anywhere on the lot as space permits.

c. Large Native or Heritage Tree Incentive. If a tree is planted that is selected from the list in Table 17.20.060(A)(2)(c), the diameter of the tree may be doubled when demonstrating compliance with the minimum tree requirements indicated in Table 17.20.060(A) above. For example, an Oregon White Oak with a two-inch caliper at six inches above the root crown may count as a tree diameter of four inches.

TABLE 17.20.060(A)(2)(c) - Large Native and Heritage Tree List	
Common Name	**Scientific Name**
Oregon White Oak	*Quercus garryana*
Pacific willow	*Salix lucida spp. lasiandra*
Western red cedar	*Thuja plicata*
Western hemlock	*Tsuga heterophylla*
Northern Red Oak	*Quercus rubra*
Bur Oak	*Quercus macrocarpa*
Bigleaf Maple	*Acer macrophyllum*
Grand Fir	*Abies grandis*
Douglas Fir	*Pseudotsuga menziesii*
American Elm hybrids (disease resistant)	*Ulmus spp.*
Western yew	*Taxus brevifolia*

3. Tree Fund. This option may be used where site characteristics or construction preferences do not support the preservation or planting options identified above. The community development director may approve this option in-lieu-of or in addition to requirements 1. and/or 2. above. In this case, the community development director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above. The large native or heritage tree incentive does not apply when using this option to calculate the number of required inches.

a. The cash-in-lieu payment per tree shall utilize the adopted fee schedule when calculating the total tree fund payment.

b. The amount to be paid to the tree fund shall be calculated by subtracting the total inches of trees preserved and planted per subsection 2. and 3. above from the minimum tree diameter inches required in Table 17.20.060(A), dividing the sum by two inches and multiplying the remainder by the adopted fee from the Oregon City fee schedule. For example:

Lot Size	a. Tree Requirement per Table 17.20.060(A) (inches)	b. Trees Preserved (inches)	c. Trees Planted (inches)	d. To be mitigated (inches) a.—b.—c.	Number of trees owed to tree fund. d./2" minimum caliper tree
10,000—14,999	10"	2"	4"	4"	2

Response: The applicant plans to use a combination of the "Tree Planting" option and the "Tree Fund" option to meet the residential yard landscaping requirement. Individual home designs for the planned lots have not been identified at this time. A residential yard landscaping plan is planned to be developed based off future home design and placement, and submitted prior to building permit applications.

B. Residential front yard landscaping requirements. The following minimum landscaping standards shall apply to residential uses in residential zones:

1. At a minimum, a three-gallon shrub or three-gallon accent plant shall be planted between the front property line and the front building line for every four linear feet of foundation.

2. On lots zoned R-5, R-6, R-8 and R-10, fifty percent of the area between the front lot line and the front building line shall be landscaped.

3. On lots zoned R-3.5, at least forty percent of the area between the front lot line and the front building line shall be landscaped.

4. At a minimum, the required landscaped area shall be planted with ground cover. Up to one-third of the required landscaped area may be for recreational use or for use by pedestrians, such as walkways, play areas or patios.

5. A landscaping plan is required.

Response: Individual home designs for the planned lots have not been identified at this time. A residential yard landscaping plan is planned to be developed based off future home design and placement, and submitted prior to building permit applications.

Chapter 17.41 - TREE PROTECTION STANDARDS

17.41.040 Same—Exemptions.

These regulations are not intended to regulate normal cutting, pruning and maintenance of trees on private property except where

trees are located on lots that are undergoing development review or are otherwise protected within the Natural Resource Overlay District (NROD) of section 17.49. These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930. The community development director has the authority to modify or waive compliance in this case.

Response: The project site has historically been used as a farm, as evidenced by the Farm Deferral tax status shown on the 2016 Property Tax Statements for Tax Lots 1001, 1100, and 1700 included in the application materials. More specifically, the property has been used as a hazelnut and Christmas tree farm, and is currently occupied with both hazelnut and Christmas trees. A number of stands of the larger trees located on the property were originally planted as Christmas trees that were never harvested. The hazelnut trees have been overcome with Eastern Filbert Blight, a common disease among hazelnut orchards that is spread during wet weather. The existing hazelnut trees have been deemed "diseased" by a certified arborist, as addressed in the project's Arborist Report. Based on the project site's farm use status within one year of this application, the trees mentioned in this response are considered exempt from Chapter 17.41 and are not included in the project's mitigation calculation.

17.41.050 Same—Compliance options.

Applicants for review shall comply with these requirements through one or a combination of the following procedures:

A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.

D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130.

A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.

The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:

1. Preclude achieving eighty percent of minimum density with reduction of lot size; or

2. Preclude meeting minimum connectivity requirements for subdivisions.

Response: Based on the health of the trees, as detailed in the "Detailed Tree Inventory" Located in the preliminary plans, 9 trees are subject to mitigation. Using Table 17.41.060-1 (Tree Replacement Requirements) to calculate the number of trees required for mitigation, 36

mitigation trees are required. This application chooses to use a combination of Option 1 and Option 4 to satisfy this requirement. A final tree mitigation plan is planned to be submitted based on the City's final decision.

17.41.060 Tree removal and replanting—Mitigation (Option 1).

A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in Chapter 17.04 to the extent practicable. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. At the applicant's expense, the city may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under section 12.08—Community Forest and Street Trees.

B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:

1. Trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or

2. Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in Section 17.04.1360, may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.

Response: Of the trees to be removed, a total of 5 are located inside the construction area for project improvements. A total of 4 trees are located outside of the construction area.

Table 17.41.060-1 Tree Replacement Requirements All replacement trees shall be either: Two-inch caliper deciduous, or Six-foot high conifer		
Size of tree removed (DBH)	Column 1 Number of trees to be planted. (If removed Outside of construction area)	Column 2 Number of trees to be planted. (If removed Within the construction area)
6 to 12"	3	1
13 to 18"	6	2
19 to 24"	9	3
25 to 30"	12	4
31 and over"	15	5

Steps for calculating the number of replacement trees:

1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.
2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.
3. Document any trees that are currently diseased or hazardous.
4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.
5. Define the construction area (as defined in Chapter 17.04).
6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.
7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.
8. Determine the total number of replacement trees from steps 6. and 7.

Response: Trees located on the project site were inventoried and evaluated by a professional certified arborist. Many of the trees on-site are either hazardous or diseased and need to be removed. Nine (9) trees to be removed are subject to mitigation, (4 trees located "outside of construction area" and 5 trees are located "inside of construction area"). Based on the size of the trees to be removed and their location relative to the "construction area," a total of 36 mitigation trees are planned to be planted per Option 1 or cash-in-lieu of planting paid per Option 4. This standard is met.

17.41.070 Planting area priority for mitigation (Option 1).

Development applications which opt for removal of trees with subsequent replanting pursuant to section 17.41.050A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:

A. First Priority. Replanting on the development site.

B. Second Priority. Off-site replacement tree planting locations. If the community development director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and must be approved by the community development director.

Response: Mitigation trees are planned to be planted on or off-site and/or cash-in-lieu of planting in accordance with this chapter. This standard is met.

17.41.125 Cash-in-lieu of planting (tree bank/fund) (Option 4).

The applicant may choose this option in-lieu-of or in addition to Compliance Options 1 through 3. In this case, the community development director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above.

A. The cash-in-lieu payment per tree shall be as listed on the adopted fee schedule and shall be adjusted annually based on the Consumer Price Index (Index). The price shall include the cost of materials, transportation and planting.

B. The amount of the cash-in-lieu payment into the tree bank shall be calculated as the difference between the value of the total number of trees an applicant is required to plant, including cost of installation and adjusted for Consumer Price Index, minus the value of the trees actually planted. The value of the trees shall be based on the adopted fee schedule.

Response: Mitigation trees are planned to be planted on or off-site and/or cash-in-lieu of planting is to be paid in accordance with this Chapter. This standard is met.

17.41.130 Regulated tree protection procedures during construction.

A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.

Response: Tree protection in accordance with this standard is planned to be installed prior to any grading or construction associated with the project. This standard is met.

B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures: …

Response: Tree protection measures for those trees to remain on the project site have been outlined in the project's Arborist Report and shown on the preliminary plans in accordance with the criteria of this standard. Grading and/or construction activity will not commence prior to the installation of planned tree protection. This standard is met.

C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.

Response: As shown on the preliminary plans and addressed in the Preliminary Stormwater Report, site drainage is not planned to conflict with those trees to be protected on the project site. All stormwater is planned to be directed to the project's storm drainage facility and away from trees designated for conservation and/or protection. This standard is met.

Chapter 17.44 - US—GEOLOGIC HAZARDS

17.44.025 When required; regulated activities; permit and approval requirements.

No person shall engage in any of the following regulated activities within the adopted Oregon City Geologic Hazards Overlay Zone as defined in section 17.04.515 of the Oregon City Municipal Code without first obtaining permits or approvals as required by this chapter:

A. Installation or construction of an accessory structure greater than 500 square feet in area;

B. Development of land, construction, reconstruction, structural alteration, relocation or enlargement of any building or structure for which permission is required pursuant to the Oregon City Municipal Code;

C. Tree removal on slopes greater than 25 percent where canopy area removal exceeds 25 percent of the lot.

D. Excavation which exceeds two feet in depth, or which involves twenty-five or more cubic yards of volume;

The requirements of this chapter are in addition to other provisions of the Oregon City Municipal Code. Where the provisions of this chapter conflict with other provisions of the Oregon City Municipal Code, the provisions that are the more restrictive of regulated development activity shall govern.

Response: The southeastern portion of the project site is within the adopted Oregon City Geologic Hazards Overlay Zone as defined in Section 17.04.515 of the OCMC. Activity in this area will not occur prior to first obtaining appropriate permits and/or approval as required by this standard. This standard is met.

17.44.030 Procedures.

No building or site development permit or other authorization for development shall be issued until the plans and other documents required by this chapter have been reviewed and found by the review authority to comply with the requirements of this chapter.

A. Where the development is part of a land use permit application, review shall occur in the manner established in Chapter 17.50 for review of land use decisions.

B. Where the development is part of a limited land use permit application, review shall occur in the manner established in Chapter 17.50 for review of limited land use decisions.

C. Where the development is solely part of a grading permit or building permit, the city engineer may allow review to occur in the manner established in Title 15, Chapters 15.04 and 15.48 if the application meets Section 17.44.060 development standards.

D. For any other proposed development not otherwise subject to review as a land use or limited land use permit application, review shall occur in the manner established in Chapter 17.50 for limited land use decisions.

Response: Activity within the portion of the project located in the Geologic Hazards Overlay Zone will not commence until appropriate approval is issued. This standard is met.

17.44.035 Exemptions.

The following activities, and persons engaging in same, are EXEMPT from the provisions of this chapter.

A. An excavation which is less than two feet in depth, or which involves less than twenty-five cubic yards of volume;

B. A fill which does not exceed two feet in depth or twenty-five cubic yards of volume;

C. Structural alteration of any structure of less than five hundred square feet that does not involve grading as defined in this chapter;

D. Installation, construction, reconstruction, or replacement of utility lines in city right-of-way, or public easement, not including electric substations;

E. The removal or control of noxious vegetation;

F. Emergency actions which must be undertaken immediately to prevent an imminent threat to public health or safety, or prevent imminent danger to public or private property. The person undertaking emergency action shall notify the building official on all regulated activities associated with any building permit or city engineer/public works director on all others within one working day following the commencement of the emergency activity. If the city engineer/public works director or building official determine that the action or part of the action taken is beyond the scope of allowed emergency action, enforcement action may be taken.

Response: This standard is understood.

17.44.050 Development—Application requirements and review procedures and approvals.

Except as provided by subsection B. of this section, the following requirements apply to all development proposals subject to this chapter:

A. A geological assessment and geotechnical report that specifically includes, but is not limited to: ….

Response: A Geotechnical Engineering Report and Preliminary Stormwater Report that include the information listed in this standard have been included in the application materials. This standard is met.

17.44.060 Development standards.

Notwithstanding any contrary dimensional or density requirements of the underlying zone, the following standards shall apply to the review of any development proposal subject to this chapter. Requirements of this chapter are in addition to other provision of the Oregon City Municipal Code. Where provision of this chapter conflict with other provision of the Oregon City Municipal Code, the provisions that are more restrictive of regulated development activity shall govern.

A. All developments shall be designed to avoid unnecessary disturbance of natural topography, vegetation and soils. To the maximum extent practicable as determined by the review authority, tree and ground cover removal and fill and grading for residential development on individual lots shall be confined to building footprints and driveways, to areas required for utility easements and for slope easements for road construction, and to areas of geotechnical remediation.

Response: The project has been designed to avoid unnecessary disturbance of natural topography, vegetation and soils. Grading as necessary to provide proper drainage, gravity sewer, future building footprints, their driveway areas, and areas required for placement of utilities. The preliminary layout of the project area has been based on recommendations

from the project's Geotechnical Engineering Report and Preliminary Stormwater Report. This standard is met.

> **B.** All grading, drainage improvements, or other land disturbances shall only occur from May 1 to October 31. Erosion control measures shall be installed and functional prior to any disturbances. The city engineer may allow grading, drainage improvements or other land disturbances to begin before May 1 (but no earlier than March 16) and end after October 31 (but no later than November 30), based upon weather conditions and in consultation with the project geotechnical engineer. The modification of dates shall be the minimum necessary, based upon the evidence provided by the applicant, to accomplish the necessary project goals. Temporary protective fencing shall be established around all trees and vegetation designed for protection prior to the commencement of grading or other soil disturbance.

Response: All construction activities associated with this project will occur between May 1st and October 31st. Prior to any land disturbance activities, appropriate erosion control measures and tree protection fencing is planned to be installed and approved by City staff. This standard is met.

> **C.** Designs shall minimize the number and size of cuts and fills.

Response: The number and size of cuts and fills associated with the project are planned to be minimized to the greatest extent possible. This standard is met.

> **D.** Cut and fill slopes, such as those for a street, driveway accesses, or yard area, greater than seven feet in height (as measured vertically) shall be terraced. Faces on a terraced section shall not exceed five feet. Terrace widths shall be a minimum of three feet and shall be vegetated. Total cut and fill slopes shall not exceed a vertical height of fifteen feet. Except in connection with geotechnical remediation plans approved in accordance with the chapter, cuts shall not remove the toe of any slope that contains a known landslide or is greater than twenty-five percent slope. The top of cut or fill slopes not utilizing structural retaining walls shall be located a minimum of one-half the height of the cut slope from the nearest property line.

Response: Cut and fill slopes are not planned to exceed 7 feet in height. This standard does not apply.

> **E.** Any structural fill shall be designed by a suitably qualified and experienced civil or geotechnical engineer licensed in Oregon in accordance with standard engineering practice. The applicant's engineer shall certify that the fill has been constructed as designed in accordance with the provisions of this chapter.

Response: This standard is understood. Structural fill is planned to be designed, inspected, and certified by the project's Civil Engineer. This standard is met.

> **F.** Retaining walls shall be constructed in accordance with the Oregon Structural Specialty Code adopted by the State of Oregon.

Response: This standard is understood. Any future retaining walls associated with the project are planned to be constructed in accordance with the Oregon Structural Specialty Code. This standard is met.

G. Roads shall be the minimum width necessary to provide safe vehicle and emergency access, minimize cut and fill and provide positive drainage control. The review authority may grant a variance from the city's required road standards upon findings that the variance would provide safe vehicle and emergency access and is necessary to comply with the purpose and policy of this chapter.

Response: As shown on the preliminary plans, all internal streets within the project have been designed to meet the minimum width requirements necessary to provide safe vehicle and emergency access. Cut and fill activities are minimized to the greatest extent possible and a Preliminary Stormwater Report has been included in the application materials that addresses drainage control. No variances are included in this application. This standard is met.

H. Density shall be determined as follows:

1. For those areas with slopes less than twenty-five percent between grade breaks, the allowed density shall be that permitted by the underlying zoning district;

2. For those areas with slopes of twenty-five to thirty-five percent between grade breaks, the density shall not exceed two dwelling units per acre except as otherwise provided in subsection I of this section;

3. For those areas with slopes over thirty-five percent between grade breaks, development shall be prohibited except as otherwise provided in subsection I.4. of this section.

Response: Project density has been addressed previously under Section 16.08.030.F, and has been determined with consideration of this standard.

I. For properties with slopes of twenty-five to thirty-five percent between grade breaks:

Response: As shown on the preliminary plans, the project does include slopes of twenty-five percent or greater. Therefore, the following criteria are addressed.

1. For those portions of the property with slopes of twenty-five to thirty-five percent, the maximum residential density shall be limited to two dwelling units per acre; provided, however, that where the entire site is less than one-half acre in size, a single dwelling shall be allowed on a lot or parcel existing as of January 1, 1994 and meeting the minimum lot size requirements of the underlying zone;

Response: Project density has taken this criterion into account for calculating minimum and maximum allowable density for the project. This criterion is met.

2. An individual lot or parcel with slopes between twenty-five and thirty-five percent shall have no more than fifty percent or four thousand square feet of the surface area, whichever is smaller, graded or stripped of vegetation or covered with structures or impermeable surfaces.

3. No cut into a slope of twenty-five to thirty-five percent for the placement of a housing unit shall exceed a maximum vertical height of fifteen feet for the individual lot or parcel.

4. For those portions of the property with slopes over thirty-five percent between grade breaks:

a. Notwithstanding any other city land use regulation, development other than roads, utilities, public facilities and geotechnical remediation shall be prohibited; provided, however, that the review authority may allow development upon such portions of land upon demonstration by an applicant that failure to permit development would deprive the property owner of all economically beneficial use of the property. This determination shall be made considering the entire parcel in question and contiguous parcels in common ownership on or after January 1, 1994, not just the portion where development is otherwise prohibited by this chapter. Where this showing can be made on residentially zoned land, development shall be allowed and limited to one single-family residence. Any development approved under this chapter shall be subject to compliance with all other applicable city requirements as well as any applicable state, federal or other requirements;

b. To the maximum extent practicable as determined by the review authority, the applicant shall avoid locating roads, utilities, and public facilities on or across slopes exceeding thirty-five percent.

Response: As shown on the preliminary plans, those areas of the project site that have slopes between 25% and 35% are planned to be left in their natural state. No grading, stripping of vegetation, or structures are planned in these areas. These criteria do not apply.

J. The geotechnical engineer of record shall review final grading, drainage, and foundation plans and specifications and confirm in writing that they are in conformance with the recommendations provided in their report.

Response: This standard is understood. The project's Geotechnical Engineer will confirm, in writing, that final grading, drainage, and foundation plans are in conformance with the recommendations provided in the project's Geotechnical Engineering Report. This standard is met.

K. At the city's discretion, peer review shall be required for the geotechnical evaluation/investigation report submitted for the development and/or lot plans. The peer reviewer shall be selected by the city. The applicant's geotechnical engineer shall respond to written comments provided by the city's peer reviewer prior to issuance of building permit.

Response: This standard is understood.

L. The review authority shall determine whether the proposed methods of rendering a known or potential hazard site safe for construction, including proposed geotechnical remediation methods, are feasible and adequate to prevent landslides or damage to property and safety. The review authority shall consult with the city's geotechnical engineer in making this determination. Costs for such consultation

shall be paid by the applicant. The review authority may allow development in a known or potential hazard area as provided in this chapter if specific findings are made that the specific provisions in the design of the proposed development will prevent landslides or damage. The review authority may impose any conditions, including limits on type or intensity of land use, which it determines are necessary to assure that landslides or property damage will not occur.

Response: This standard is understood.

17.44.070 Access to property.

A. Shared private driveways may be required if the city engineer or principal planner determines that their use will result in safer location of the driveway and lesser amounts of land coverage than would result if separate private driveways are used.

B. Innovations in driveway design and road construction shall be permitted in order to keep grading and cuts or fills to a minimum and to achieve the purpose and policy of this chapter.

C. Points of access to arterials and collectors shall be minimized.

D. The city engineer or principal planner shall verify that adequate emergency services can be provided to the site.

Response: This standard is understood.

17.44.080 Utilities.

All new service utilities, both on-site and off-site, shall be placed underground and under roadbeds where practicable. Every effort shall be made to minimize the impact of utility construction. Underground utilities require the geologic hazards permitting and review prescribed herein.

Response: All new utilities associated with the project are planned to be placed underground. This standard is met.

17.44.090 Stormwater drainage.

The applicant shall submit a permanent and complete stormwater control plan. The program shall include, but not be limited to the following items as appropriate: curbs, gutters, inlets, catch basins, detention facilities and stabilized outfalls. Detention facilities shall be designed to city standards as set out in the city's drainage master plan and design standards. The review authority may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality consistent with Oregon City's Title III section of the Oregon City Municipal Code Chapter 17.49 and the Oregon City Public Works Stormwater Management Design Manual and Standards Plan or other adopted standards subsequently adopted by the city commission. Drainage design shall be approved by the city engineer before construction, including grading or other soil disturbance, has begun.

Response: As shown on the preliminary plans, and detailed in the Preliminary Stormwater Report, the project's permanent stormwater control plan has been designed to City standards

and in compliance with the City's Drainage Master Plan and design standards. This standard is met.

17.44.100 Construction standards.

During construction on land subject to this chapter, the following standards shall be implemented by the developer:

A. **All development activity shall minimize vegetation removal and soil disturbance and shall provide positive erosion prevention measures in conformance with OCMC Chapter 17.47—Erosion and Sediment Control.**

B. **No grading, clearing or excavation of any land shall be initiated prior to approval of the grading plan, except that the city engineer shall authorize the site access, brush to be cleared and the location of the test pit digging prior to approval of such plan to the extent needed to complete preliminary and final engineering and surveying. The grading plan shall be approved by the city engineer as part of the city's review under this chapter. The developer shall be responsible for the proper execution of the approved grading plan.**

C. **Measures shall be taken to protect against landslides, mudflows, soil slump and erosion. Such measures shall include sediment fences, straw bales, erosion blankets, temporary sedimentation ponds, interceptor dikes and swales, undisturbed buffers, grooving and stair stepping, check dams, etc. The applicant shall comply with the measures described in the Oregon City Public Works Standards for Erosion and Sedimentation Control (Ordinance 99-1013).**

D. **All disturbed vegetation shall be replanted with suitable vegetation upon completion of the grading of the steep slope area.**

E. **Existing vegetative cover shall be maintained to the maximum extent practicable. No grading, compaction or change in ground elevation, soil hydrology and/or site drainage shall be permitted within the drip line of trees designated for protection, unless approved by the city.**

F. **Existing perennial and intermittent watercourses shall not be disturbed unless specifically authorized by the review authority. This includes physical impacts to the stream course as well as siltation and erosion impacts.**

G. **All soil erosion and sediment control measures shall be maintained during construction and for one year after development is completed, or until soils are stabilized by revegetation or other measures to the satisfaction of the city engineer. Such maintenance shall be the responsibility of the developer. If erosion or sediment control measures are not being properly maintained or are not functioning properly due to faulty installation or neglect, the City may order work to be stopped. (Ord. 03-1014, Att. B3 (part), 2003: Ord. 94-1001 §2(part), 1994)**

H. **All newly created lots, either by subdivision or partition, shall contain building envelopes with a slope of thirty-five percent or less.**

I. **The applicant's geotechnical engineer shall provide special inspection during construction to confirm that the subsurface conditions and assumptions made as part of their geotechnical evaluation/investigation are appropriate. This will allow for timely**

design changes if site conditions are encountered that are different from those anticipated.

J. Prior to issuing an occupancy permit, the geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations.

Response: This standard is understood.

17.44.110 Approval of development.

The city engineer shall review the application and verify, based on the applicant's materials and the land use record, whether the proposed development constitutes a hazard to life, property, natural resources or public facilities. If, in the city engineer's opinion, a particular development poses such a hazard, the city engineer shall recommend to the review authority permit conditions designed to reduce or eliminate the hazard. These conditions may include, but are not limited to, prohibitions on construction activities between November 1st and March 31st.

Response: This standard is understood.

Chapter 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.

A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.

B. Approval Standards. An erosion and sediment control plan shall be approved only upon making the following findings:

1. The erosion and sediment control plan meets the requirements of the City of Oregon City public works standards for erosion and sediment control incorporated by reference as part of this chapter;

2. The erosion and sediment control plan indicates that erosion and sediment control measures will be managed and maintained during and following development. The erosion and sediment control plan indicates that erosion and sediment control measures will remain in place until disturbed soil areas are permanently stabilized by landscaping, grass, approved mulch or other permanent soil stabilizing measures.

C. The erosion and sediment control plan shall be reviewed in conjunction with the requested development approval. If the development does not require additional review, the manager may approve or deny the permit with notice of the decision to the applicant.

D. The city may inspect the development site to determine compliance with the erosion and sediment control plan and permit.

E. Erosion that occurs on a development site that does not have an erosion and sediment control permit, or that results from a failure to comply with the terms of such a permit, constitutes a violation of this chapter.

F. If the manager finds that the facilities and techniques approved in an erosion and sediment control plan and permit are not sufficient to prevent erosion, the manager shall notify the owner or his/her designated representative. Upon receiving notice, the owner or his/her designated representative shall immediately install interim erosion and sediment control measures as specified in the City of Oregon City public works standards for erosion and sediment control. Within three days from the date of notice, the owner or his/her designated representative shall submit a revised erosion and sediment control plan to the city. Upon approval of the revised plan and issuance of an amended permit, the owner or his/her designated representative shall immediately implement the revised plan.

G. Approval of an erosion and sediment control plan does not constitute an approval of permanent road or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).

Response: A Preliminary Grading and Erosion and Sediment Control Plan is included in the preliminary plans. The plan includes measures to ensure that sediment laden waters will not leave the site. A Final Grading and Erosion and Sediment Control Plan is planned to be submitted and approved before any construction activities commence. Please refer to the preliminary plans for further information.

Chapter 17.50 - ADMINISTRATION

17.50.050 Preapplication conference.

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by

staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

Response: On November 3, 2016, the applicant's consultant submitted a request for a pre-application conference on the required form, and included a short explanatory narrative, preliminary site plan, and the appropriate fee. The pre-application conference was held on December 6, 2016. The original pre-application conference summary, including updated summary dated December 28, 2016, provided by Oregon City Planning and Development Services are included in the application materials. The subdivision application was filed with the City within six months of the pre-application conference. These criteria are met.

17.50.055 Neighborhood association meeting.

A. Neighborhood Association Meeting. The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.

1. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, planning commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the city-recognized neighborhood association in whose territory the application is proposed. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.

2. The applicant shall send, by certified mail, return receipt requested letter to the chairperson of the neighborhood association and the citizen involvement committee describing the proposed project. Other communication methods may be used if approved by the neighborhood association.

3. A meeting shall be scheduled within thirty days of the notice. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall hold their own meeting after six p.m. or on the weekend, with notice to the neighborhood association, citizen involvement committee, and all property owners within three hundred feet. If the applicant holds their own meeting, a copy of the certified letter requesting a neighborhood association meeting shall be required for a complete application. The meeting held by the applicant shall be held within the boundaries of the neighborhood association or in a city facility.

4. If the neighborhood association is not currently recognized by the city, is inactive, or does not exist, the applicant shall request a meeting with the citizen involvement committee.

5. To show compliance with this section, the applicant shall submit a sign-in sheet of meeting attendees, a summary of issues discussed, and letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.

Response: Upon receiving approval to communicate with the South End Neighborhood Association (SENA) via email, the applicant's consultant sent an email to SENA Chair Bill McConnel on March 15, 2017, describing the planned project. The SENA responded on April 6, 2017 indicating that the applicant would be included on the May 18, 2017 meeting agenda. The applicant's consultant attended the SENA meeting, presented the project, and answered questions from the neighbors in attendance.

In order to show compliance with the applicable criteria, as required by 17.50.055.A.5, the required neighborhood meeting submittal items have been included in the application materials. This standard has been met.

IV. Conclusion

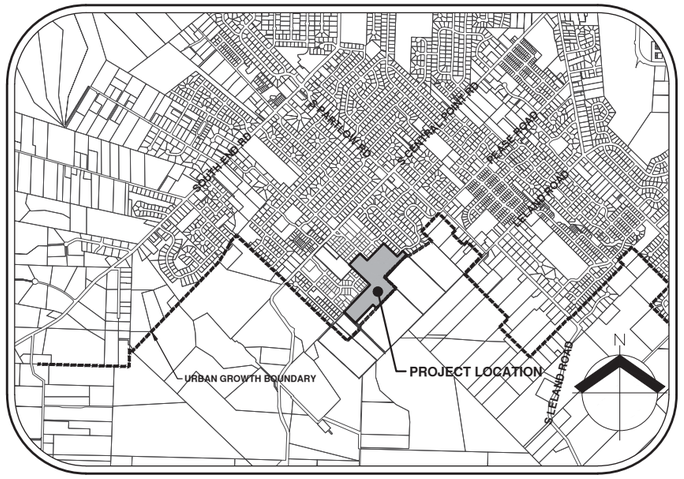
The planned subdivision will provide for detached single-family homes, which is expressly defined in ORS 197.303 as "needed housing" on buildable land. Therefore, the application is subject to ORS 197.307(4) (needed housing). The applicant reserves the right to object to the application of subjective criteria, standards, or conditions, and does not waive its right to assert that the needed housing statutes apply.

Pursuant to Municipal Code Section 16.08.010.B, this subdivision application in the R-8 zoning district is subject to review by the City through a Type II procedure. This narrative is supported by substantial evidence presented in the application materials, including preliminary plans and other written documentation. Considered together and with respect to the discussion provided above, this information provides the necessary basis for the City of Oregon City to approve the application.

Exhibit A: Preliminary Plans

WHEELER FARMS

PRELIMINARY SUBDIVISION PLANS



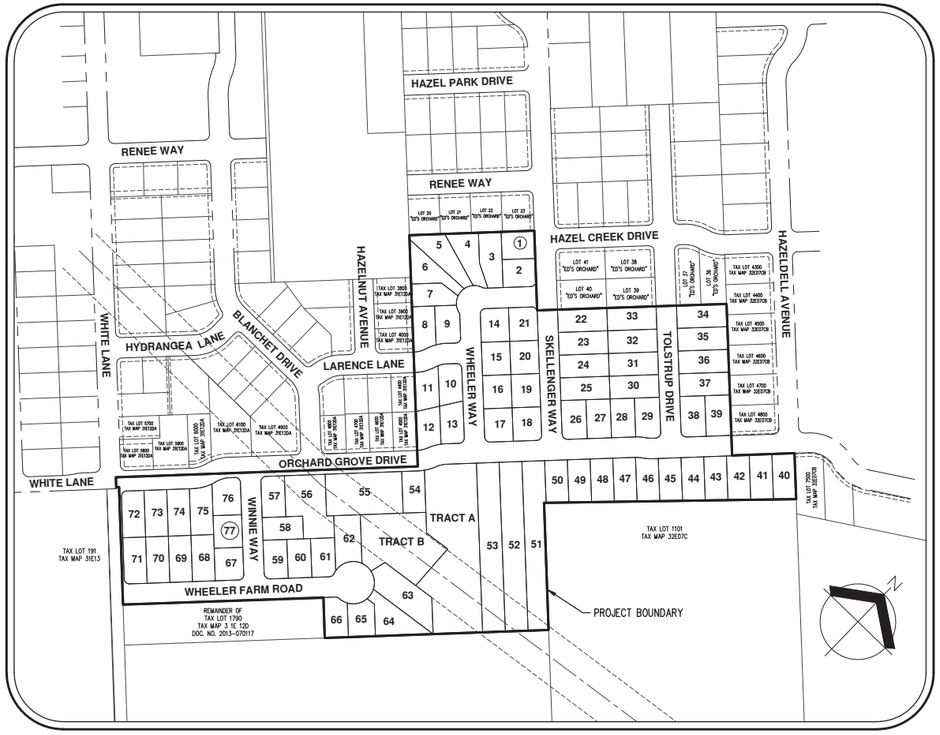
VICINITY MAP

NOT TO SCALE

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
DECIDUOUS TREE			STORM SEWER CLEAN OUT		
CONIFEROUS TREE			STORM SEWER CATCH BASIN		
			STORM SEWER AREA DRAIN		
FIRE HYDRANT			STORM SEWER MANHOLE		
WATER BLOWOFF			GAS METER		
WATER METER			GAS VALVE		
WATER VALVE			GUY WIRE ANCHOR		
DOUBLE CHECK VALVE			POWER POLE		
AIR RELEASE VALVE			POWER VAULT	P	P
SANITARY SEWER CLEAN OUT			POWER JUNCTION BOX		
SANITARY SEWER MANHOLE			POWER PEDESTAL		
SIGN			COMMUNICATIONS VAULT	C	C
STREET LIGHT			COMMUNICATIONS JUNCTION BOX		
MAILBOX	MB	MB	COMMUNICATIONS RISER		

	EXISTING	PROPOSED
RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
EASEMENT		
FENCE LINE		
GRAVEL EDGE		
POWER LINE	PWR	PWR
OVERHEAD WIRE	OHW	OHW
COMMUNICATIONS LINE	COM	COM
FIBER OPTIC LINE	CFO	CFO
GAS LINE	GAS	GAS
STORM SEWER LINE	STM	STM
SANITARY SEWER LINE	SAN	SAN
WATER LINE	WAT	WAT



SITE MAP

SCALE: 1"=200'

SHEET INDEX

P1-01	COVER SHEET WITH SITE & VICINITY MAPS & LEGEND
P1-02	PRELIMINARY EXISTING CONDITIONS PLAN
P1-03	PRELIMINARY EXISTING CONDITIONS PLAN
P1-04	PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS
P1-05	PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS
P1-06	PRELIMINARY GRADING & EROSION AND SEDIMENT CONTROL PLAN
P1-07	PRELIMINARY GRADING & EROSION AND SEDIMENT CONTROL PLAN
P1-08	PRELIMINARY COMPOSITE UTILITY PLAN
P1-09	PRELIMINARY COMPOSITE UTILITY PLAN
P1-10	PRELIMINARY STREET PLAN
P1-11	PRELIMINARY STREET PLAN
P1-12	PRELIMINARY STREET CROSS-SECTIONS
P1-13	PRELIMINARY STREET PROFILES
P1-14	PRELIMINARY STREET PROFILES
P1-15	PRELIMINARY STREET PROFILES
P1-16	PRELIMINARY CONCEPTUAL CONNECTIVITY ANALYSIS, TRAFFIC/TRANSPORTATION, CIRCULATION, & CONCEPTUAL REDEVELOPMENT PLAN
P1-17	PRELIMINARY TREE PRESERVATION & REMOVAL PLAN
P1-18	PRELIMINARY TREE PRESERVATION & REMOVAL PLAN
P1-19	PRELIMINARY TREE PRESERVATION AND REMOVAL TABLE
P1-20	PRELIMINARY DEMOLITION PLAN
P1-21	PRELIMINARY DEMOLITION PLAN
P1-22	PRELIMINARY STREET TREE AND TREE MITIGATION PLAN
P1-23	PRELIMINARY STREET TREE AND TREE MITIGATION PLAN
P1-24	PRELIMINARY EMERGENCY ACCESS PLAN
P1-25	PRELIMINARY EMERGENCY ACCESS PLAN

APPLICANT:
RIAN PARK DEVELOPMENT, INC.
15239 S LAKE RIDE WAY
OREGON CITY, OREGON 97045

PLANNING/ENGINEERING/ SURVEYING FIRM:
AKS ENGINEERING & FORESTRY, LLC
CONTACT: MONTY HURLEY
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151
FAX: 503-563-6152

PROJECT LOCATION:
19566 S CENTRAL POINT ROAD
OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION:
TAX LOTS 1001, 1100, 1180, AND 1291 CLACKAMAS COUNTY ASSESSOR'S MAP NUMBER 3-2E-07C.
TAX LOTS 1700 AND 1790 CLACKAMAS COUNTY ASSESSOR'S MAP NUMBER 3-1E-12D WILLAMETTE MERIDIAN, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON.

EXISTING LAND USE:
EXISTING HOME AND OUTBUILDINGS/ CHRISTMAS TREE AND HAZELNUT TREE FARM

PROJECT PURPOSE:
RESIDENTIAL SUBDIVISION ZONED FOR FUTURE SINGLE-FAMILY DETACHED RESIDENTIAL HOMES.

VERTICAL DATUM:
ELEVATIONS ARE BASED ON A 3" BRASS DISK MONUMENT SCRIBED 'GPS STA CENTRAL 1990' LOCATED IN A SURVEY MONUMENT BOX IN CENTRAL POINT ROAD NEAR THE INTERSECTION OF CENTRAL POINT ROAD AND HAZELDELL AVENUE, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON ELEVATION = 455.10 FT

AKS ENGINEERING & FORESTRY, LLC
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TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

WHEELER FARMS
OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

OREGON CITY
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

COVER SHEET WITH SITE & VICINITY MAPS & LEGEND

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 13, 2009
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
MAY 9, 2017

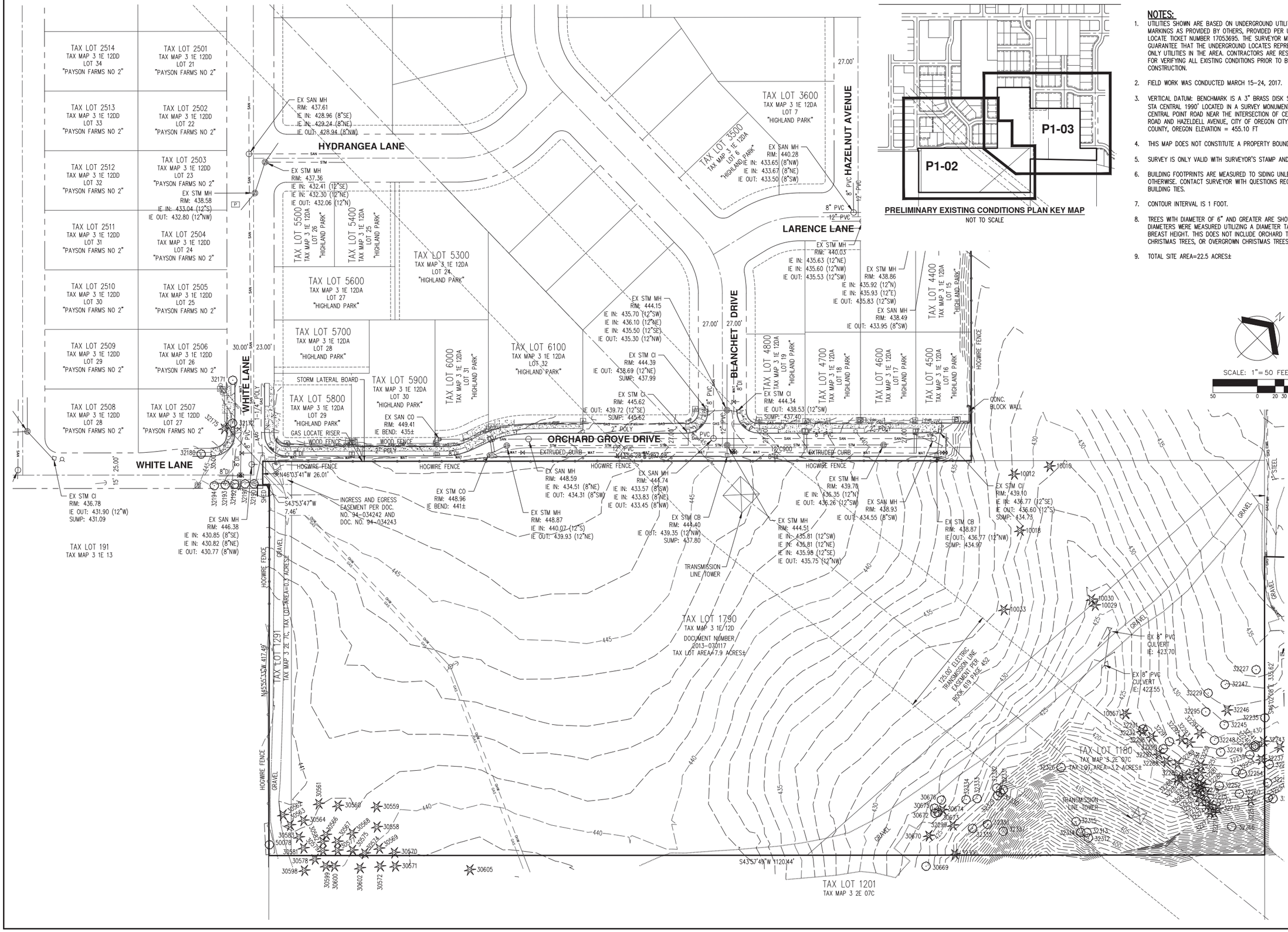
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-01

AKS DRAWING FILE: 5621 COVER.DWG | LAYOUT: P1-01



NOTES:

1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 17053695. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD WORK WAS CONDUCTED MARCH 15–24, 2017.
3. VERTICAL DATUM: BENCHMARK IS A 3" BRASS DISK SCRIBED 'GPS STA CENTRAL 1990' LOCATED IN A SURVEY MONUMENT BOX IN CENTRAL POINT ROAD NEAR THE INTERSECTION OF CENTRAL POINT ROAD AND HAZELDELL AVENUE, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON ELEVATION = 455.10 FT
4. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
5. SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
6. BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
7. CONTOUR INTERVAL IS 1 FOOT.
8. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. THIS DOES NOT INCLUDE ORCHARD TREES, CHRISTMAS TREES, OR OVERGROWN CHRISTMAS TREES.
9. TOTAL SITE AREA=22.5 ACRES±

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FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

WHEELER FARMS

OREGON CITY
OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

PRELIMINARY EXISTING CONDITIONS PLAN

DESIGNED BY:
DRAWN BY: JOH
CHECKED BY: RDR
SCALE: AS NOTED
DATE: 06/20/2017

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/18

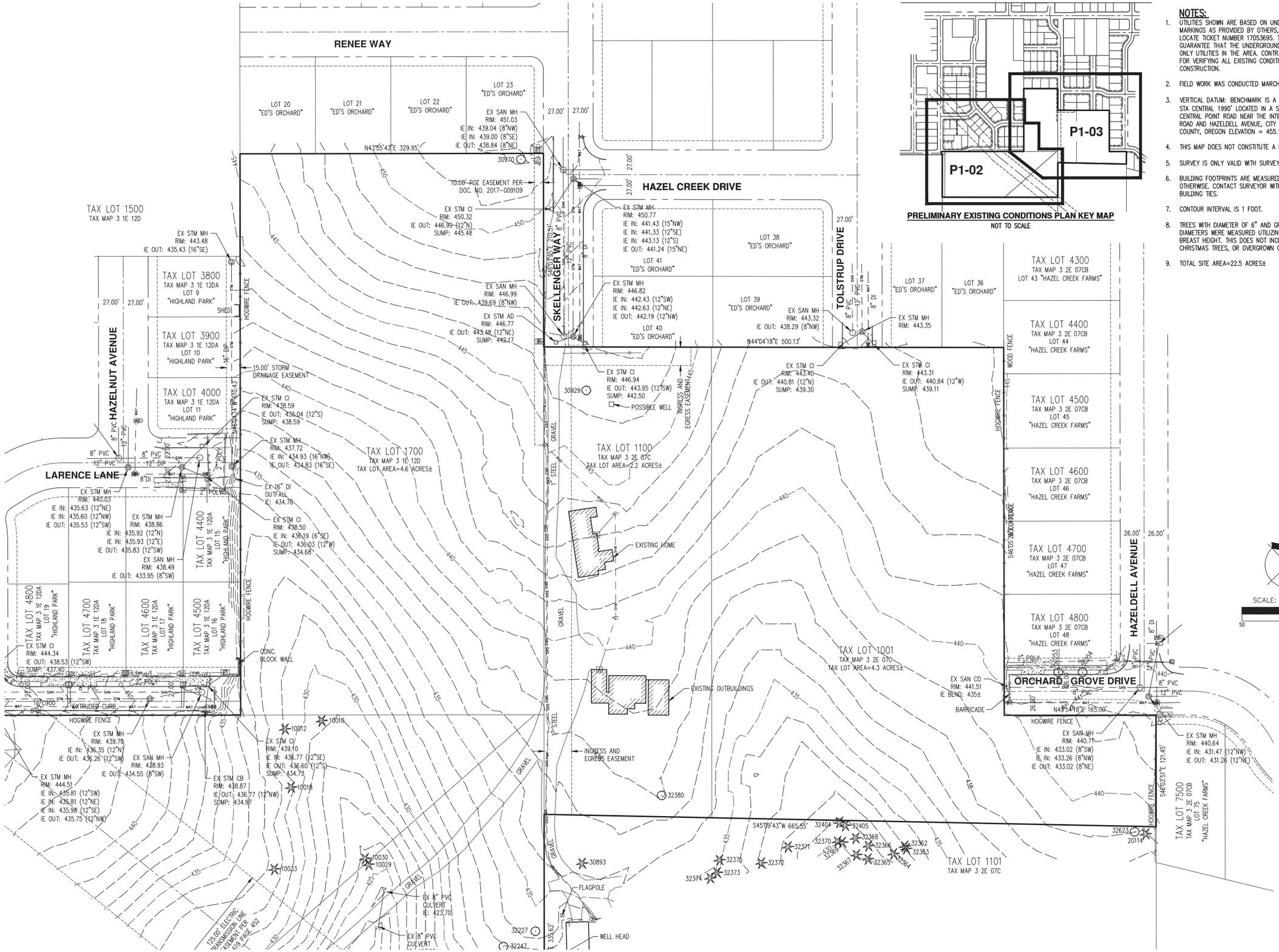
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REVISIONS

JOB NUMBER
5621

SHEET
P1-02

AKS DRAWING FILE: 5621 EXCOND [PRELIM].DWG | LAYOUT: P1-02



PRELIMINARY EXISTING CONDITIONS PLAN KEY MAP
NOT TO SCALE

NOTES:

1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 17053695. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD WORK WAS CONDUCTED MARCH 15–24, 2017.
3. VERTICAL DATUM: BENCHMARK IS A 3" BRASS DISK SCRIBED 'GPS STA CENTRAL 1990' LOCATED IN A SURVEY MONUMENT BOX IN CENTRAL POINT ROAD NEAR THE INTERSECTION OF CENTRAL POINT ROAD AND HAZELDELL AVENUE, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON ELEVATION = 455.10 FT
4. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
5. SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
6. BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
7. CONTOUR INTERVAL IS 1 FOOT.
8. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. THIS DOES NOT INCLUDE ORCHARD TREES, CHRISTMAS TREES, OR OVERGROWN CHRISTMAS TREES.
9. TOTAL SITE AREA=22.5 ACRES±

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WHEELER FARMS

OREGON

OREGON CITY

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

PRELIMINARY EXISTING CONDITIONS PLAN

DESIGNED BY:
DRAWN BY: JOH
CHECKED BY: RDR
SCALE: AS NOTED
DATE: 06/20/2017

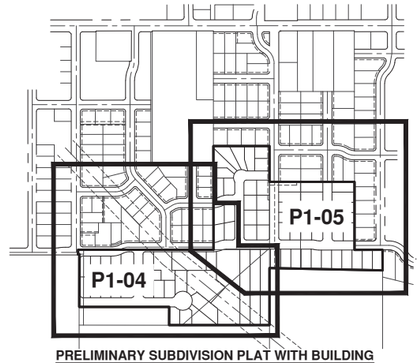
REGISTERED PROFESSIONAL LAND SURVEYOR
PRELIMINARY NOT FOR CONSTRUCTION
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/18

REVISIONS

JOB NUMBER
5621

SHEET
P1-03

AKS DRAWING FILE: 5621 EXCOND [PRELIM].DWG | LAYOUT: P1-03



PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS PLAN KEY MAP
NOT TO SCALE

SETBACK LEGEND:

- (Y) 15' MINIMUM FRONT YARD SETBACK
- (G) 20' MINIMUM GARAGE SETBACK
- (S1) *7' MINIMUM INTERIOR SIDE YARD SETBACK
- (S2) *9' MINIMUM INTERIOR SIDE YARD SETBACK
- (C) 15' MINIMUM CORNER SIDE YARD SETBACK
- (R) 20' MINIMUM REAR YARD SETBACK

*7' AND 9' INTERIOR SIDE YARD SETBACKS CAN BE SWAPPED (TYPICAL). ONE SIDE YARD HAS TO BE A MINIMUM OF 7', THE OTHER SIDE YARD SETBACK HAS TO BE A MINIMUM OF 9'.

PRELIMINARY SUBDIVISION PLAT NOTE:

THE PURPOSE OF THIS PRELIMINARY PLAT IS TO SHOW THE LOT DIMENSIONS FOR PLANNING PURPOSES. THIS IS NOT A FINAL PLAT AND IS NOT TO BE USED FOR SURVEYING PURPOSES.

ZONE R-8:

NET AREA: 626,486 SQUARE FEET±
AVERAGE LOT AREA: 8,279 SQUARE FEET±

SCALE: 1"= 50 FEET
50 0 20 30 40 50

HYDRANGEA LANE
BLANCHET DRIVE
HAZELNUT AVENUE
LARENCE LANE
WHITE LANE
ORCHARD GROVE DRIVE
WHEELER FARM ROAD
WINNIE WAY

TAX LOT 5700 — TAX MAP 31E12DA LOT 28, "HIGHLAND PARK"
TAX LOT 5800 — TAX MAP 31E12DA LOT 29, "HIGHLAND PARK"
TAX LOT 5900 — TAX MAP 31E12DA LOT 30, "HIGHLAND PARK"
TAX LOT 6000 — TAX MAP 31E12DA LOT 31, "HIGHLAND PARK"
TAX LOT 6100 — TAX MAP 31E12DA LOT 32, "HIGHLAND PARK"
TAX LOT 4900 — TAX MAP 31E12DA LOT 20, "HIGHLAND PARK"
TAX LOT 4800 — TAX MAP 31E12DA LOT 19, "HIGHLAND PARK"
TAX LOT 4700 — TAX MAP 31E12DA LOT 18, "HIGHLAND PARK"
TAX LOT 4600 — TAX MAP 31E12DA LOT 17, "HIGHLAND PARK"
TAX LOT 4500 — TAX MAP 31E12DA LOT 16, "HIGHLAND PARK"
TAX LOT 4400 — TAX MAP 31E12DA LOT 15, "HIGHLAND PARK"

11 ±6,495 SF
12 ±6,463 SF
51 ±24,975 SF
52 ±26,814 SF
53 ±26,812 SF
54 ±6,607 SF
55 ±22,271 SF
56 ±16,515 SF
57 ±6,717 SF
58 ±6,420 SF
59 ±6,415 SF
60 ±6,406 SF
61 ±6,422 SF
62 ±8,940 SF
63 ±13,967 SF
64 ±9,716 SF
65 ±6,424 SF
66 ±6,418 SF
67 ±6,463 SF
68 ±7,339 SF
69 ±7,338 SF
70 ±7,337 SF
71 ±7,293 SF
72 ±7,338 SF
73 ±7,380 SF
74 ±7,380 SF
75 ±7,554 SF
76 ±7,133 SF
77 ±6,487 SF

TRACT A
VOLUNTARY OPEN SPACE
±58,911 SF

TRACT B
STORMWATER FACILITY
±29,664 SF

10.00' PRIVATE SANITARY SEWER AND STORM DRAIN EASEMENT
125.00' ELECTRIC TRANSMISSION LINE EASEMENT PER BOOK 619 PAGE 452
20.00' ACCESS AND UTILITY EASEMENT FOR TAX LOT 1101
10.00' PUE (TYP)
5.40' ROW DEDICATION

TAX LOT 191
TAX MAP 31E13

REMAINDER OF
TAX LOT 1790
TAX MAP 3 1E 12D
DOC. NO. 2013-070117

ACCESS FOR TAX LOT 1201

TAX LOT 1201
TAX MAP 32E07C

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WHEELER FARMS
OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

OREGON CITY
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS

DESIGNED BY: VHN/NMC
DRAWN BY: NMC
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 09, 2002
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-04

AKS DRAWING FILE: 5621 PLAT.DWG | LAYOUT: P1-04

RENEE WAY

HAZEL CREEK DRIVE

HAZELNUT AVENUE

WHEELER WAY

SKELLENGER WAY

TOLSTRUP DRIVE

HAZELDELL AVENUE

LARENCE LANE

ORCHARD GROVE DRIVE

TAX LOT 1500
TAX MAP 31E12D

TAX LOT 3800
TAX MAP 31E12DA
LOT 9, "HIGHLAND PARK"

TAX LOT 3900
TAX MAP 31E12DA
LOT 10, "HIGHLAND PARK"

TAX LOT 4000
TAX MAP 31E12DA
LOT 11, "HIGHLAND PARK"

TAX LOT 4400
TAX MAP 31E12DA
LOT 15, "HIGHLAND PARK"

TAX LOT 4800
TAX MAP 31E12DA
LOT 19, "HIGHLAND PARK"

TAX LOT 4700
TAX MAP 31E12DA
LOT 18, "HIGHLAND PARK"

TAX LOT 4600
TAX MAP 31E12DA
LOT 17, "HIGHLAND PARK"

TAX LOT 4500
TAX MAP 31E12DA
LOT 16, "HIGHLAND PARK"

LOT 20 "ED'S ORCHARD"
LOT 21 "ED'S ORCHARD"
LOT 22 "ED'S ORCHARD"
LOT 23 "ED'S ORCHARD"
LOT 41 "ED'S ORCHARD"
LOT 38 "ED'S ORCHARD"
LOT 40 "ED'S ORCHARD"
LOT 39 "ED'S ORCHARD"
LOT 37 "ED'S ORCHARD"
LOT 36 "ED'S ORCHARD"

TAX LOT 4300
TAX MAP 32E07CB
LOT 43, "HAZEL CREEK FARMS"

TAX LOT 4400
TAX MAP 32E07CB
LOT 44, "HAZEL CREEK FARMS"

TAX LOT 4500
TAX MAP 32E07CB
LOT 45, "HAZEL CREEK FARMS"

TAX LOT 4600
TAX MAP 32E07CB
LOT 46, "HAZEL CREEK FARMS"

TAX LOT 4700
TAX MAP 32E07CB
LOT 47, "HAZEL CREEK FARMS"

TAX LOT 4800
TAX MAP 32E07CB
LOT 48, "HAZEL CREEK FARMS"

TAX LOT 7500
TAX MAP 32E07CB
LOT 75, "HAZEL CREEK FARMS"

TAX LOT 1101
TAX MAP 32E07C

TRACT A
VOLUNTARY OPEN SPACE
±58,911 SF

TRACT B
STORMWATER FACILITY
±29,664 SF

15.00' STORM DRAINAGE EASEMENT

125.00' ELECTRIC TRANSMISSION LINE EASEMENT PER BOOK 619 PAGE 452

20.00' ACCESS AND UTILITY EASEMENT FOR TAX LOT 1101

10.00' PUE (TYP)

P1-04

P1-05

PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS PLAN KEY MAP
NOT TO SCALE

SCALE: 1"= 50 FEET
50 0 20 30 40 50

SETBACK LEGEND:

- (Y) 15' MINIMUM FRONT YARD SETBACK
- (G) 20' MINIMUM GARAGE SETBACK
- (S1) *7' MINIMUM INTERIOR SIDE YARD SETBACK
- (S2) *9' MINIMUM INTERIOR SIDE YARD SETBACK
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- (R) 20' MINIMUM REAR YARD SETBACK

*7' AND 9' INTERIOR SIDE YARD SETBACKS CAN BE SWAPPED (TYPICAL). ONE SIDE YARD HAS TO BE A MINIMUM OF 7', THE OTHER SIDE YARD SETBACK HAS TO BE A MINIMUM OF 9'.

PRELIMINARY SUBDIVISION PLAT NOTE:

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ZONE R-8:

NET AREA: 626,486 SQUARE FEET±
AVERAGE LOT AREA: 8,279 SQUARE FEET±

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WHEELER FARMS

OREGON

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

OREGON CITY

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2002
MONTGOMERY B. HURLEY
RENEWAL DATE: 6/30/19

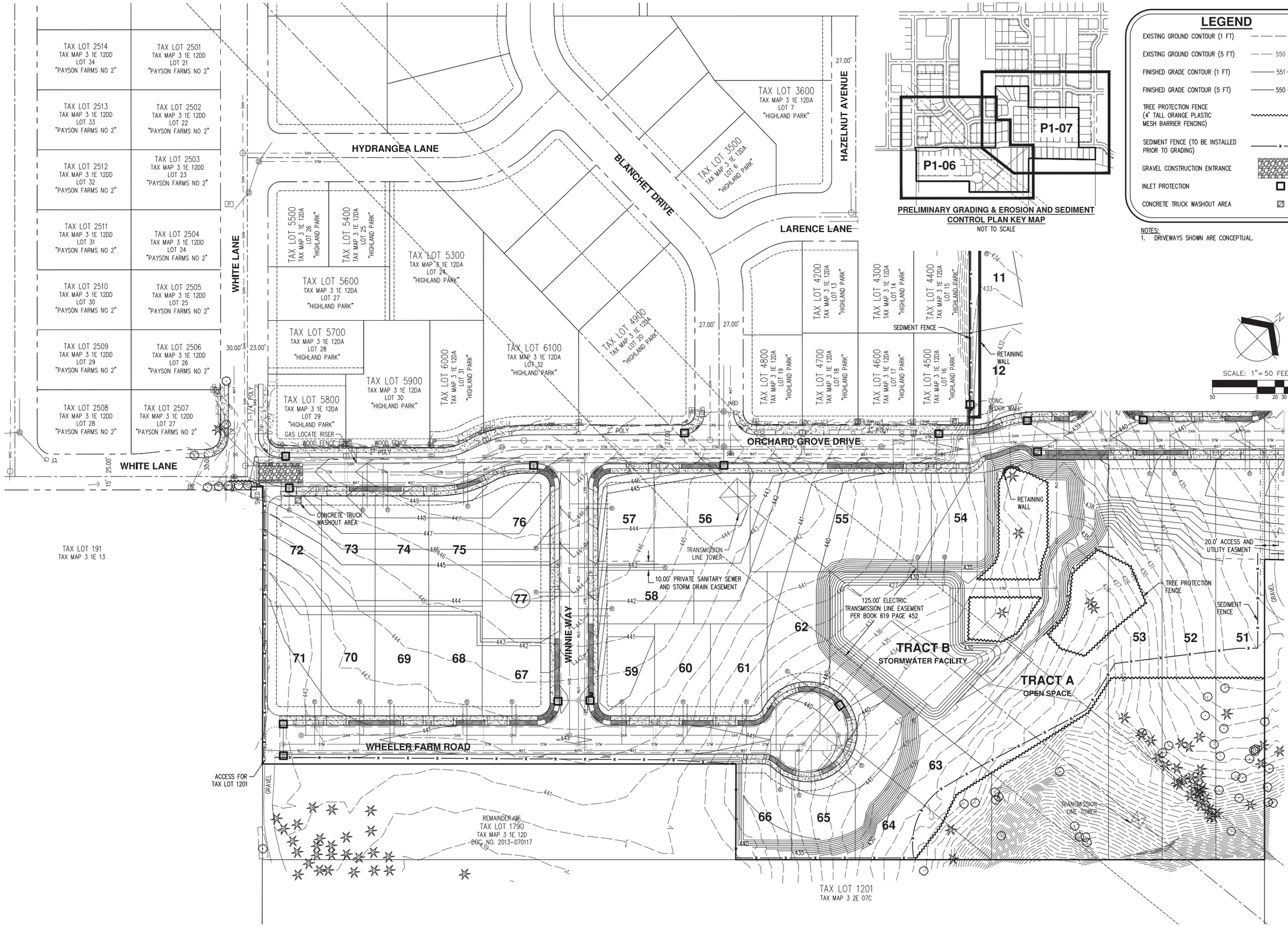
PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER
5621

SHEET
P1-05

AKS DRAWING FILE: 5621 PLAT.DWG | LAYOUT: P1-05



PRELIMINARY GRADING & EROSION AND SEDIMENT CONTROL PLAN KEY MAP
NOT TO SCALE

LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT) — 550 —
- FINISHED GRADE CONTOUR (1 FT) — 551 —
- FINISHED GRADE CONTOUR (5 FT) — 550 —
- TREE PROTECTION FENCE (4' TALL ORANGE PLASTIC MESH BARRIER FENCING)
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING) — x —
- GRAVEL CONSTRUCTION ENTRANCE
- INLET PROTECTION
- CONCRETE TRUCK WASHOUT AREA

NOTES:
1. DRIVEWAYS SHOWN ARE CONCEPTUAL.

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WHEELER FARMS

OREGON

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

OREGON CITY

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

PRELIMINARY GRADING & EROSION AND SEDIMENT CONTROL PLAN

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/20/2017

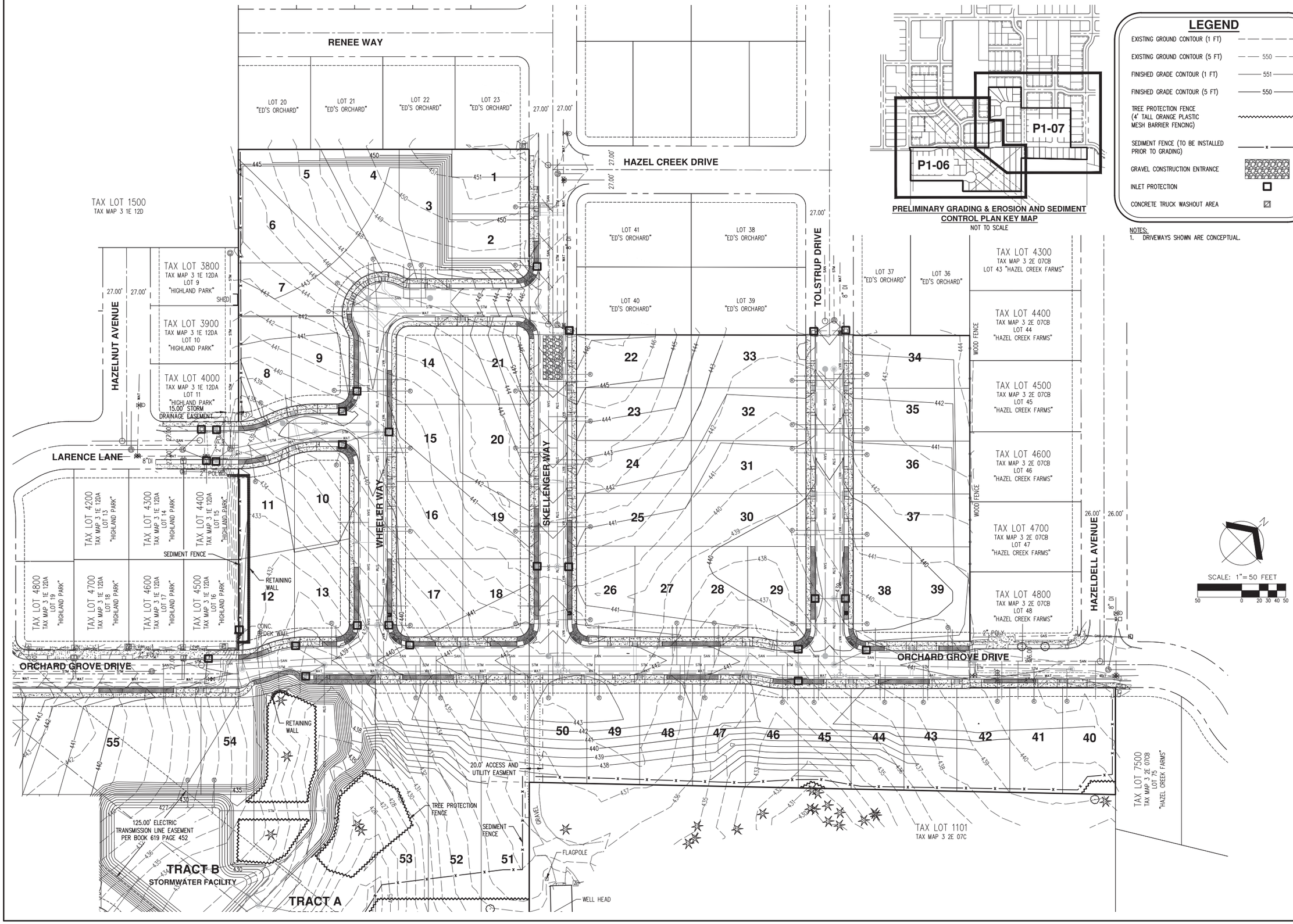
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 2012
THOMAS B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-06

AKS DRAWING FILE: 5621 ESC.DWG | LAYOUT: P1-06



PRELIMINARY GRADING & EROSION AND SEDIMENT CONTROL PLAN KEY MAP
NOT TO SCALE

LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT) — 550
- FINISHED GRADE CONTOUR (1 FT) — 551
- FINISHED GRADE CONTOUR (5 FT) — 550
- TREE PROTECTION FENCE (4' TALL ORANGE PLASTIC MESH BARRIER FENCING)
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING) — x
- GRAVEL CONSTRUCTION ENTRANCE
- INLET PROTECTION
- CONCRETE TRUCK WASHOUT AREA

NOTES:
1. DRIVEWAYS SHOWN ARE CONCEPTUAL.

SCALE: 1" = 50 FEET
50 0 20 30 40 50

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WHEELER FARMS

OREGON

OREGON CITY
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

PRELIMINARY GRADING & EROSION AND SEDIMENT CONTROL PLAN

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DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/20/2017

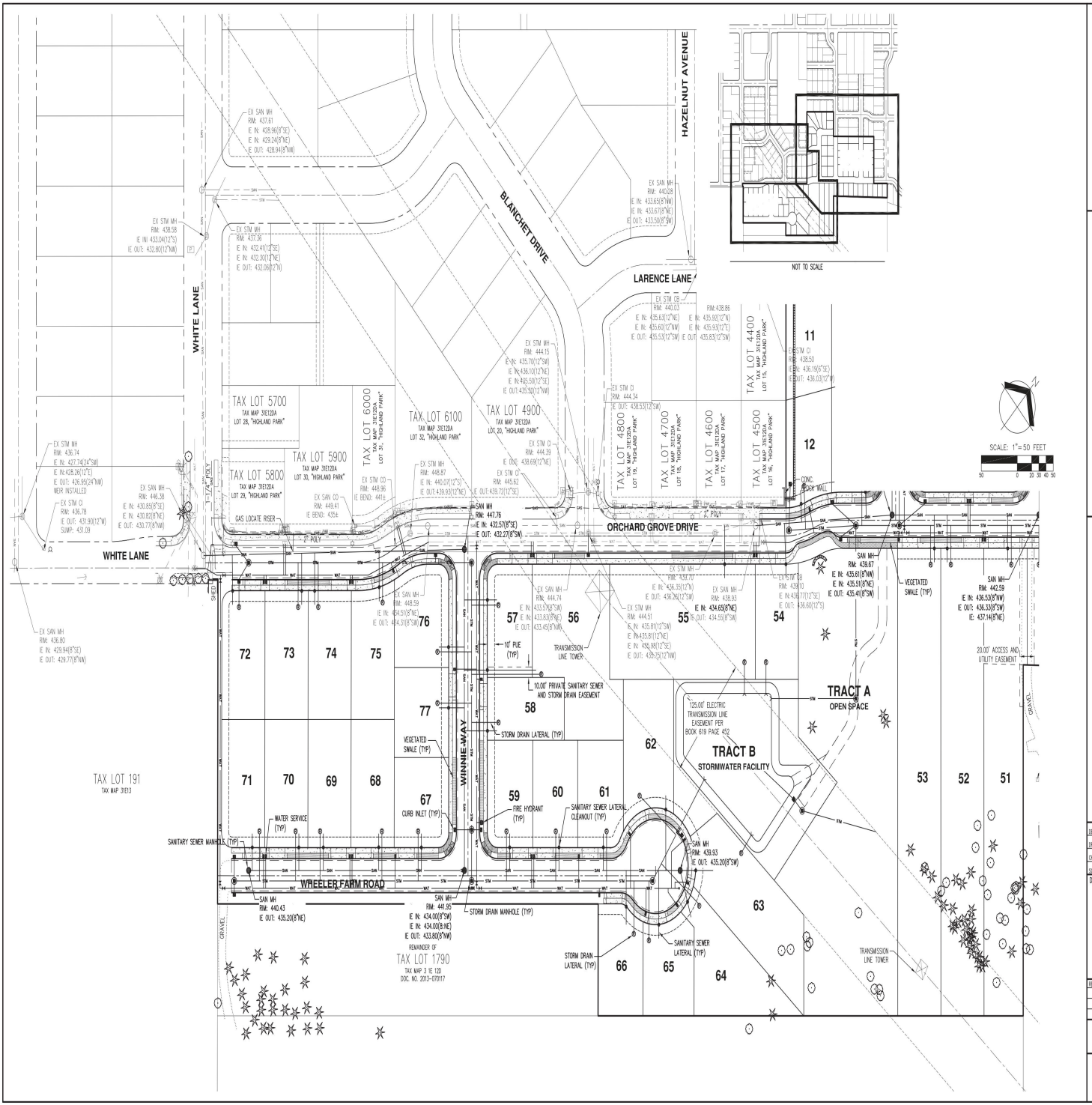
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OREGON
JULY 9, 2002
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-07

AKS DRAWING FILE: 5621 ESC.DWG | LAYOUT: P1-07



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CLACKAMAS COUNTY, TAX MAP 3-2E-07C
CLACKAMAS COUNTY, TAX MAP 3-1E-12D

TAX LOTS 1900, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

DESIGNED BY:	VHV/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/20/2017

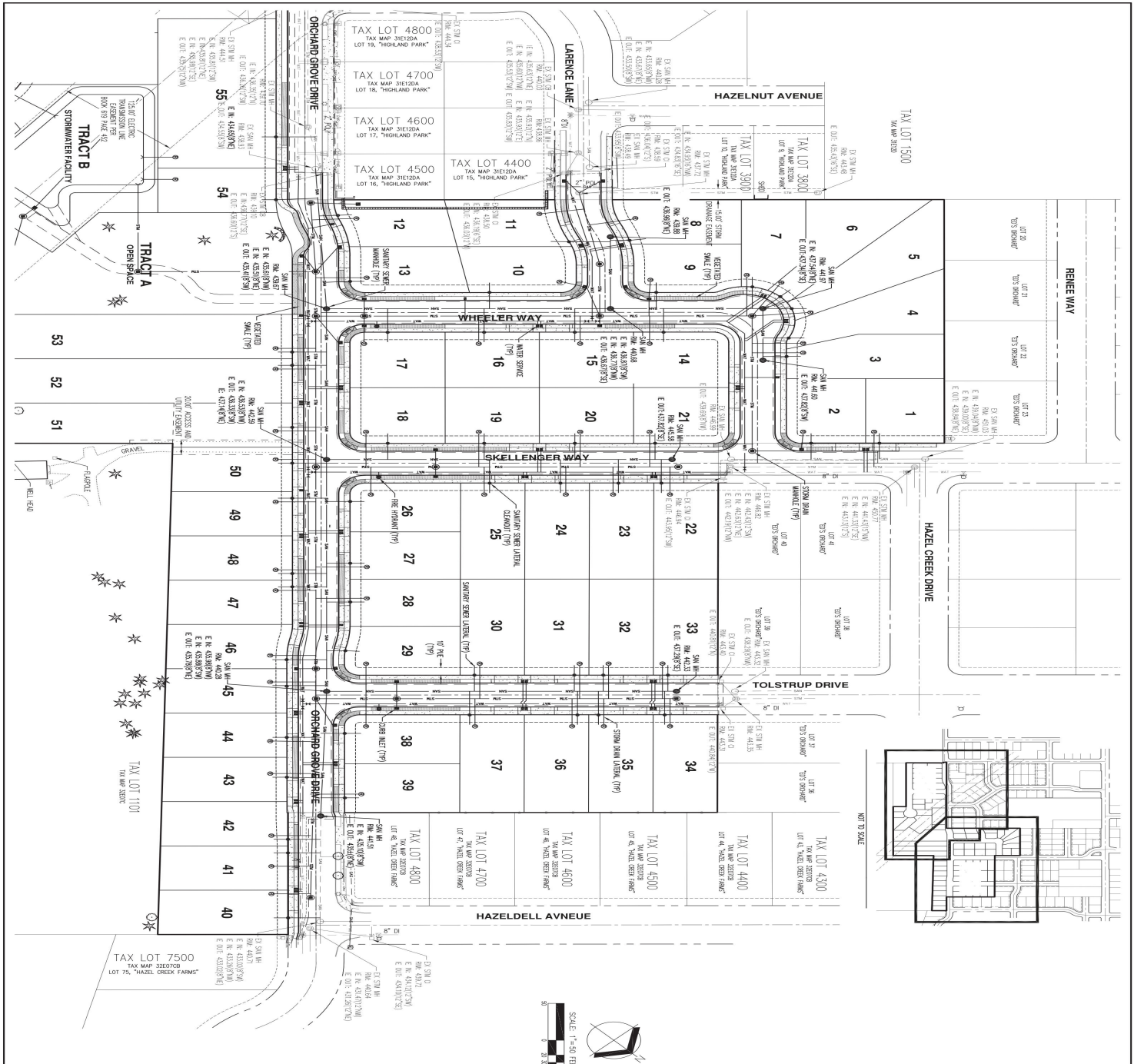
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OREGON
JULY 9, 1997
MONTGOMERY B. MOBLEY
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

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AKS DRAWING FILE: 5621 UTILITIES.DWG | LAYOUT: P1-08



DESIGNED BY:	VAN/MMC
DRAWN BY:	MMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	08/20/2017

JOB NUMBER
5621
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REVISIONS
RENEWAL DATE 6/30/19

OREGON
JULY 10, 1981
MICHAEL B. HORNECKER
56542PE

REGISTERED PROFESSIONAL ENGINEER

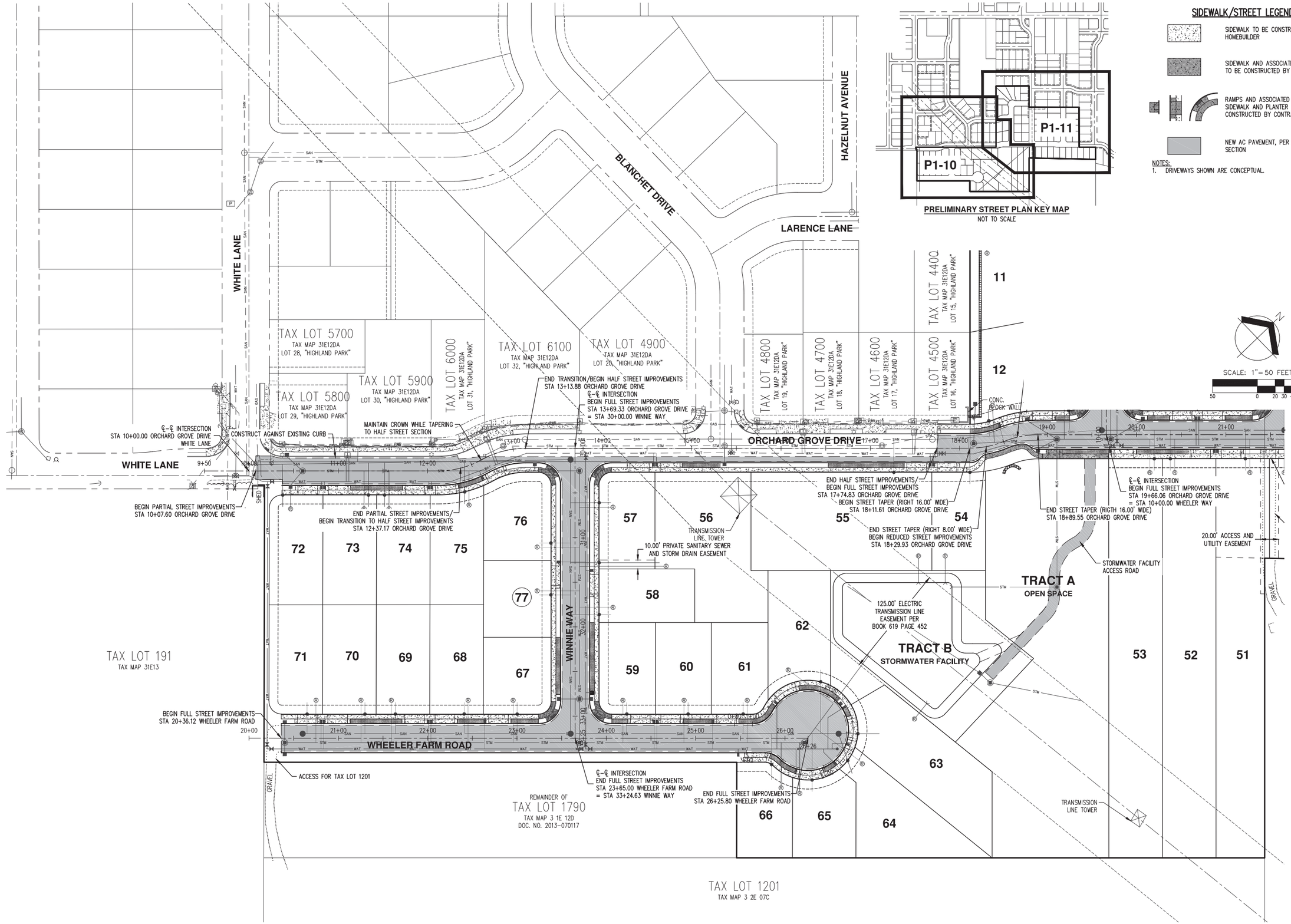
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

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WHEELER FARMS

OREGON

OREGON CITY

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

PRELIMINARY STREET PLAN

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 12, 2005
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
EXPIRES: 6/30/19

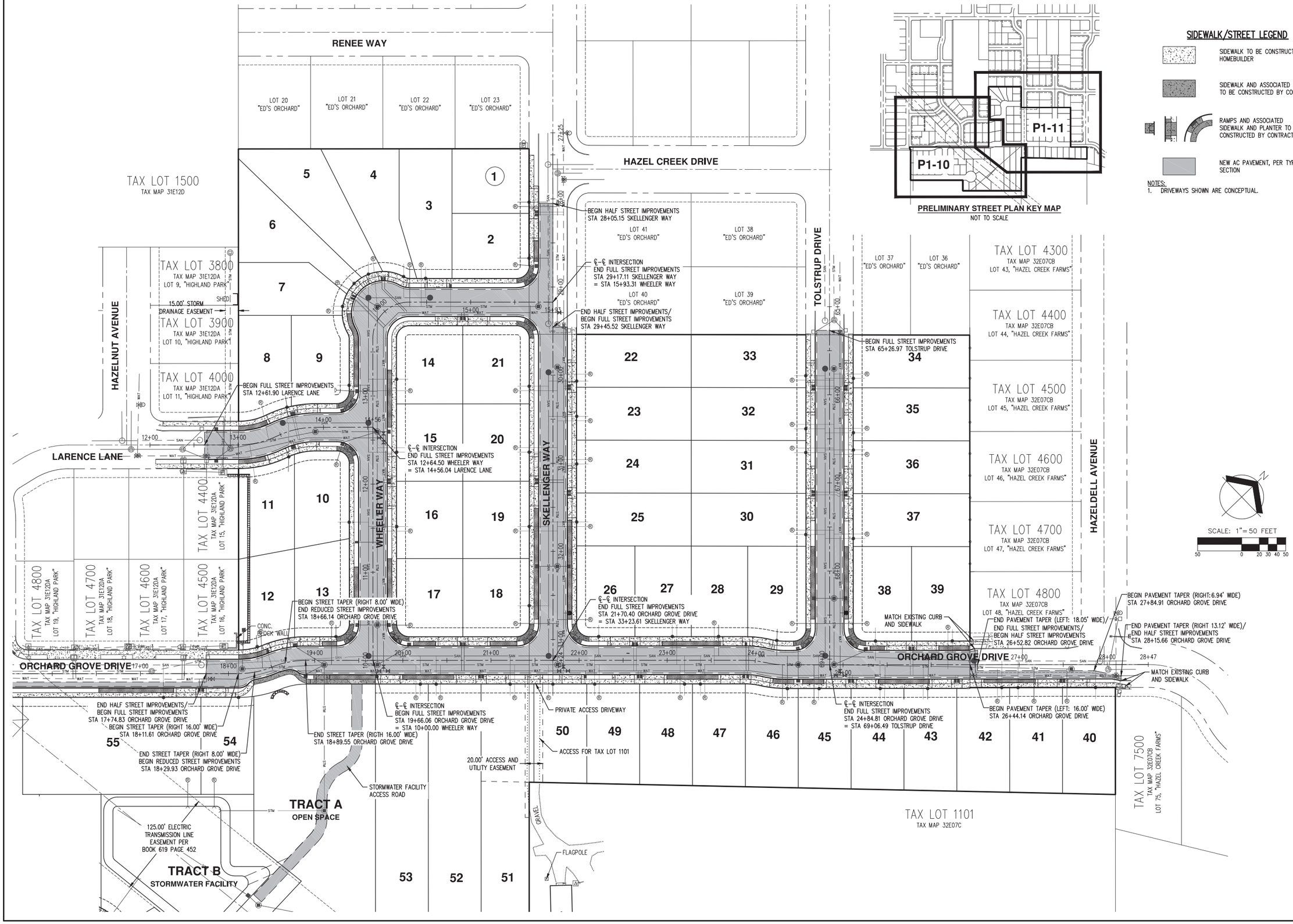
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-10

AKS DRAWING FILE: 5621 STREETS.DWG | LAYOUT: P1-10



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WHEELER FARMS

OREGON

OREGON CITY

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

PRELIMINARY STREET PLAN

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 09, 2007
MONTGOMERY B. HURLEY
EXPIRES: MAY 9, 2019

PRELIMINARY NOT FOR CONSTRUCTION

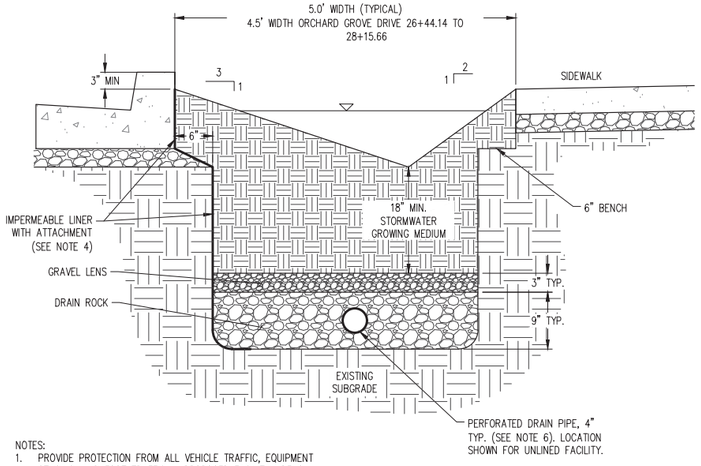
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
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SHEET
P1-11

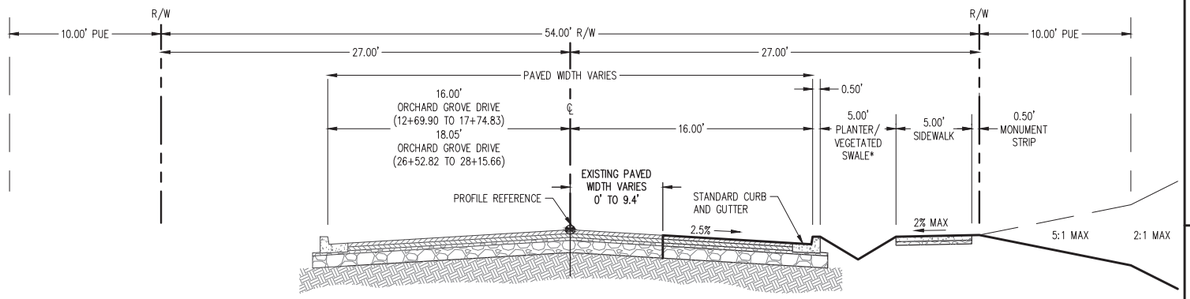
AKS DRAWING FILE: 5621 STREETS.DWG | LAYOUT: P1-11



NOTES:
1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED FACILITY AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION.
2. GROWING MEDIUM SHALL BE PLACED IN EVEN LIFTS NO GREATER THAN 8-INCHES IN DEPTH, AS MEASURED LOOSELY. LIFTS SHALL BE MODERATELY COMPACTED BY USE OF A SAND OR WATER FILLED LAWN ROLLER. MECHANICAL COMPACTION WITH JUMPING JACKS OR SIMILAR EQUIPMENT IS PROHIBITED.
3. GROWING MEDIUM IN EACH FACILITY SHALL BE PLACED AND SHAPED THE SAME DAY AND IMMEDIATELY UPON COMPLETION, ITS SURFACE SHALL BE PROTECTED WITH STRAW MATTING OR JUTE MATTING.
4. IMPERMEABLE LINER SHALL BE 30 MIL PVC OR EQUIVALENT.
5. VEGETATION: INSTALL PER PLANTING SCHEDULE.
6. BOTTOM OF PERFORATED DRAIN PIPE SHALL BE SET AT 2½" ABOVE EXISTING SUBGRADE.

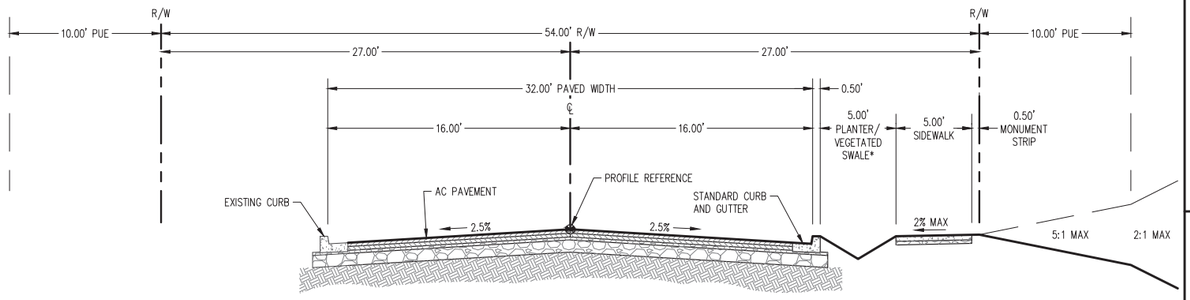
VEGETATED FILTRATION SWALE

NTS



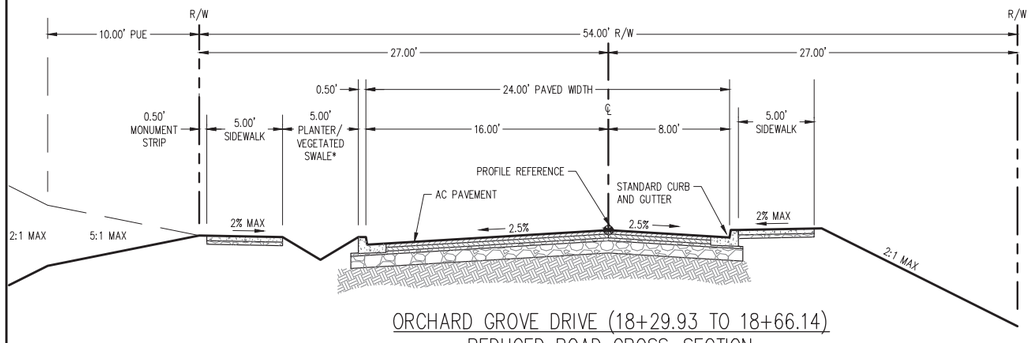
ORCHARD GROVE DRIVE (13+13.88 TO 17+74.83) AND
(26+52.82 TO 28+15.66)
SKELLENGER WAY (28+05.15 TO 29+45.52)
HALF STREET CROSS-SECTION

NOT TO SCALE



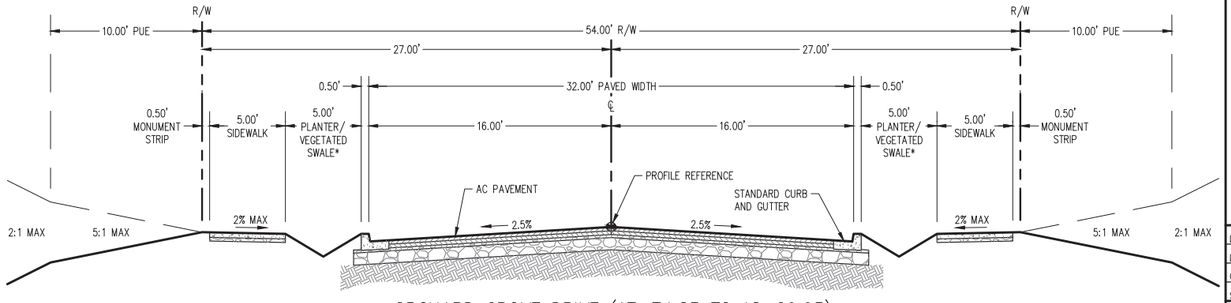
ORCHARD GROVE DRIVE (10+07.60 TO 12+37.17)
PARTIAL ROAD CROSS-SECTION

NOT TO SCALE



ORCHARD GROVE DRIVE (18+29.93 TO 18+66.14)
REDUCED ROAD CROSS-SECTION

NOT TO SCALE



*CONSTRUCT PLANTER/VEGETATED FILTRATION SWALE PER DETAIL ON THIS SHEET AND AT LOCATIONS AS INDICATED ON PLAN.

ORCHARD GROVE DRIVE (17+74.83 TO 18+29.93)
ORCHARD GROVE DRIVE (18+66.14 TO 26+52.82)
WINNIE WAY (30+00.00 TO 33+24.63)
WHEELER FARM ROAD (20+36.12 TO 26+25.80)
LARENCE LANE (12+61.90 TO 14+56.04)
WHEELER WAY (10+00.00 TO 15+93.31)
SKELLENGER WAY (29+45.52 TO 33+26.61)
TOLSTRUP DRIVE (65+26.97 TO 69+06.49)
ROAD CROSS-SECTION

NOT TO SCALE

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WHEELER FARMS

OREGON CITY OREGON

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

PRELIMINARY STREET CROSS-SECTIONS

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 13, 2004
MONTGOMERY B. HURLEY
RENEWAL DATE: 6/30/19

NOT FOR CONSTRUCTION

REVISIONS

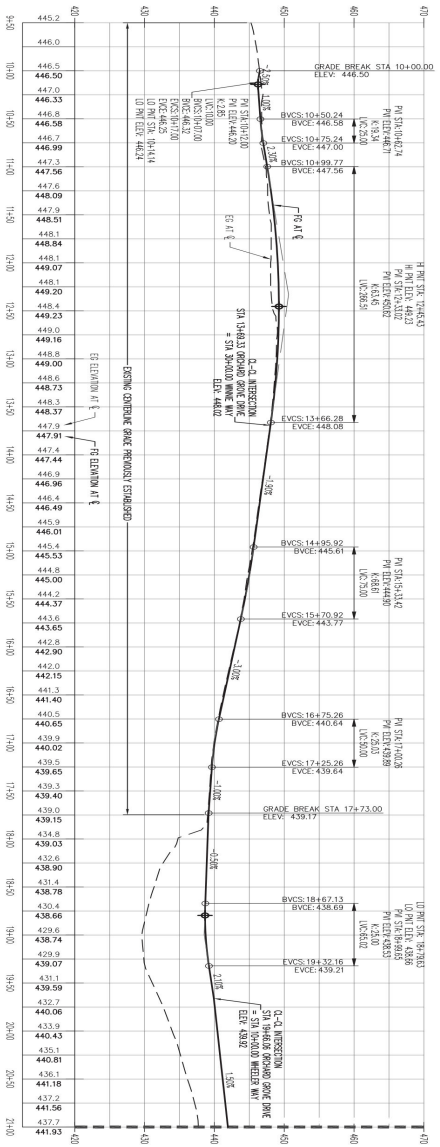
JOB NUMBER
5621

SHEET
P1-12

AKS DRAWING FILE: 5621 STREETS.DWG | LAYOUT: P1-12

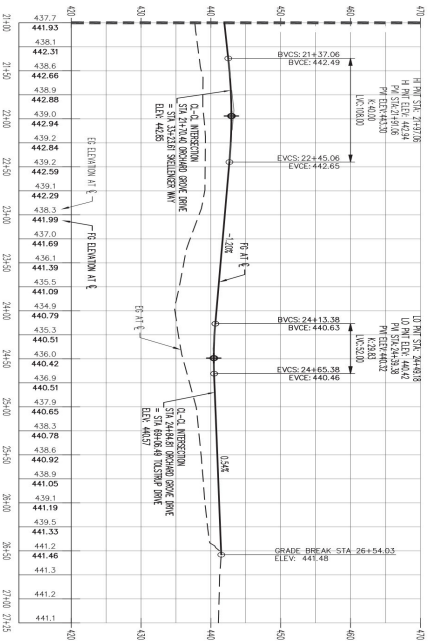
ORCHARD GROVE DRIVE [9+50 TO 21+00]

STA = 9+50 TO 21+00
Hor. Scale: 1" = 50'
Vert. Scale: 1" = 10'



ORCHARD GROVE DRIVE [21+00 TO 27+25]

STA = 21+00 TO 27+25
Hor. Scale: 1" = 50'
Vert. Scale: 1" = 10'



TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

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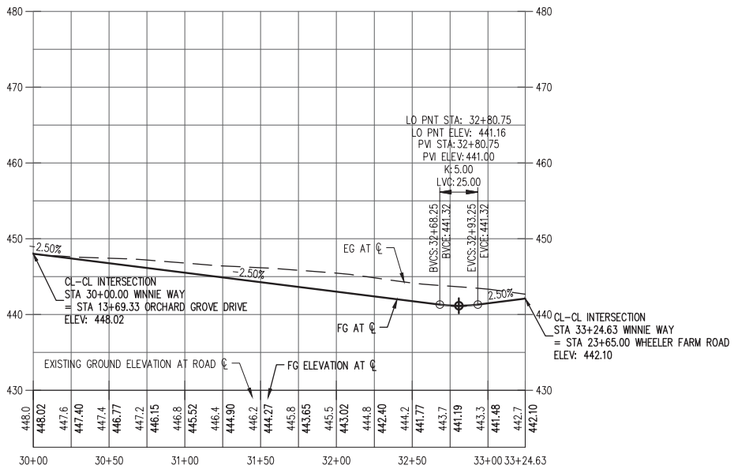
DESIGNED BY: VAN/ANC
DRAWN BY: ANC
CHECKED BY: MBR
SCALE: AS NOTED
DATE: 06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1995
MICHAEL B. ROBERTS
56542PE
RENEWAL DATE: 6/30/18

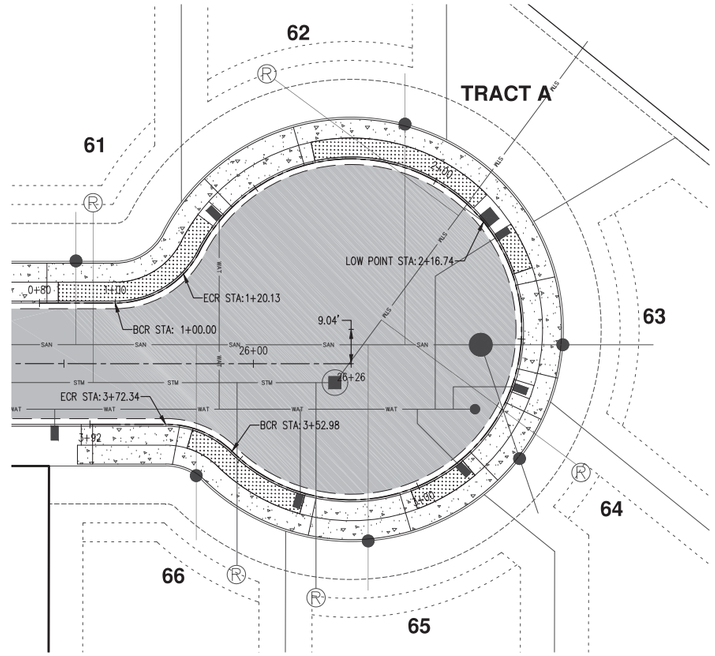
REVISIONS

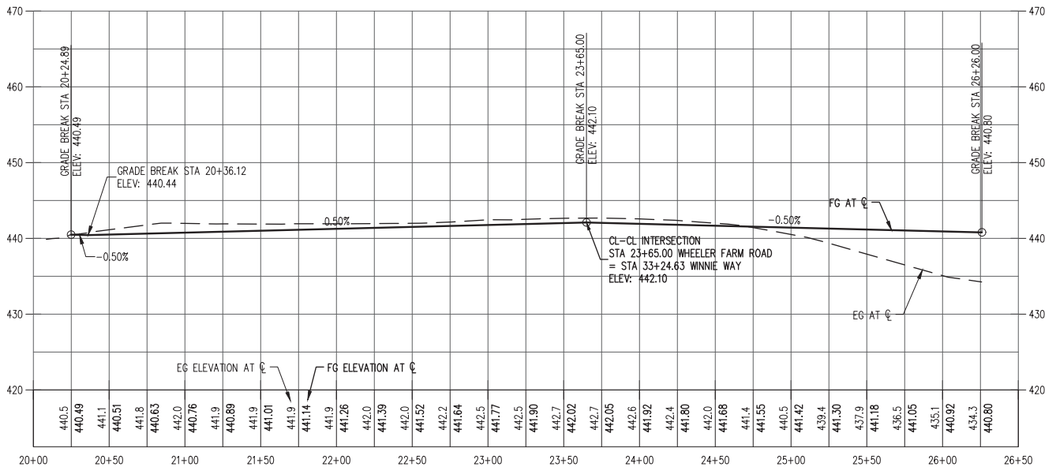
JOB NUMBER
5621

SHEET

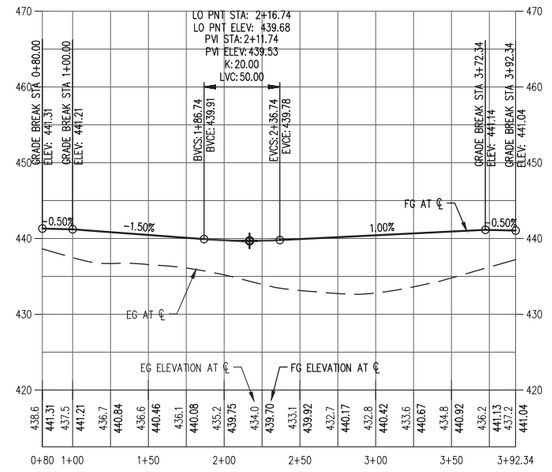


WINNIE WAY
STA = 30+00 TO 33+25
Hor. Scale: 1"= 50'
Vert. Scale: 1"= 10'





WHEELER FARM ROAD
STA = 20+00 TO 26+50
Hor. Scale: 1"= 50'
Vert. Scale: 1"= 10'



WHEELER FARM ROAD CUL-DE-SAC
STA = 0+80 TO 3+92
Hor. Scale: 1"= 50'
Vert. Scale: 1"= 10'

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WHEELER FARMS

OREGON

OREGON CITY
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

PRELIMINARY STREET PROFILES

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 06/20/2017

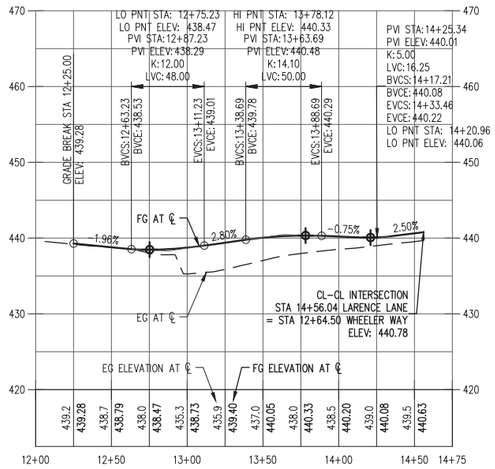
REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2007
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

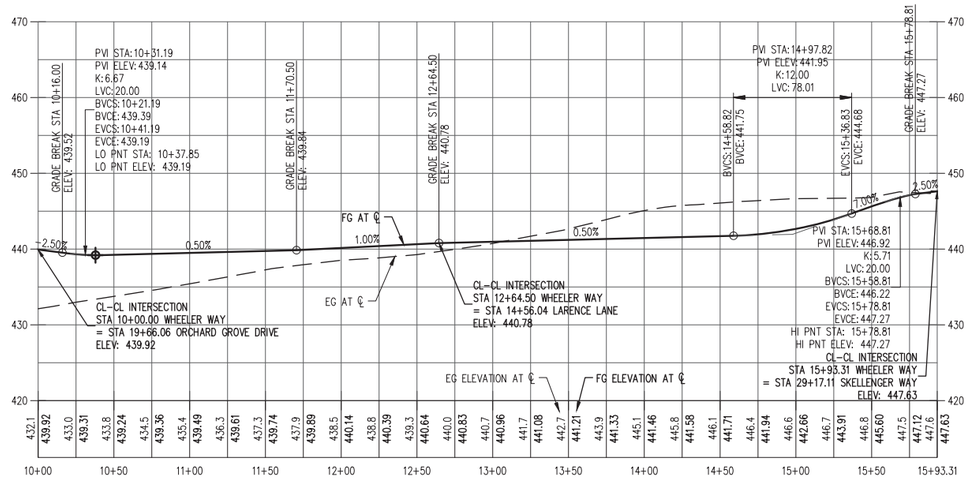
JOB NUMBER
5621

SHEET
P1-14

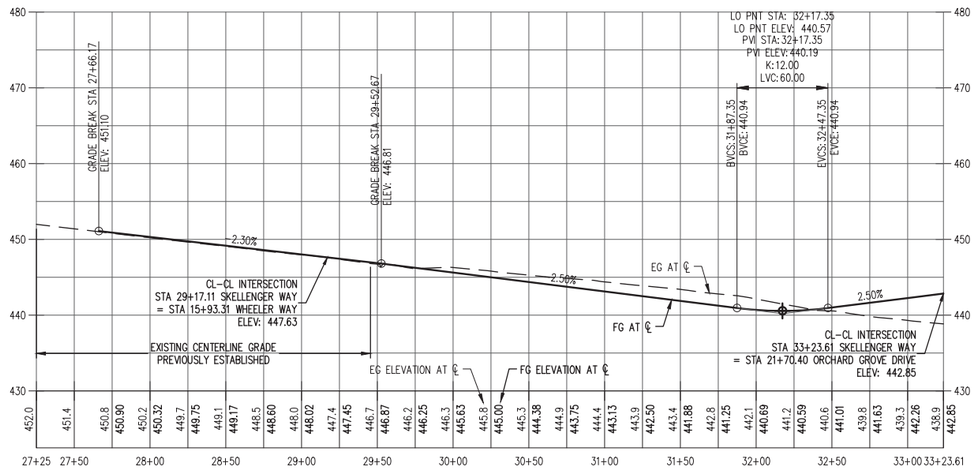
AKS DRAWING FILE: 5621 STREETS.DWG | LAYOUT: P1-14



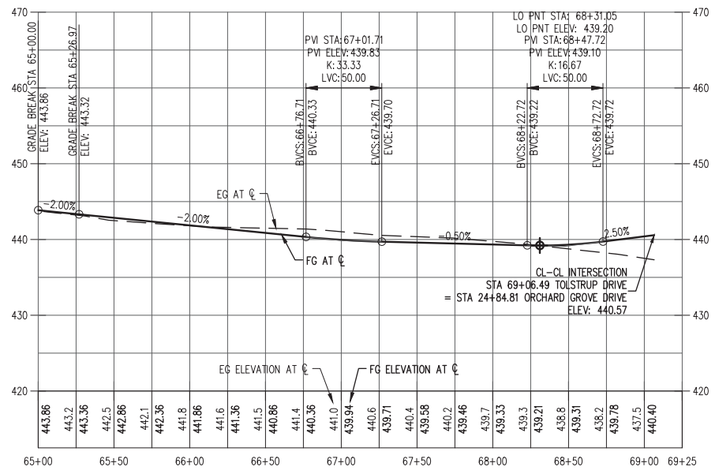
LARENCE LANE
STA = 12+00 TO 14+75
Hor. Scale: 1"= 50'
Vert. Scale: 1"= 10'



WHEELER WAY
STA = 10+00 TO 15+93
Hor. Scale: 1"= 50'
Vert. Scale: 1"= 10'



SKELLENGER WAY
STA = 27+25 TO 33+24
Hor. Scale: 1"= 50'
Vert. Scale: 1"= 10'



TOLSTRUP DRIVE
STA = 65+00 TO 69+25
Hor. Scale: 1"= 50'
Vert. Scale: 1"= 10'

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WHEELER FARMS

OREGON

OREGON CITY

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

PRELIMINARY STREET PROFILES

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2001
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION

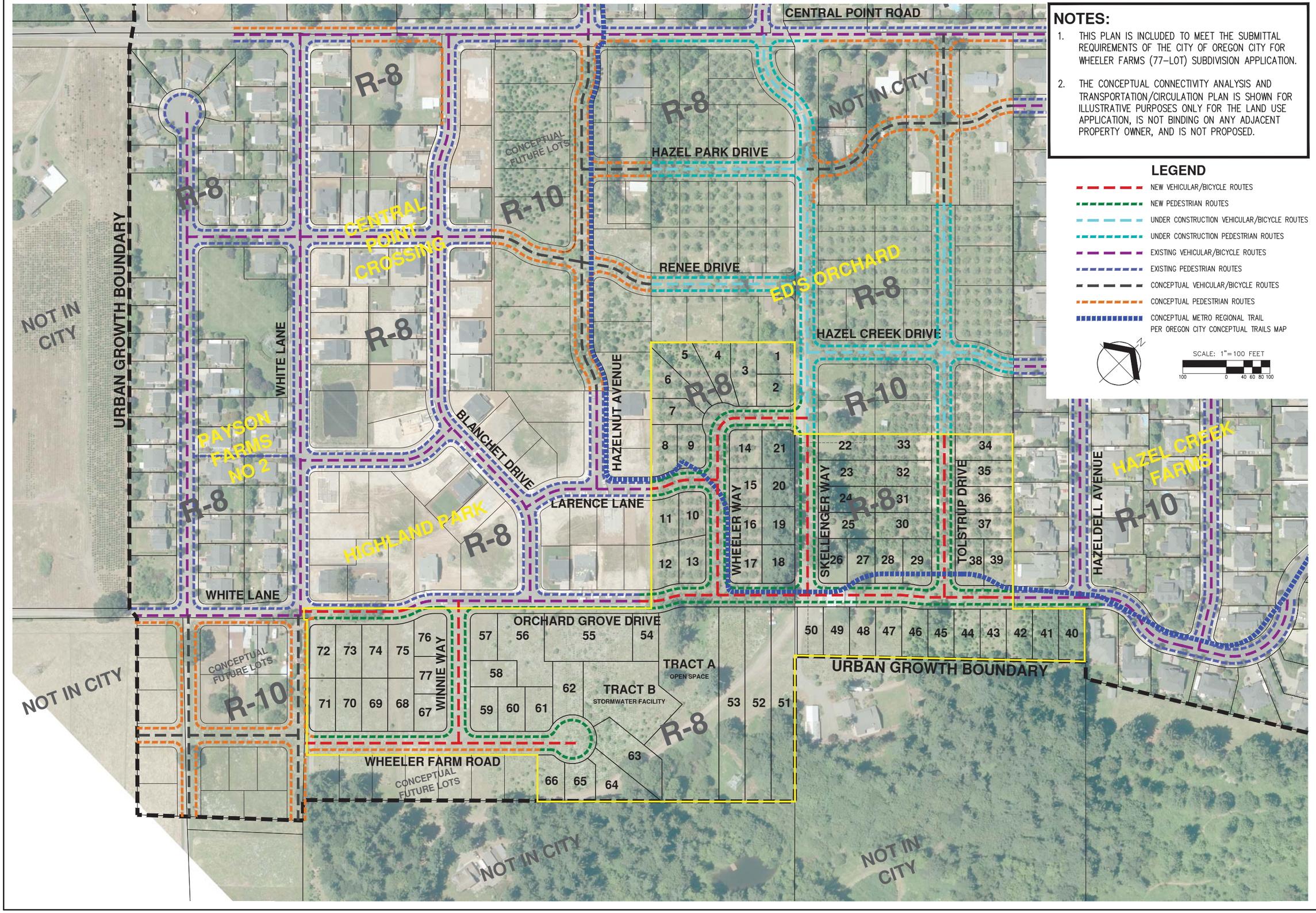
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-15

AKS DRAWING FILE: 5621 STREETS.DWG | LAYOUT: P1-15



NOTES:

1. THIS PLAN IS INCLUDED TO MEET THE SUBMITTAL REQUIREMENTS OF THE CITY OF OREGON CITY FOR WHEELER FARMS (77–LOT) SUBDIVISION APPLICATION.
2. THE CONCEPTUAL CONNECTIVITY ANALYSIS AND TRANSPORTATION/CIRCULATION PLAN IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY FOR THE LAND USE APPLICATION, IS NOT BINDING ON ANY ADJACENT PROPERTY OWNER, AND IS NOT PROPOSED.

LEGEND

- NEW VEHICULAR/BICYCLE ROUTES
- NEW PEDESTRIAN ROUTES
- UNDER CONSTRUCTION VEHICULAR/BICYCLE ROUTES
- UNDER CONSTRUCTION PEDESTRIAN ROUTES
- EXISTING VEHICULAR/BICYCLE ROUTES
- EXISTING PEDESTRIAN ROUTES
- CONCEPTUAL VEHICULAR/BICYCLE ROUTES
- CONCEPTUAL PEDESTRIAN ROUTES
- CONCEPTUAL METRO REGIONAL TRAIL PER OREGON CITY CONCEPTUAL TRAILS MAP

SCALE: 1"=100 FEET

100 0 40 60 80 100

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WHEELER FARMS

OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

OREGON CITY
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

PRELIMINARY CONCEPTUAL CONNECTIVITY ANALYSIS, TRAFFIC/TRANSPORTATION, CIRCULATION, & CONCEPTUAL REDEVELOPMENT PLAN

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 15, 2008
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
MAY 9, 2012

RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-16

AKS DRAWING FILE: 5621 ORG.DWG | LAYOUT: P1-16

SCALE: 1"=50 FEET

50 0 20 30 40 50

PROFESSIONAL ARBORIST
ISA CERTIFIED ARBORIST

BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6666A
EXPIRATION DATE: 12/31/17

TAX LOT 2501
TAX MAP 3 1E 12DD
LOT 21
"PAYSON FARMS NO 2"

TAX LOT 2502
TAX MAP 3 1E 12DD
LOT 22
"PAYSON FARMS NO 2"

TAX LOT 2503
TAX MAP 3 1E 12DD
LOT 23
"PAYSON FARMS NO 2"

TAX LOT 2504
TAX MAP 3 1E 12DD
LOT 24
"PAYSON FARMS NO 2"

TAX LOT 2505
TAX MAP 3 1E 12DD
LOT 25
"PAYSON FARMS NO 2"

TAX LOT 2506
TAX MAP 3 1E 12DD
LOT 26
"PAYSON FARMS NO 2"

TAX LOT 2507
TAX MAP 3 1E 12DD
LOT 27
"PAYSON FARMS NO 2"

TAX LOT 5500
TAX MAP 3 1E 12DA
LOT 26
"HIGHLAND PARK"

TAX LOT 5400
TAX MAP 3 1E 12DA
LOT 25
"HIGHLAND PARK"

TAX LOT 5300
TAX MAP 3 1E 12DA
LOT 24
"HIGHLAND PARK"

TAX LOT 5600
TAX MAP 3 1E 12DA
LOT 27
"HIGHLAND PARK"

TAX LOT 5700
TAX MAP 3 1E 12DA
LOT 28
"HIGHLAND PARK"

TAX LOT 5800
TAX MAP 3 1E 12DA
LOT 29
"HIGHLAND PARK"

TAX LOT 5900
TAX MAP 3 1E 12DA
LOT 30
"HIGHLAND PARK"

TAX LOT 6000
TAX MAP 3 1E 12DA
LOT 31
"HIGHLAND PARK"

TAX LOT 6100
TAX MAP 3 1E 12DA
LOT 32
"HIGHLAND PARK"

TAX LOT 3800
TAX MAP 3 1E 12DA
LOT 9
"HIGHLAND PARK"
SHED

TAX LOT 3900
TAX MAP 3 1E 12DA
LOT 10
"HIGHLAND PARK"

TAX LOT 4000
TAX MAP 3 1E 12DA
LOT 11
"HIGHLAND PARK"
15.00' STORM DRAINAGE EASEMENT

TAX LOT 4400
TAX MAP 3 1E 12DA
LOT 15
"HIGHLAND PARK"

TAX LOT 4800
TAX MAP 3 1E 12DA
LOT 19
"HIGHLAND PARK"

TAX LOT 4700
TAX MAP 3 1E 12DA
LOT 18
"HIGHLAND PARK"

TAX LOT 4600
TAX MAP 3 1E 12DA
LOT 17
"HIGHLAND PARK"

TAX LOT 4500
TAX MAP 3 1E 12DA
LOT 16
"HIGHLAND PARK"

HAZELNUT AVENUE
LARENCE LANE
BLANCHET DRIVE
WHEELER WAY
SKELLENGER WAY
WHITE LANE
ORCHARD GROVE DRIVE
WINNIE WAY
WHEELER FARM ROAD

INGRESS AND EGRESS EASEMENT PER DOC. NO. 94-034242 AND DOC. NO. 94-034243

INGRESS AND EGRESS EASEMENT

125.00' ELECTRIC TRANSMISSION LINE EASEMENT PER BOOK 619 PAGE 452

TRACT A
VOLUNTARY OPEN SPACE

TRACT B
STORMWATER FACILITY

10.00' PUE

FLAGPOLE

SHOP

GRAVEL

ARBORIST OBSERVATION REQUIRED DURING TREE REMOVAL BEHIND TREE PROTECTION FENCING

TAX LOT 1201
TAX MAP 3 2E 07C

LEGEND

- FINISH GRADE CONTOUR (1 FT)
- FINISH GRADE CONTOUR (5 FT) — 450
- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT) — 450
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO REMAIN
- TREE PROTECTION FENCE (4' HIGH ORANGE PLASTIC MESH BARRIER FENCING)
- OPTIMAL TREE ROOT PROTECTION ZONE (1-FOOT RADIUS PER 1-INCH DBH)

NOTE:

THIS PLAN DOES NOT INCLUDE THE TREES THAT COMPRISE THE EXISTING ORCHARDS. THE MAJORITY OF THESE TREES/ORCHARDS HAVE BEEN DETERMINED BY THE PROJECT ARBORIST TO BE DEAD, DISEASED, AND/OR DYING. THIS PLAN ALSO DOES NOT INCLUDE THE CHRISTMAS TREES OR OVERGROWN CHRISTMAS TREES. ADDITIONALLY, THESE PROPERTIES ARE IN FARM DEFERRAL WITH THE CLACKAMAS COUNTY TAX ASSESSOR AND ARE EXEMPT FROM TREE PROTECTION REGULATIONS PER OCMC 17.41.040 AND OCMC 17.41.060.

SEE SHEET P1-19 FOR TREE RESERVATION, REMOVAL, AND MITIGATION TABLE

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TUALATIN, OR 97062
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WHEELER FARMS

OREGON CITY OREGON

TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

PRELIMINARY TREE PRESERVATION & REMOVAL PLAN

DESIGNED BY:
DRAWN BY:
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 04/19/2017

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
OREGON
PRELIMINARY NOT FOR CONSTRUCTION
CASSANDRA B. HURLEY
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-17

AKS DRAWING FILE: 5621 TREE.DWG | LAYOUT: P1-17

SCALE: 1"=50 FEET

50 0 20 30 40 50

CERTIFIED ARBORIST

BRUCE R. BALDWIN

CERTIFICATE NUMBER: PN-6666A

EXPIRATION DATE: 12/31/17

LEGEND

- FINISH GRADE CONTOUR (1 FT)
- FINISH GRADE CONTOUR (5 FT) — 450
- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT) — 450
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO REMAIN
- TREE PROTECTION FENCE (4' HIGH ORANGE PLASTIC MESH BARRIER FENCING)
- OPTIMAL TREE ROOT PROTECTION ZONE (1-FOOT RADIUS PER 1-INCH DBH)

NOTE:

THIS PLAN DOES NOT INCLUDE THE TREES THAT COMPRISE THE EXISTING ORCHARDS. THE MAJORITY OF THESE TREES/ORCHARDS HAVE BEEN DETERMINED BY THE PROJECT ARBORIST TO BE DEAD, DISEASED, AND/OR DYING. THIS PLAN ALSO DOES NOT INCLUDE THE CHRISTMAS TREES OR OVERGROWN CHRISTMAS TREES. ADDITIONALLY, THESE PROPERTIES ARE IN FARM DEFERRAL WITH THE CLACKAMAS COUNTY TAX ASSESSOR AND ARE EXEMPT FROM TREE PROTECTION REGULATIONS PER OCMC 17.41.040 AND OCMC 17.41.060.

SEE SHEET P1-19 FOR TREE RESERVATION, REMOVAL, AND MITIGATION TABLE

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WHEELER FARMS

OREGON CITY OREGON

TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

PRELIMINARY TREE PRESERVATION & REMOVAL PLAN

DESIGNED BY:
DRAWN BY:
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 04/19/2017

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT OREGON MONTGOMERY B. HURLEY MAY 8, 2002

PRELIMINARY NOT FOR CONSTRUCTION

RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER 5621

SHEET P1-18

AKS DRAWING FILE: 5621 TREE.DWG | LAYOUT: P1-18

Detailed Tree Inventory for Wheeler Farms

AKS Job No. 5621 - Tree Evaluation: 4/13/2017

Tree #	DBH (in.)	Equivalent DBH (in.)[1]	Tree Species Common Name (*Scientific name*)	Comments	Health Rating*	Structure Rating**	Remove/ Preserve	Within Construction Area[2]	Mitigation Required	Mitigation Trees Required[3]
10010	43	43	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	5
10012	54	54	Douglas-fir (*Pseudotsuga menziesii*)	Preserved at the Client's request	1	1	Preserve	Yes	No	0
10018	52	52	Douglas-fir (*Pseudotsuga menziesii*)	Preserved at the Client's request	1	1	Preserve	No	No	0
10029	33	33	Douglas-fir (*Pseudotsuga menziesii*)	Preserved at the Client's request	1	1	Preserve	No	No	0
10030	59	59	Douglas-fir (*Pseudotsuga menziesii*)	Preserved at the Client's request	1	1	Preserve	No	No	0
10033	58	58	Douglas-fir (*Pseudotsuga menziesii*)	Codominant 8' from ground with included bark; Preserved at the Client's request	1	2	Preserve	No	No	0
10057	59	59	Douglas-fir (*Pseudotsuga menziesii*)	Codominant 5' from ground with included bark	1	2	Preserve	Yes	No	0
20114	28	28	Giant Sequoia (*Sequoiadendron giganteum*)	**OFFSITE**	1	1	Preserve	No	No	0
30558	37	37	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
30559	7	7	Cedar (*Cedrus sp.*)		1	1	Preserve	No	No	0
30560	7	7	Cedar (*Cedrus sp.*)		1	1	Preserve	No	No	0
30561	7	7	Cedar (*Cedrus sp.*)		1	1	Preserve	No	No	0
30562	39	39	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
30563	31	31	Douglas-fir (*Pseudotsuga menziesii*)	Sweep	1	1	Preserve	No	No	0
30564	44	44	Douglas-fir (*Pseudotsuga menziesii*)	Sap flow	1	1	Preserve	No	No	0
30566	15	15	Douglas-fir (*Pseudotsuga menziesii*)	Scar at base	1	1	Preserve	No	No	0
30567	10	10	Douglas-fir (*Pseudotsuga menziesii*)	Sweep	1	1	Preserve	No	No	0
30568	46	46	Douglas-fir (*Pseudotsuga menziesii*)	Broken branches	1	1	Preserve	No	No	0
30569	10	10	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
30570	15	15	Douglas-fir (*Pseudotsuga menziesii*)	Crooked	1	2	Preserve	No	No	0
30571	12	12	Douglas-fir (*Pseudotsuga menziesii*)	**OFFSITE**	1	1	Preserve	No	No	0
30572	15	15	Douglas-fir (*Pseudotsuga menziesii*)	**OFFSITE**	1	1	Preserve	No	No	0
30574	14	14	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
30575	10	10	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
30577	9	9	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
30578	9	9	Douglas-fir (*Pseudotsuga menziesii*)	**OFFSITE;** Crooked	1	2	Preserve	No	No	0
30579	13	13	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
30581	17	17	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
30582	12	12	Douglas-fir (*Pseudotsuga menziesii*)	Very sparse foliage; Scar at base	3	2	Preserve	No	No	0
30583	9	9	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
30598	37	37	Douglas-fir (*Pseudotsuga menziesii*)	**OFFSITE;** Broken branches; Dead branches	2	2	Preserve	No	No	0
30599	11	11	Douglas-fir (*Pseudotsuga menziesii*)	**OFFSITE**	1	1	Preserve	No	No	0
30600	13	13	Douglas-fir (*Pseudotsuga menziesii*)	**OFFSITE;** Crooked	1	2	Preserve	No	No	0
30602	12	12	Douglas-fir (*Pseudotsuga menziesii*)	**OFFSITE**	1	1	Preserve	No	No	0
30605	14	14	Cedar (*Cedrus sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
30669	32	32	Willow (*Salix sp.*)	**OFFSITE;** Broken top; Broken branches; Sparse foliage; Cavities; Decay	2	3	Preserve	No	No	0
30670	13	13	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	2
30672	31	31	Willow (*Salix sp.*)	Bore holes; Broken branches; Decay at breaks	2	3	Remove	No	No	0
30673	14	14	Willow (*Salix sp.*)	Crooked; Lean (E)	1	2	Remove	No	Yes	6
30674	10	10	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	No	Yes	3
30675	17,20	26	Willow (*Salix sp.*)	Codominant; Bulges at base	1	2	Remove	No	Yes	12
30676	24	24	Oregon Oak (*Quercus garryana*)	Lean (W)	1	2	Remove	Yes	Yes	3
30893	10	10	Douglas-fir (*Pseudotsuga menziesii*)	**OFFSITE**	1	1	Preserve	No	No	0
30929	10	10	Willow (*Salix sp.*)		1	1	Remove	Yes	Yes	1
30970	6,6	8	English Hawthorn (*Crataegus monogyna*)	Codominant; Bore holes	1	2	Remove	Yes	Yes	1
32171	10	10	Cherry (*Prunus sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
32172	9	9	Cherry (*Prunus sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
32175	21	21	Spruce (*Picea sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
32180	9	9	Cherry (*Prunus sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
32190	17	17	European White Birch (*Betula pendula*)	**OFFSITE;** Bore holes	1	2	Preserve	No	No	0
32191	7	7	European White Birch (*Betula pendula*)	**OFFSITE;** Bore holes	1	2	Preserve	No	No	0
32192	14	14	European White Birch (*Betula pendula*)	**OFFSITE;** Bore holes	1	2	Preserve	No	No	0
32193	20	20	European White Birch (*Betula pendula*)	**OFFSITE;** Bore holes	1	2	Preserve	No	No	0
32194	14	14	European White Birch (*Betula pendula*)	**OFFSITE;** Bore holes	1	2	Preserve	No	No	0
32227	8,27	28	Willow (*Salix sp.*)	Codominant; Broken branches; Dead top; Decay	2	3	Remove	Yes	No	0
32229	12,14	18	Willow (*Salix sp.*)	Codominant	1	1	Preserve	Yes	No	0
32231	25	25	Willow (*Salix sp.*)	Snag	3	3	Preserve	Yes	No	0
32232	16	16	Douglas-fir (*Pseudotsuga menziesii*)	sweep; Crooked	1	2	Preserve	Yes	No	0
32235	7	7	Cherry (*Prunus sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
32236	27	27	Douglas-fir (*Pseudotsuga menziesii*)	**OFFSITE**	1	1	Preserve	No	No	0
32237	33	33	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32238	7	7	Bigleaf Maple (*Acer macrophyllum*)	**OFFSITE**	1	1	Preserve	No	No	0
32239	7,8,24	26	Bigleaf Maple (*Acer macrophyllum*)	Codominant	1	1	Preserve	Yes	No	0
32240	12	12	Bigleaf Maple (*Acer macrophyllum*)		1	1	Preserve	Yes	No	0
32241	9	9	Bigleaf Maple (*Acer macrophyllum*)		1	1	Preserve	Yes	No	0
32242	15	15	Bigleaf Maple (*Acer macrophyllum*)		1	1	Preserve	Yes	No	0
32243	40	40	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32245	21	21	Bigleaf Maple (*Acer macrophyllum*)		1	1	Preserve	Yes	No	0
32246	39	39	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32247	8	8	Willow (*Salix sp.*)	Cavity with decay	2	2	Preserve	Yes	No	0
32248	6,19	20	Bigleaf Maple (*Acer macrophyllum*)	Codominant; Large swell at base; Many large bulges	2	3	Preserve	No	No	0
32249	6	6	Bigleaf Maple (*Acer macrophyllum*)		1	1	Preserve	No	No	0
32250	8	8	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32251	20	20	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32252	10,11,17	23	Bigleaf Maple (*Acer macrophyllum*)	Codominant	1	1	Preserve	No	No	0
32253	7	7	Bigleaf Maple (*Acer macrophyllum*)		1	1	Preserve	Yes	No	0
32254	8	8	Cherry (*Prunus sp.*)		1	1	Preserve	Yes	No	0
32255	8	8	Bigleaf Maple (*Acer macrophyllum*)	**OFFSITE**	1	1	Preserve	No	No	0
32256	12	12	Bigleaf Maple (*Acer macrophyllum*)	**OFFSITE;** Sweep	2	2	Preserve	No	No	0
32257	8	8	Bigleaf Maple (*Acer macrophyllum*)	**OFFSITE;** Sweep	2	2	Preserve	No	No	0
32259	25	25	Douglas-fir (*Pseudotsuga menziesii*)	Crooked	1	2	Preserve	Yes	No	0
32260	11	11	DECIDUOUS	Whole tree failure	3	3	Preserve	Yes	No	0
32266	13,18	22	Oregon Oak (*Quercus garryana*)	Codominant	1	1	Preserve	No	No	0
32270	17	17	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32271	8	8	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32272	13	13	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32273	16	16	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32274	9	9	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32275	13	13	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32276	13	13	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32277	8	8	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32278	9	9	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32279	9	9	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0

Detailed Tree Inventory for Wheeler Farms

AKS Job No. 5621 - Tree Evaluation: 4/13/2017

Tree #	DBH (in.)	Equivalent DBH (in.)[1]	Tree Species Common Name (*Scientific name*)	Comments	Health Rating*	Structure Rating**	Remove/ Preserve	Within Construction Area[2]	Mitigation Required	Mitigation Trees Required[3]
32280	12	12	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32281	8	8	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32282	8	8	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32283	11,14	18	Douglas-fir (*Pseudotsuga menziesii*)	Codominant	1	1	Preserve	No	No	0
32284	12	12	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32285	17	17	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32286	12	12	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32287	7	7	Pacific Madrone (*Arbutus menziesii*)	Significant lean (W)	1	2	Preserve	No	No	0
32288	17	17	Douglas-fir (*Pseudotsuga menziesii*)	Crooked top	1	2	Preserve	No	No	0
32289	20	20	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32290	14,17	22	Willow (*Salix sp.*)	Codominant; 17" Stem - Crooked; 14" Stem - Broken top	2	2	Preserve	No	No	0
32291	20	20	Bigleaf Maple (*Acer macrophyllum*)	Broken scaffold; Decay; Broken branches	2	2	Preserve	No	No	0
32292	17	17	Douglas-fir (*Pseudotsuga menziesii*)	Very crooked; Broken stem; Decay	2	3	Preserve	Yes	No	0
32293	37	37	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32294	31	31	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	Yes	No	0
32295	22	22	Willow (*Salix sp.*)		1	1	Preserve	Yes	No	0
32296	12	12	Douglas-fir (*Pseudotsuga menziesii*)	Crooked	1	2	Preserve	Yes	No	0
32297	13	13	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32299	11	11	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32300	37	37	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Preserve	No	No	0
32312	12	12	Willow (*Salix sp.*)		1	1	Preserve	No	No	0
32313	8	8	DECIDUOUS	Snag	3	3	Preserve	No	No	0
32314	18	18	Willow (*Salix sp.*)	Broken top; Decay	2	2	Preserve	No	No	0
32315	11,19	22	Willow (*Salix sp.*)	Codominant; 14" Stem - Large cavity with decay	2	2	Preserve	No	No	0
32326	36	36	Oregon Oak (*Quercus garryana*)	Broken top; Decay; Broken branches	2	3	Preserve	No	No	0
32329	15	15	Bigleaf Maple (*Acer macrophyllum*)		1	1	Preserve	No	No	0
32330	8	8	Bigleaf Maple (*Acer macrophyllum*)		1	1	Preserve	No	No	0
32331	19	19	Bigleaf Maple (*Acer macrophyllum*)	Broken branches; Broken top; Decay	3	3	Remove	No	No	0
32332	20	20	Bigleaf Maple (*Acer macrophyllum*)	Bulges on bole	2	2	Preserve	No	No	0
32333	27	27	Oregon Oak (*Quercus garryana*)		1	1	Preserve	No	No	0
32334	22,24	33	Willow (*Salix sp.*)	Codominant; Crooked	1	2	Preserve	Yes	No	0
32335	20	20	Willow (*Salix sp.*)	Broken scaffold; Significant decay; Crooked	2	3	Remove	Yes	No	0
32336	12,21	24	Bigleaf Maple (*Acer macrophyllum*)	Codominant; Large bulges on bole; Broken top; Decay	2	3	Remove	No	No	0
32337	40	40	Bigleaf Maple (*Acer macrophyllum*)	Sweep	1	2	Preserve	No	No	0
32362	8	8	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32363	7	7	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32364	7	7	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32365	8	8	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32366	6	6	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32367	6	6	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32368	7	7	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32369	7	7	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32370	11	11	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32371	8	8	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32372	10,13	16	Cedar (*Cedrus sp.*)	**OFFSITE;** Codominant	1	1	Preserve	No	No	0
32373	13	13	Cedar (*Cedrus sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
32374	14	14	Cedar (*Cedrus sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
32375	7	7	Fir (*Abies sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
32380	6,6	8	English Hawthorn (*Crataegus monogyna*)	Codominant	1	1	Remove	No	Yes	3
32404	7	7	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32405	7	7	Grand Fir (*Abies grandis*)	**OFFSITE**	1	1	Preserve	No	No	0
32623	12	12	Bigleaf Maple (*Acer macrophyllum*)		1	1	Preserve	No	No	0
50078	26	26	Oregon Oak (*Quercus garryana*)		1	1	Preserve	No	No	0
50253	4	4	Deciduous	**OFFSITE;** Not evaluated by an Arborist	1	1	Preserve	No	No	0
50254	5	5	Deciduous	**OFFSITE;** Not evaluated by an Arborist	1	1	Preserve	No	No	0

Total # of Existing Trees Inventoried = 148
Total # of Trees to be Removed Requiring Mitigation = 9
Total # of Mitigation Trees Required = 36

Total # of Onsite Trees = 104
Total # of Onsite Trees to be Preserved = 90
Total # of Onsite Trees to be Removed = 14

Total # of Offsite Trees = 44
Total # of Offsite Trees to be Preserved = 44
Total # of Offsite Trees to be Removed = 0

[1]Equivalent DBH (in.):
Equivalent DBH (in.) Based on Basal Area.

[2]Within Construction Area:
Construction area is defined as right-of-way, public utility easements, and within the building footprint of a building site for any mixed-use, commercial or industrial development, or if a residential development, within the allowable building footprint permitted by the setback requirements of the zone district. (Per OCMC 17.04.230)

[3]Mitigation Trees Required:
Per Tree Replacement Requirements Table 17.41.060-1 OCMC

***Health Rating:**
1 = Good Health - A tree that exhibits typical foliage, bark, and root characteristics, for its respective species, shows no signs of infection or infestation, and has a high level of vigor and vitality.
2 = Fair Health - A tree that exhibits some abnormal health characteristics and/or shows some signs of infection or infestation, but may be reversed or abated with supplemental treatment.
3 = Poor Health - A tree that is in significant decline, to the extent that supplemental treatment would not likely result in reversing or abating its decline.

****Structure Rating:**
1 = Good Structure - A tree that exhibits typical physical form characteristics, for its respective species, shows no signs of structural defects of the canopy, trunk, and/or root system.
2 = Fair Structure - A tree that exhibits some abnormal physical form characteristics and/or some signs of structural defects, which reduce the structural integrity of the tree, but are not indicative of imminent physical failure, and may be corrected using arboricultural abatement methods.
3 = Poor Structure - A tree that exhibits extensively abnormal physical form characteristics and/or significant structural defects that substantially reduces the structural viability of the tree, cannot feasibly be abated, and are indicative of imminent physical failure.

Arborist Disclosure Statement:
Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees. Neither this author nor AKS Engineering & Forestry, LLC have assumed any responsibility for liability associated with the trees on or adjacent to this site.

At the completion of construction, all trees should once again be reviewed. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.

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ENGINEERING • SURVEYING • NATURAL RESOURCES
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WHEELER FARMS

OREGON CITY — OREGON
TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 — CLACKAMAS CO., TAX MAPS 3S2E07C, 3S1E12D

PRELIMINARY TREE PRESERVATION AND REMOVAL TABLE

DESIGNED BY:
DRAWN BY:
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 04/19/2017

REGISTERED PROFESSIONAL FORESTER — OREGON — MONTGOMERY B. HURLEY — EXPIRES: JULY 1, 2019 — PRELIMINARY — NOT FOR CONSTRUCTION

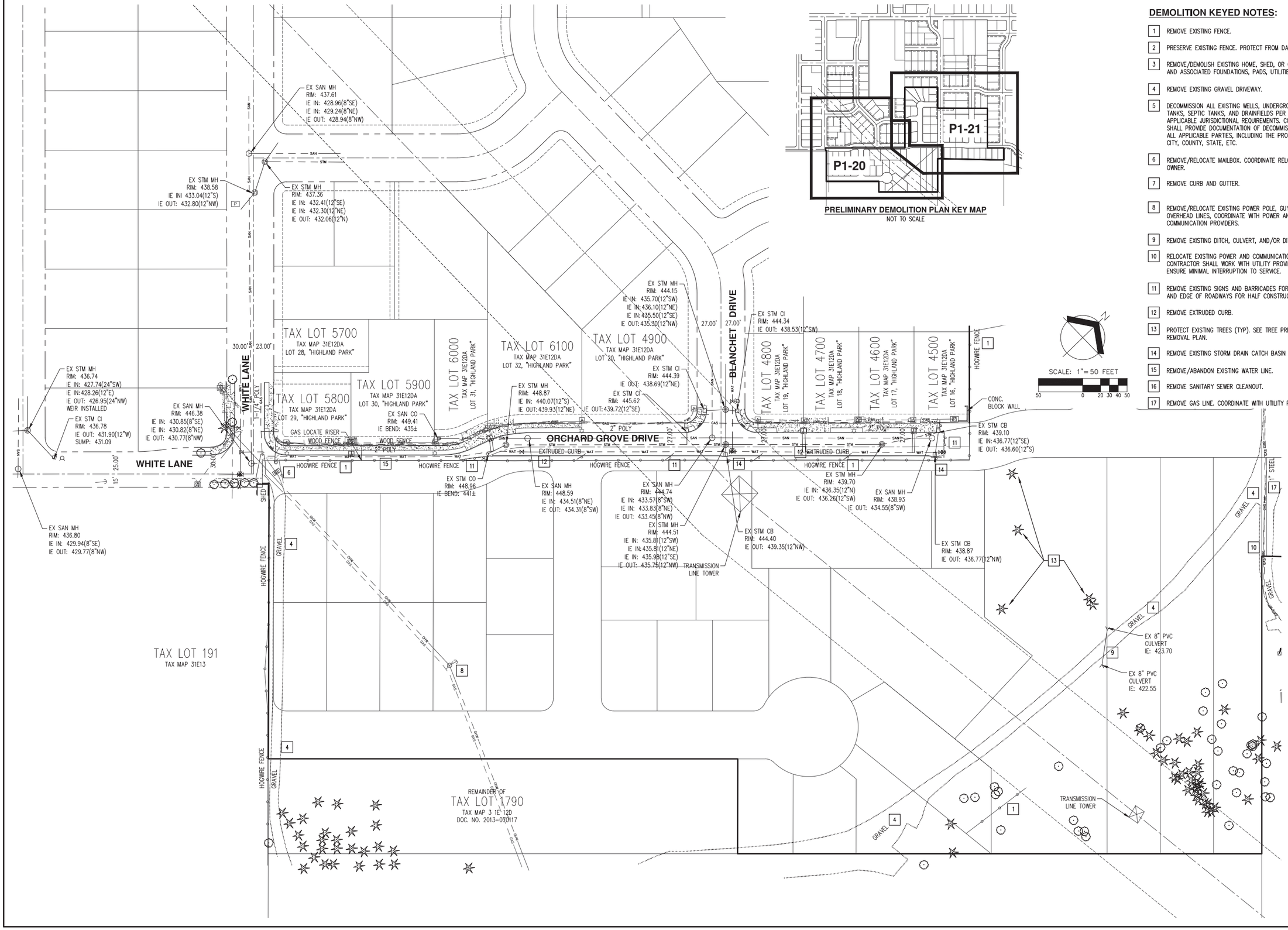
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER 5621

SHEET P1-19

AKS DRAWING FILE: 5621 TREE TABLE.DWG | LAYOUT: P1-19



PRELIMINARY DEMOLITION PLAN KEY MAP
NOT TO SCALE

DEMOLITION KEYED NOTES:

1. REMOVE EXISTING FENCE.
2. PRESERVE EXISTING FENCE. PROTECT FROM DAMAGE.
3. REMOVE/DEMOLISH EXISTING HOME, SHED, OR CONTAINER, AND ASSOCIATED FOUNDATIONS, PADS, UTILITIES, ETC.
4. REMOVE EXISTING GRAVEL DRIVEWAY.
5. DECOMMISSION ALL EXISTING WELLS, UNDERGROUND FUEL TANKS, SEPTIC TANKS, AND DRAINFIELDS PER ALL APPLICABLE JURISDICTIONAL REQUIREMENTS. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF DECOMMISSIONING TO ALL APPLICABLE PARTIES, INCLUDING THE PROJECT ENGINEER, CITY, COUNTY, STATE, ETC.
6. REMOVE/RELOCATE MAILBOX. COORDINATE RELOCATION WITH OWNER.
7. REMOVE CURB AND GUTTER.
8. REMOVE/RELOCATE EXISTING POWER POLE, GUY WIRES, AND OVERHEAD LINES, COORDINATE WITH POWER AND COMMUNICATION PROVIDERS.
9. REMOVE EXISTING DITCH, CULVERT, AND/OR DITCH INLET.
10. RELOCATE EXISTING POWER AND COMMUNICATION LINES. CONTRACTOR SHALL WORK WITH UTILITY PROVIDERS TO ENSURE MINIMAL INTERRUPTION TO SERVICE.
11. REMOVE EXISTING SIGNS AND BARRICADES FOR END OF ROAD AND EDGE OF ROADWAYS FOR HALF CONSTRUCTED STREETS
12. REMOVE EXTRUDED CURB.
13. PROTECT EXISTING TREES (TYP). SEE TREE PRESERVATION AND REMOVAL PLAN.
14. REMOVE EXISTING STORM DRAIN CATCH BASIN AND LEAD.
15. REMOVE/ABANDON EXISTING WATER LINE.
16. REMOVE SANITARY SEWER CLEANOUT.
17. REMOVE GAS LINE. COORDINATE WITH UTILITY PROVIDER.

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FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

WHEELER FARMS
OREGON

OREGON CITY
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

PRELIMINARY DEMOLITION PLAN

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 06/20/2017	

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 08, 2005
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
DATE: JUNE 9, 2017
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-20

AKS DRAWING FILE: 5621 DEMO.DWG | LAYOUT: P1-20

RENEE WAY

LOT 20 "ED'S ORCHARD" | LOT 21 "ED'S ORCHARD" | LOT 22 "ED'S ORCHARD" | LOT 23 "ED'S ORCHARD"

EX SAN MH RIM: 451.03 IE IN: 439.04(8"NW) IE IN: 439.00(8"SE) IE OUT: 438.84(8"NE)

HAZEL CREEK DRIVE

EX STM MH RIM: 450.77 IE IN: 441.43(15"NW) IE IN: 441.33(12"SE) IE IN: 443.13(12"E) IE OUT: 441.41(12"S)

EX STM CI RIM: 450.32 IE OUT: 446.99(12"N)

EX SAN MH RIM: 446.99 IE OUT: 439.69(8"NW)

SKELLENGER WAY

TOLSTRUP DRIVE

LOT 38 "ED'S ORCHARD" | LOT 39 "ED'S ORCHARD" | LOT 37 "ED'S ORCHARD" | LOT 36 "ED'S ORCHARD"

EX STM MH RIM: 446.82 LOT 40 "ED'S ORCHARD" IE IN: 442.43(12"SW) IE IN: 442.63(12"NE) IE OUT: 442.19(12"NW)

EX SAN MH RIM: 443.32 IE OUT: 438.29(8"NW)

EX STM MH RIM: 443.35

EX STM AD RIM: 446.77 IE OUT: 443.48(12"NE)

EX STM CI RIM: 446.94 IE OUT: 443.95(12"SW)

POSSIBLE WELL

EX STM CI RIM: 443.40 IE OUT: 440.81(12"N)

EX STM CI RIM: 443.31 IE OUT: 440.84(12"W)

TAX LOT 1500
TAX MAP 31E12D

EX STM MH RIM: 443.48 IE OUT: 435.43(16"SE)

TAX LOT 3800
TAX MAP 31E12DA
LOT 9, "HIGHLAND PARK"

SHED

TAX LOT 3900
TAX MAP 31E12DA
LOT 10, "HIGHLAND PARK"

TAX LOT 4000
TAX MAP 31E12DA
LOT 11, "HIGHLAND PARK"

HAZELNUT AVENUE

EX SAN MH RIM: 440.28 IE IN: 433.65(8"NW) IE IN: 433.67(8"NE) IE OUT: 433.50(8"SW)

EX STM CI RIM: 438.50 IE IN: 436.19(6"SE) IE OUT: 436.03(12"W)

EX STM MH RIM: 437.72 IE IN: 434.93(16"NW) IE OUT: 434.83(16"SE)

EX 16" DI OUTFALL IE: 434.78

LARENCE LANE

EX STM CB RIM: 440.03 IE IN: 435.63(12"NE) IE IN: 435.60(12"NW) IE OUT: 435.53(12"SW)

EX STM MH RIM: 438.86 IE IN: 435.92(12"N) IE IN: 435.93(12"E) IE OUT: 435.83(12"SW)

TAX LOT 4400
TAX MAP 31E12DA
LOT 15, "HIGHLAND PARK"

TAX LOT 4500
TAX MAP 31E12DA
LOT 16, "HIGHLAND PARK"

TAX LOT 4600
TAX MAP 31E12DA
LOT 17, "HIGHLAND PARK"

TAX LOT 4700
TAX MAP 31E12DA
LOT 18, "HIGHLAND PARK"

TAX LOT 4800
TAX MAP 31E12DA
LOT 19, "HIGHLAND PARK"

EX STM CI RIM: 444.34 IE OUT: 438.53(12"SW)

HOGWIRE FENCE

CONC. BLOCK WALL

EX STM CB RIM: 439.10 IE IN: 436.77(12"SE) IE OUT: 436.60(12"S)

12" EXTRUDED CURB

EX STM MH RIM: 439.70 IE IN: 436.35(12"N) IE OUT: 436.26(12"SW)

EX SAN MH RIM: 438.93 IE OUT: 434.55(8"SW)

EX STM CB RIM: 444.40 IE OUT: 439.35(12"NW)

EX STM CB RIM: 438.87 IE OUT: 436.77(12"NW)

GRAVEL

EX 8" PVC CULVERT IE: 423.70

EX 8" PVC CULVERT

FLAGPOLE

WELL HEAD

TAX LOT 1101
TAX MAP 32E07C

TAX LOT 4300
TAX MAP 32E07CB
LOT 43, "HAZEL CREEK FARMS"

TAX LOT 4400
TAX MAP 32E07CB
LOT 44, "HAZEL CREEK FARMS"

TAX LOT 4500
TAX MAP 32E07CB
LOT 45, "HAZEL CREEK FARMS"

TAX LOT 4600
TAX MAP 32E07CB
LOT 46, "HAZEL CREEK FARMS"

TAX LOT 4700
TAX MAP 32E07CB
LOT 47, "HAZEL CREEK FARMS"

TAX LOT 4800
TAX MAP 32E07CB
LOT 48, "HAZEL CREEK FARMS"

WOOD FENCE

HAZELDELL AVENUE

EX SAN CO RIM: 441.51 IE BEND: 435±

2" POLY

ORCHARD GROVE DRIVE

BARRICADE

EX STM CI RIM: 439.72 IE IN: 434.12(12"SW) IE OUT: 434.10(12"SE)

EX STM MH RIM: 440.64 IE IN: 431.47(12"NW) IE OUT: 431.26(12"NE)

EX SAN MH RIM: 440.71 IE IN: 433.02(8"SW) IE IN: 433.26(8"NW) IE OUT: 433.02(8"NE)

TAX LOT 7500
TAX MAP 32E07CB
LOT 75, "HAZEL CREEK FARMS"

P1-21

P1-20

PRELIMINARY DEMOLITION PLAN KEY MAP
NOT TO SCALE

SCALE: 1"=50 FEET
50 0 20 30 40 50

DEMOLITION KEYED NOTES:

1. REMOVE EXISTING FENCE.
2. PRESERVE EXISTING FENCE. PROTECT FROM DAMAGE.
3. REMOVE/DEMOLISH EXISTING HOME, SHED, OR CONTAINER, AND ASSOCIATED FOUNDATIONS, PADS, UTILITIES, ETC.
4. REMOVE EXISTING GRAVEL DRIVEWAY.
5. DECOMMISSION ALL EXISTING WELLS, UNDERGROUND FUEL TANKS, SEPTIC TANKS, AND DRAINFIELDS PER ALL; APPLICABLE JURISDICTIONAL REQUIREMENTS. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF DECOMMISSIONING TO ALL APPLICABLE PARTIES, INCLUDING THE PROJECT ENGINEER, CITY, COUNTY, STATE, ETC.
6. REMOVE/RELOCATE MAILBOX. COORDINATE RELOCATION WITH OWNER.
7. REMOVE CURB AND GUTTER.
8. REMOVE/RELOCATE EXISTING POWER POLE, GUY WIRES, AND OVERHEAD LINES, COORDINATE WITH POWER AND COMMUNICATION PROVIDERS.
9. REMOVE EXISTING DITCH, CULVERT, AND/OR DITCH INLET.
10. RELOCATE EXISTING POWER AND COMMUNICATION LINES. CONTRACTOR SHALL WORK WITH UTILITY PROVIDERS TO ENSURE MINIMAL INTERRUPTION TO SERVICE.
11. REMOVE EXISTING SIGNS AND BARRICADES FOR END OF ROAD AND EDGE OF ROADWAYS FOR HALF CONSTRUCTED STREETS
12. REMOVE EXTRUDED CURB.
13. PROTECT EXISTING TREES (TYP). SEE TREE PRESERVATION AND REMOVAL PLAN.
14. REMOVE EXISTING STORM DRAIN CATCH BASIN AND LEAD.
15. REMOVE/ABANDON EXISTING WATER LINE.
16. REMOVE SANITARY SEWER CLEANOUT.
17. REMOVE GAS LINE. COORDINATE WITH UTILITY PROVIDER.

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WHEELER FARMS

OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

OREGON CITY
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

PRELIMINARY DEMOLITION PLAN

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 08, 2005
MONTGOMERY B. HURLEY
NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
P1-21

AKS DRAWING FILE: 5621 DEMO.DWG | LAYOUT: P1-21

LEGEND:

209 – STREET TREE, 2" CAL. (MIN.)

EXISTING TREE TO REMAIN

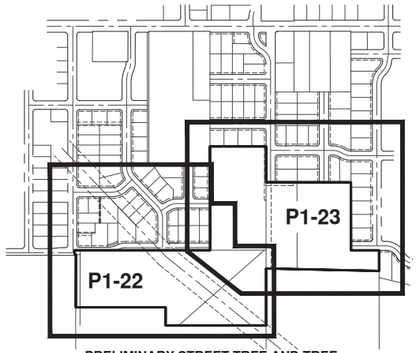
TOTAL STREET TREES: 209
REQUIRED STREET TREES (1 FOR EVERY 35' PROP. FRONTAGE) = 209
NO FEE IN–LIEU OF STREET TREES IS NECESSARY IN ORDER TO MEET THE MINIMUM STREET TREE REQUIREMENT.
NOTE: ALL STREET TREES FOR PROJECT SHOWN ON P1–22 AND P1–23 ARE INCLUDED IN THIS TABLE.

STREET TREE NOTES:

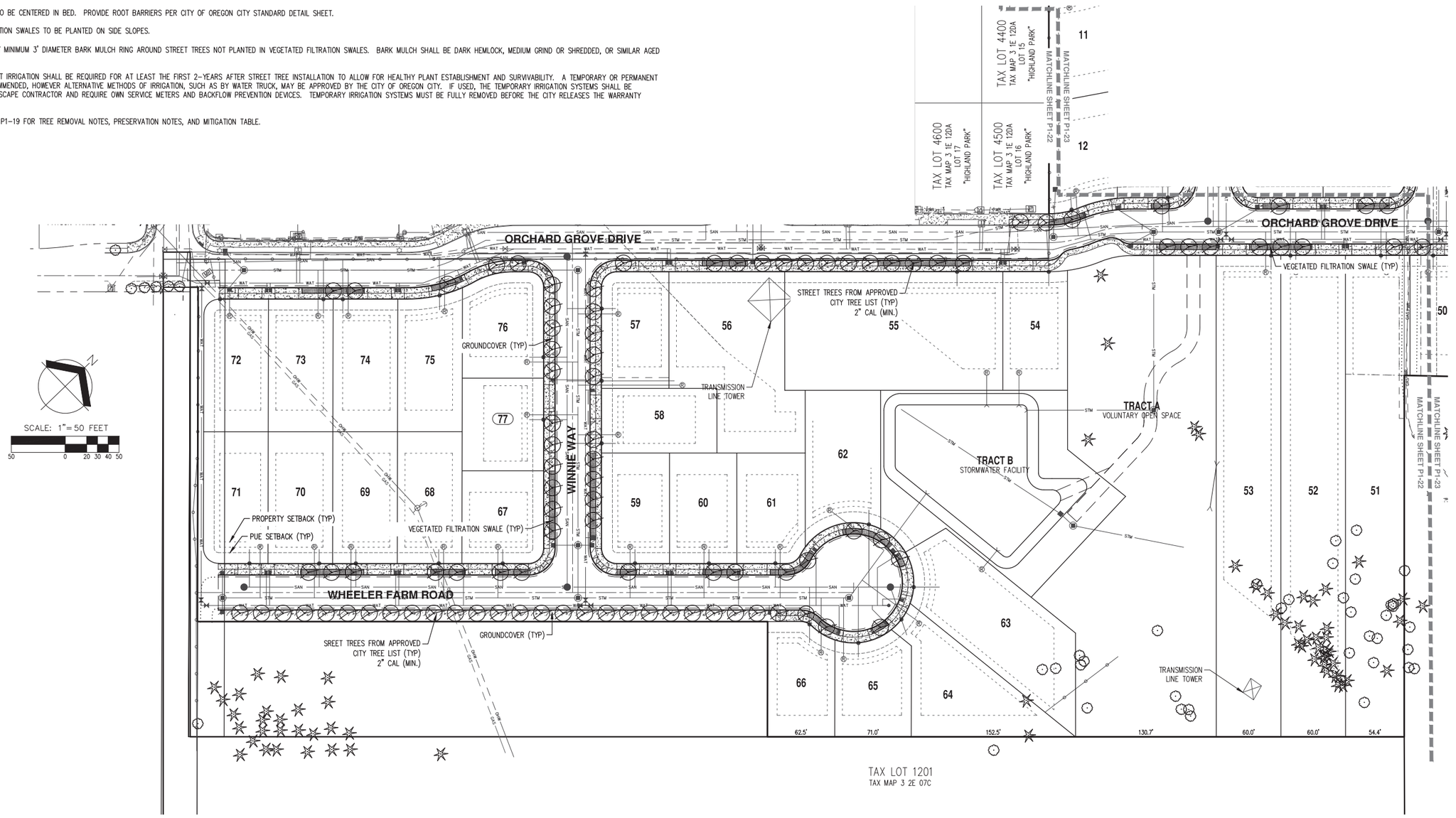
1. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT AND MATERIAL QUANTITIES. IF DISCREPANCIES OCCUR, DESIGN INTENT PREVAILS OVER QUANTITIES LISTED.
2. STREET TREE PLAN IS PRELIMINARY AND INTENDED TO SHOW DESIGN INTENT. APPROPRIATE SUBSTITUTIONS TO PLANT SPECIES, SPACING, LAYOUT, ETC. MAY BE MADE PRIOR TO INSTALLATION DUE TO UNFORESEEN SITE CONSTRAINTS, FINAL DRIVEWAY LOCATIONS, UTILITIES, AND PLANT AVAILABILITY. CHANGES/SUBSTITUTIONS MUST BE APPROVED IN WRITING AND BE IN ACCORDANCE WITH APPLICABLE CITY OF OREGON CITY STANDARDS.
3. ALL PLANTER STRIPS ALONG THE STREET NOT PLANTED AS A VEGETATED FILTRATION SWALE SHALL HAVE DROUGHT TOLERANT VEGETATIVE GROUNDCOVER, SUCH AS KINNIKINNICK, INSTALLED BY THE ADJACENT HOMEOWNER/HOME BUILDER. VEGETATED FILTRATION SWALE SHRUBS AND GROUNDCOVERS SHALL BE SELECTED FROM TABLE A–1 IN THE OREGON CITY STORMWATER AND GRADING DESIGN STANDARDS MANUAL.
4. CONTRACTOR SHALL INSTALL STREET TREES AND PLANTINGS IN STREET FRONTAGE ADJACENT TO OPEN SPACE TRACTS. ALL OTHER STREET TREES AND PLANTINGS SHALL BE INSTALLED BY THE HOMEBUILDER AT THE TIME OF ADJACENT HOME CONSTRUCTION. IT SHALL BE THE ONGOING RESPONSIBILITY OF THE ABUTTING PROPERTY OWNER TO MAINTAIN AND WATER TREES AND VEGETATION WITHIN THE PLANTING STRIPS AND VEGETATED FILTRATION SWALES ADJACENT TO LOTS. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, PRUNING TO REMOVE DEAD BRANCHES AND DANGEROUS LIMBS, WEED AND TRASH REMOVAL, AND TO MAINTAIN ADEQUATE CLEARANCE ABOVE ALL SIDEWALKS AND ROADS FOR PEDESTRIANS AND STREET CLEANING EQUIPMENT OPERATION.
5. TREES TO BE PLANTED SHALL MEET THE REQUIREMENTS OF THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS FOR NURSERY STOCK (ANSI Z60.1) FOR GRADE NO. 1 OR BETTER. DOUBLE STAKE ALL TREES. ADJUST STREET TREES AS NECESSARY TO AVOID CONFLICTS WITH UTILITIES, LIGHT POLES, ETC. THE FOLLOWING CLEARANCE DISTANCES SHALL BE MAINTAINED WHEN PLANTING TREES: 15' O.C. FROM STREET LIGHTS; 5' O.C. FROM FIRE HYDRANTS; AND 20' FROM INTERSECTIONS PER OREGON CITY CODE 1208.015.
6. TREES IN PLANTER STRIPS TO BE CENTERED IN BED. PROVIDE ROOT BARRIERS PER CITY OF OREGON CITY STANDARD DETAIL SHEET.
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8. MULCH: APPLY 3" DEEP BY MINIMUM 3' DIAMETER BARK MULCH RING AROUND STREET TREES NOT PLANTED IN VEGETATED FILTRATION SWALES. BARK MULCH SHALL BE DARK HEMLOCK, MEDIUM GRIND OR SHREDDED, OR SIMILAR AGED BARK MULCH.
6. IRRIGATION: WATER–EFFICIENT IRRIGATION SHALL BE REQUIRED FOR AT LEAST THE FIRST 2–YEARS AFTER STREET TREE INSTALLATION TO ALLOW FOR HEALTHY PLANT ESTABLISHMENT AND SURVIVABILITY. A TEMPORARY OR PERMANENT IRRIGATION SYSTEM IS RECOMMENDED, HOWEVER ALTERNATIVE METHODS OF IRRIGATION, SUCH AS BY WATER TRUCK, MAY BE APPROVED BY THE CITY OF OREGON CITY. IF USED, THE TEMPORARY IRRIGATION SYSTEMS SHALL BE DESIGN–BUILD BY THE LANDSCAPE CONTRACTOR AND REQUIRE OWN SERVICE METERS AND BACKFLOW PREVENTION DEVICES. TEMPORARY IRRIGATION SYSTEMS MUST BE FULLY REMOVED BEFORE THE CITY RELEASES THE WARRANTY SURETY BOND.
7. REFER TO SHEETS P1–17 – P1–19 FOR TREE REMOVAL NOTES, PRESERVATION NOTES, AND MITIGATION TABLE.

TREE MITIGATION AND STREET TREE NOTES:

1. MITIGATION PLANTING WILL BE PROVIDED ON OR OFF SITE (OPTION 1) AND/OR CASH–IN–LIEU OF PLANTING (OPTION 4) PER OCMC 17.41.060.
2. ON AND OFF SITE PLANTINGS WILL BE EITHER 2" CALIPER DECIDUOUS TREES OR 6' TALL CONIFER TREES PER OCMC TABLE 17.41.060–1.
3. SPECIES WILL BE SPECIFIED BY PROJECT LANDSCAPE ARCHITECT OR ARBORIST DURING FINAL DESIGN AND WILL BE FROM THE CITY'S APPROVED TREE LIST.
4. STREET TREES WITHIN THE PLANTERS (VEGETATED FILTRATION SWALES) WILL BE SELECTED FROM TABLE A–1 IN THE OREGON CITY STORMWATER AND GRADING DESIGN STANDARDS MANUAL.



PRELIMINARY STREET TREE AND TREE MITIGATION PLAN KEY MAP
NOT TO SCALE



TAX LOT 1201
TAX MAP 3 2E 07C

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WHEELER FARMS

OREGON CITY, OREGON
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790
CLACKAMAS COUNTY TAX MAP 3–2E–07C
CLACKAMAS COUNTY TAX MAP 3–1E–12D

PRELIMINARY STREET TREE AND TREE MITIGATION PLAN

DESIGNED BY:	NKP
DRAWN BY:	NKP
CHECKED BY:	KAH
SCALE:	AS NOTED
DATE: 06/20/2017	

REGISTERED LANDSCAPE ARCHITECT
PRELIMINARY NOT FOR CONSTRUCTION
KIRSTEN A. HADSWORTH
OREGON
06/06/13

REVISIONS

JOB NUMBER
5621

SHEET
P1-22

AKS DRAWING FILE: 5621 LANDSCAPE.DWG | LAYOUT: P1-22

TOTAL STREET TREES: 209

REQUIRED STREET TREES (1 FOR EVERY 35' PROP. FRONTAGE) = 209

NO FEE IN-LIEU OF STREET TREES IS NECESSARY IN ORDER TO MEET THE MINIMUM STREET TREE REQUIREMENT.

NOTE: ALL STREET TREES FOR PROJECT SHOWN ON P1-22 AND P1-23 ARE INCLUDED IN THIS TABLE.

LEGEND:

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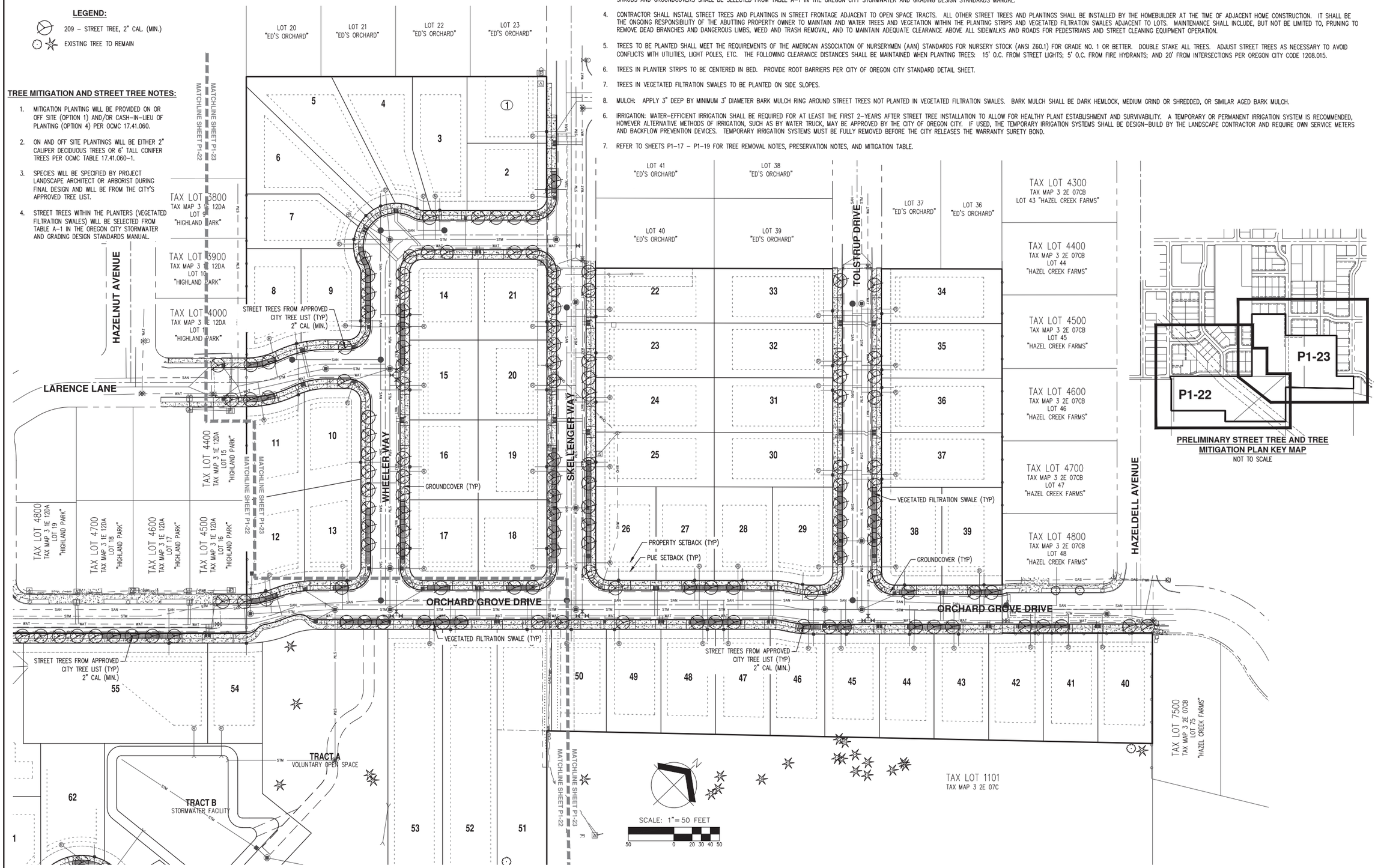
EXISTING TREE TO REMAIN

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PRELIMINARY STREET TREE AND TREE MITIGATION PLAN KEY MAP
NOT TO SCALE

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WHEELER FARMS
OREGON CITY, OREGON
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790
CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

PRELIMINARY STREET TREE AND TREE MITIGATION PLAN

DESIGNED BY:	NKP
DRAWN BY:	NKP
CHECKED BY:	KAH
SCALE:	AS NOTED
DATE: 06/20/2017	

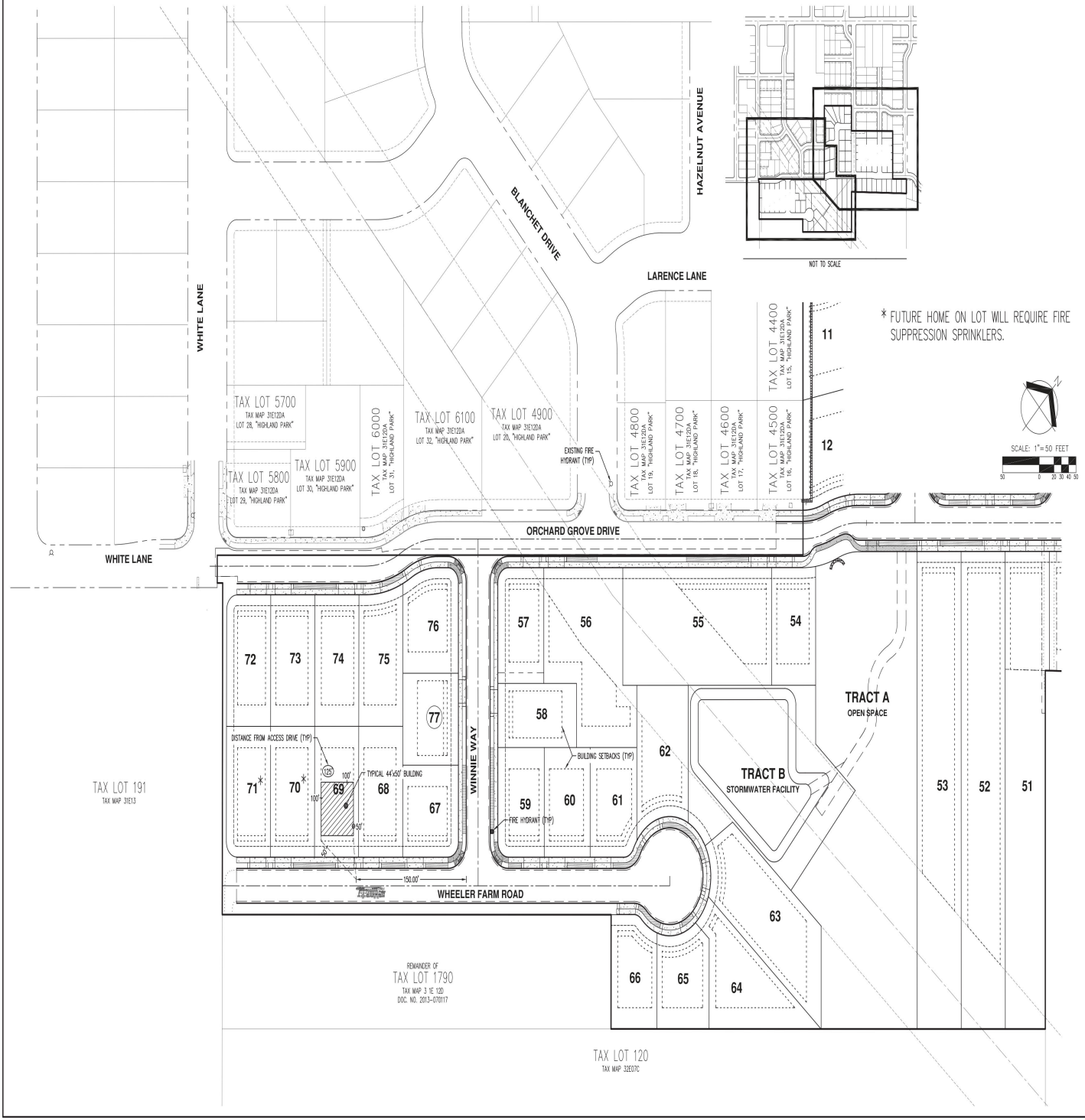
REGISTERED LANDSCAPE ARCHITECT · OREGON · KIRSTEN A. HANSWALD · PRELIMINARY NOT FOR CONSTRUCTION · 06/06/13

REVISIONS

JOB NUMBER 5621

SHEET P1-23

AKS DRAWING FILE: 5621 LANDSCAPE.DWG | LAYOUT: P1-23



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CLACKAMAS COUNTY, TAX MAP 3-2E-07C
CLACKAMAS COUNTY, TAX MAP 3-1E-12D

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

DESIGNED BY: VHN/NMC
DRAWN BY: NMC
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 06/20/2017

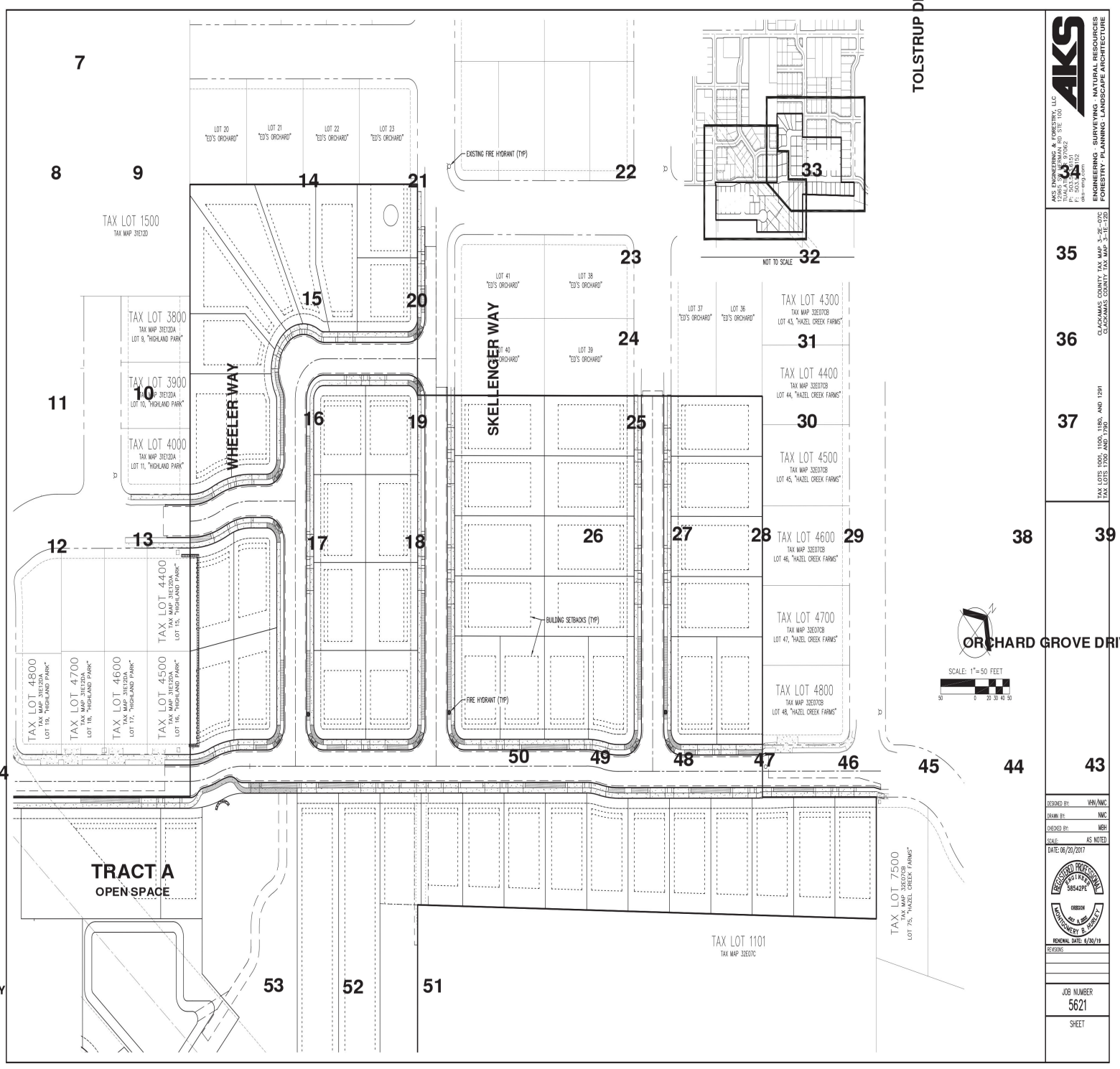
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 2006
MONTGOMERY S. HURLEY
5854PE
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET

AKS DRAWING FILE: 5621 FIRE.DWG | LAYOUT: P1-24



AKS ENGINEERING & FORESTRY, LLC
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CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

TAX LOTS 1000, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 1997
MATTHEW B. HASLEY
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET

T B
FACILITY

AKS DRAWING FILE: 5621 LAYOUT: P1-25

Exhibit B: Clackamas County Assessor's Map

This map was prepared for assessment purpose only.

SW 1/4 SEC. 7 T.3S. R.2E. W.M.
CLACKAMAS COUNTY
1" = 200'

D.L.C.
JOHN HOWLAND NO. 45
S.S. WHITE NO. 41 & 42

3 2E 7C

SW COR DLC 40
SE. COR. DLC 41
NW. COR. DLC 41
NE. COR. DLC 42
APPROX. 1/4 COR.
5362.50FT. Most Westerly Corner of S.S WHITE DLC

CENTRAL POINT ROAD
MARKET ROAD NO. 24
HAZEL DELL
HAZEL
SUNSET SPRINGS DR
ORCHARD GROVE DRIVE
PARK AVENUE
GROVE DRIVE
CREEK DR.
PARK DR.
MC CORD ROAD
STAFFORD RD.
CC RD No. 516 LELAND RD.
PUBLIC

SEE MAP

62-64
62-88
62-84
62-02
62-31
62-03
62-14
62-33

3 2E 7B
3 2E 7D
3 2E 18

F.U.-10

P. P. 1999-140

PARCEL 2

TBR

CANCELLED
1000 801
1004 900
1005 110
103 1190
400 1200
191 1011
1290
702
111
1900
890
1280

12000
12300
12500
19500
19800
20000

1007 19500
1009 19510
1008 19520
1010 19530
1006 19532
1003 3.69
1002 1.81 Ac. 19538
1001 4.21Ac.
1100 2.13Ac.
1101 17.85 Ac. 19588
1191 0.14Ac.
1180 2.63Ac.
1201 20.55Ac. 19898
1291 0.26Ac.
790 0.53Ac.
791 1.22Ac.
700 1.67Ac. 19521
701 3.78Ac. 19525
601 0.89 Ac. 19573
600 3.05 Ac.
800 13.40Ac.
500 0.46 Ac. 19585
501 0.46Ac. 19593
390 0.23Ac.
391 0.19Ac.
290 0.75Ac.
300 1.50Ac. 19613
301 0.42Ac. 19629
200 3.02Ac. 19657
105 0.68Ac. 19667
100 1.30Ac. 19673
107 0.85Ac. 19661
199 2.98 Ac.
106 1.00 Ac. 19663
104 2.41 Ac. 19665
192 0.74Ac.
101 3.21 Ac. 19681
102 13.43 Ac. 19659
109 8.83Ac. 19691
108 0.94Ac
182 0.23Ac
198 2.00Ac.

Subject Properties

Subject Property

PGE McLOUGHLIN to St MARYS SUB.
SEE PGE DWG No. CB 518-23

See BPA DWG No. 125107

B. P. A.

EASEMENT

WLY COR. JOHN HOWLAND DLC NO. 45

644.7' Sely Line of S.S. White DLC No. 45
N Wly. Line of John Howland DLC No. 45

SEE MAP 3 2E 18

BOOK 29
3 2E 7C

RLR 2/12/69

This map was prepared for assessment purpose only.

SE 1/4 SEC. 12 T.3S. R. 1E. W.M.
CLACKAMAS COUNTY
1"=200'

DLC.
M. M. Mc CARVER NO. 41
S. S. WHITE NO. 42

3 1E 12D

SALMONBERRY DR.
SKELLENGER DRIVE
HAZELNUT CT.
GROVE
HAZEL DR.
HAZELNUT
VINCENT WAY
GERANIUM DRIV
WESTWOOD DR.
KOLAR DRIV
DAHLIA TERRACE
DERRINGER DRIVE
PLACE
AVENUE
HUMMINGBIRD LOOP [PVT.]
[PVT.]
PARISH RD
C.O. RD.
POND
PAYSON
RENEE WAY
LANE
PUBLIC ROADWAY
CENTRAL PT RD
M K T
W. H. WHITE
BURNETT
D.L.C.
B. P. A. EASEMENT
PGE. McLOUGHLIN to St MARYS SUB
SEE PGE. DWG. No. CB 518-22
SELY LINE M. M. McCARVER D.L.C. NO. 41
1/4 COR.

11500
11800
12000
19500

CENTER SEC. 1E 12B

SEE MAP 3 1E 12A

SEE MAP 3 1E 12C

SEE MAP 3 2E 7C

SEE MAP 3 1E 13

SEE MAP 3 1E 12DD

SEE MAP 3 1E 12DA

SEE MAP 62-02

SEE MAP 3 1E 13

PP 1998 -108
PARCEL 1
PARCEL 2
PARCEL 3
703 0.60 Ac. 19187
704 0.60 Ac. 19188
705 0.27 Ac. 19189

62-64 1E
62-14
62-84
62-88
62-64
62-03
62-33
62-64
62-02

12DB
12DC

TBR
TBR
TBR

100 1.00 Ac. 19531
1500 5.61 Ac.
1501 0.93 Ac. 19624
1505 1.00 Ac. 19706
1701 5.13 Ac. 19584
1700 4.62 Ac.
1790 8.48 Ac.

AG/F

CANCELLED

1594	300
1504	301
200	302
700	303
702	304
1490	305
800	306
900	400
901	401
1000	402
1100	500
1200	600
1300	1502
1400	1506
1401	1503
1402	1593
	1600

Subject Properties

20000

3 1E 12D
BOOK 27

Exhibit C: City Land Use Application Forms and Checklist

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
☐ Compatibility Review	☐ Extension	☐ Annexation
☐ Lot Line Adjustment	☐ Detailed Development Review	☐ Code Interpretation / Similar Use
☐ Non-Conforming Use Review	☐ Geotechnical Hazards	☐ Concept Development Plan
☐ Natural Resource (NROD) Verification	☐ Minor Partition (<4 lots)	☐ Conditional Use
☐ Site Plan and Design Review	☐ Minor Site Plan & Design Review	☐ Comprehensive Plan Amendment (Text/Map)
	☐ Non-Conforming Use Review	☐ Detailed Development Plan
	☐ Site Plan and Design Review	☐ Historic Review
	☑ Subdivision (4+ lots)	☐ Municipal Code Amendment
	☐ Minor Variance	☐ Variance
	☐ Natural Resource (NROD) Review	☐ Zone Change

File Number(s): PA 16-54 (Pre-Application Conference)

Proposed Land Use or Activity: A new subdivision for future construction of single-family detached residential homes.

Project Name: Wheeler Farms **Number of Lots Proposed (If Applicable):** 77

Physical Address of Site: 19566 S Central Point Road

Clackamas County Map and Tax Lot Number(s): Map: 32E07C Tax Lots: 1001, 1100, 1180, & 1291
Map: 31E12D Tax Lots: 1700 & 1790

Applicant(s):

Applicant(s) Signature:

Applicant(s) Name Printed: Rian Park Development, Inc. **Date:**

Mailing Address: P.O. Box 2559, Oregon City, OR 97045

Phone: Contact Applicant's Consultant **Fax:** Contact Applicant's Consultant **Email:** Contact Applicant's Consultant

Property Owner(s):

Property Owner(s) Signature: David A. Wheeler Jr.

Property Owner(s) Name Printed: Wheeler Family Enterprises, LLC (Tax Lots:1001, 1700, 1790) **Date:** 6/15/17

Mailing Address:

Phone: Contact Applicant's Consultant **Fax:** Contact Applicant's Consultant **Email:** Contact Applicant's Consultant

Representative(s):

Representative(s) Signature: Monty B Hurley

Representative (s) Name Printed: AKS Engineering & Forestry, LLC (Monty Hurley) **Date:** 6/15/17

Mailing Address: 12965 SW Herman Road, Suite 100, Tualatin, OR 97062

Phone: 503-563-6151 **Fax:** 503-563-6152 **Email:** monty@aks-eng.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

OREGON CITY

Community Development – Planning

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Applicant(s):

Applicant(s) Signature:

Applicant(s) Name Printed: Rian Park Development, Inc. **Date:**

Mailing Address: P.O. Box 2559, Oregon City, OR 97045

Phone: Contact Applicant's Consultant **Fax:** Contact Applicant's Consultant **Email:** Contact Applicant's Consultant

Property Owner(s):

Property Owner(s) Signature: David H. Wheeler Jr.

Property Owner(s) Name Printed: David H. Wheeler Sr. Trust (Tax Lots:1100, 1180) **Date:** 6/15/17

Mailing Address:

Phone: Contact Applicant's Consultant **Fax:** Contact Applicant's Consultant **Email:** Contact Applicant's Consultant

Representative(s):

Representative(s) Signature: Monty B Hurley

Representative (s) Name Printed: AKS Engineering & Forestry, LLC (Monty Hurley) **Date:** 6/15/17

Mailing Address: 12965 SW Herman Road, Suite 100, Tualatin, OR 97062

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Applicant(s) Signature:

Applicant(s) Name Printed: Rian Park Development, Inc. **Date:**

Mailing Address: P.O. Box 2559, Oregon City, OR 97045

Phone: Contact Applicant's Consultant **Fax:** Contact Applicant's Consultant **Email:** Contact Applicant's Consultant

Property Owner(s):

Property Owner(s) Signature: Donald W. Wheeler

Property Owner(s) Name Printed: Donald W. Wheeler and Roxanne O. Wheeler (Tax Lot:1291) **Date:** 6/15/17

Mailing Address: 19898 S White Lane, Oregon City, OR 97045

Phone: Contact Applicant's Consultant **Fax:** Contact Applicant's Consultant **Email:**

Representative(s):

Representative(s) Signature: Monty B Hurley

Representative (s) Name Printed: AKS Engineering & Forestry, LLC (Monty Hurley) **Date:** 6/15/17

Mailing Address: 12965 SW Herman Road, Suite 100, Tualatin, OR 97062

Phone: 503-563-6151 **Fax:** 503-563-6152 **Email:** monty@aks-eng.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

OREGON CITY

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Applicant(s):

Applicant(s) Signature:

Applicant(s) Name Printed: Rlan Park Development, Inc. Date: 6/13/17

Mailing Address: P.O. Box 2559, Oregon City, OR 97045

Phone: Contact Applicant's Consultant Fax: Contact Applicant's Consultant Email: Contact Applicant's Consultant

Property Owner(s):

Property Owner(s) Signature:

Property Owner(s) Name Printed: Date:

Mailing Address:

Phone: Fax: Email:

Representative(s):

Representative(s) Signature: Monty B Hurley

Representative (s) Name Printed: AKS Engineering & Forestry, LLC (Monty Hurley) Date: May 22, 2017

Mailing Address: 12965 SW Herman Road, Suite 100, Tualatin, OR 97062

Phone: 503-563-6151 Fax: 503-563-6152 Email: monty@aks-eng.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Subdivision Checklist

1. ☑ **Signed Land Use Application Form**

2. ☑ **A List of All Permit Approvals Sought by the Applicant**

3. ☑ **Narrative**
   A complete and detailed narrative description of the proposed development describing:
   - ☑ The proposed development that describes existing site conditions, existing buildings, public facilities and services, presence of wetlands, steep slopes and other natural features
   - ☑ A detailed description of the proposed development, including a description of any phasing (including the time, acreage, number of residential units, amount of area for nonresidential use, open space, and development of utilities and public facilities for each phase), proposed uses, number and type of residential units, allocation and ownership of all lots, tracts, streets, and public improvements and the structure of any homeowner's association.
   - ☑ Timely Provision of Public Services and Facilities. The applicant shall explain in detail how and when each of the following public services or facilities is, or will be, adequate to serve the proposed development by the time construction begins:
     - ☑ Water
     - ☑ Sanitary sewer
     - ☑ Storm sewer and stormwater drainage
     - ☑ Parks and recreation
     - ☑ Traffic and transportation
     - ☑ Schools
     - ☑ Fire and police services

     Where adequate capacity for any of these public facilities and services is not demonstrated to be currently available, the applicant shall describe how adequate capacity in these services and facilities will be financed and constructed before recording of the plat
   - ☑ Overall density of the subdivision and the density by dwelling type for each

4. ☑ **Review Criteria**
   A response addressing each section of Chapters 16.08, 16.12, 12.04, 12.08, 13.12, and any other applicable chapter identified in the Oregon City Municipal Code.

5. ☑ **Site Plan**
   A detailed site development plan showing:
   - ☑ The location and dimensions of lots, streets, pedestrian ways, transit stops, common areas, building envelopes and setbacks
   - ☑ All existing and proposed utilities and improvements including sanitary sewer, stormwater and water facilities
   - ☑ Total impervious surface created (including streets, sidewalks, etc.)
   - ☑ An indication of existing and proposed land uses for the site

6. ☑ **A Subdivision Connectivity Analysis**
   Prepared by a transportation engineer, licensed by the State of Oregon, that describes the existing and future vehicular; bicycle and pedestrian connections between the proposed subdivision and existing or

planned land uses on adjacent properties. The subdivision connectivity analysis shall include shadow plats of adjacent properties demonstrating how lot and street patterns within the proposed subdivision will extend to and/or from such adjacent properties and can be developed meeting the existing Oregon City Municipal Code design standards.

7. ✓ **Traffic/Transportation Plan**

The applicant's traffic/transportation information shall include two elements:

- ☑ A detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the existing system, circulation patterns and connectivity to existing rights-of-way or adjacent tracts, parking and loading areas and any other transportation facilities in relation to the features illustrated on the site plan.
- ☑ A traffic impact study prepared by a qualified professional transportation engineer, licensed in the state of Oregon, that assesses the traffic impacts of the proposed development on the existing transportation system and analyzes the adequacy of the proposed internal transportation network to handle the anticipated traffic and the adequacy of the existing system to accommodate the traffic from the proposed development. The city engineer may waive any of the foregoing requirements if the city engineer determines that the requirement is unnecessary in the particular case.

8. ✓ **Natural Features Plan, Topography and Preliminary Grading and Drainage Plan**

The applicant shall submit a map illustrating all of the natural features and hazards on the subject property and, where practicable, within two hundred fifty feet of the property's boundary. The map shall also illustrate the approximate grade of the site before and after development. Illustrated features must include all proposed streets and cul-de-sacs, the location and estimated volume of all cuts and fills, and all stormwater management features. This plan shall identify the location of drainage patterns and courses on the site and within two hundred fifty feet of the property boundaries where practicable. Features that must be illustrated shall include the following:

- ☑ Proposed and existing street rights-of-way and all other transportation facilities
- ☑ All proposed lots and tracts
- ☑ All trees with a diameter six inches or greater measured four feet from the ground
- N/A☐ All water quality resource areas pursuant to Chapter 17.49, including all jurisdictional wetlands shown in a delineation according to the Corps of Engineers Wetlands Delineation Manual, January, 1987 edition, and approved by the Division of State Lands and wetlands identified in the City of Oregon Local Wetlands inventory, adopted by reference in the City of Oregon City comprehensive plan
- ☑ All known geologic and flood hazards, landslides or faults, areas with a water table within one foot of the surface and all flood management areas pursuant to Chapter 17.42
- N/A☐ The location of any known state or federal threatened or endangered species
- ☑ All historic areas or cultural features acknowledged as such on any federal, state or city inventory
- N/A☐ All wildlife habitat or other natural features listed on any of the city's official inventories

9. ✓ **Additional Information or Reports** *(If Required in Pre-Application Conference)*

The principal planner may require additional information to ensure that the proposed development does not adversely affect the surrounding community, identified natural resource areas or create hazardous conditions for persons or improvements on the site.

- ☑ Geologic Hazards. For property subject to Chapter 17.44, the applicant shall submit a report prepared by a qualified professional engineer, certified in geology or geotechnical engineering, describing how construction of the proposed subdivision is feasible and meets the applicable requirements of Chapter 17.44.
- ☑ Water Resources. For property subject to Chapter 17.49, the applicant shall submit a report prepared by a qualified professional describing the location and quality of any water quality

resource area subject to regulation under Chapter 17.49. This report shall also explain how the proposed subdivision is feasible and meets the applicable requirements of Chapter 17.49.

10. ☑ **Tree Removal and Mitigation Plan** *(In Accordance with OCMC Chapter 17.41)*

11. ☑ **Pre-Application Conference Summary Sheet**

12. ☑ **Summary of the Meeting with the Applicable Neighborhood Association**

13. ☑ **Preliminary Storm Calculations** *(If Water Quality Detention is Required)*

14. ☑ **Erosion and Sediment Control Permit**
The applicant shall submit an application for an erosion and sediment control permit pursuant to Chapter 17.47 concurrently with the preliminary subdivision plat application, including the measures that will be implemented throughout construction of the subdivision to control erosion and sedimentation, unless waived by the city engineer. This plan must be consistent with all applicable erosion control requirements in Chapter 17.47.

15. ☑ **CC & R's**
Drafts of the proposed covenants, conditions and restrictions (CC&Rs), maintenance agreements, homeowner association agreements, dedications, deeds easements, or reservations of public open spaces not dedicated to the city, and related documents for the subdivision.

16. ☑ **A Current Preliminary Title Report for the Subject Property(ies)**

17. ☑ **Mailing Labels for Owners Within 300 Feet of the Subject Site or $15 for City-provided labels**
The names and addresses of property owners within 300 feet of the site indicated on the most recent property tax rolls.

18. ☑ **Copies**
Two (2) copies of all information, reports, and drawings (full-sized and 8.5" by 11") pertaining to this application.

19. ☑ **Electronic Version of All Application Materials**

20. ☑ **All Required Application Fees**

Incomplete Applications will not be processed

Exhibit D: Property Ownership Information

Fidelity National Title
OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	32E07C/01001
Account Num:	00862748	Owner Occ.:	No
Land Use:	540-	Census:	
Map Grid:	717-B5		
Subdivision:			

Legal Description: Section 07 Township 3S Range 2E Quarter C TAX LOT 01001

Property Characteristics

Property Type:	AGRICULTURAL	Building SF:		Pool:	No
House Style:		Living Area SF:		Deck SF:	
Year Built:		Square Feet:	0	Deck Desc:	
Bedrooms:		1st Floor SF:		Patio SF:	
Bathrooms:		2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	188,065	Bsmnt SF:		Ext. Finish:	
Acres:	4.21	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 557,432	Land Value:	$ 557,432	Imp. Value:	$ 0
Total Assessed Value:	$ 3,406	Levy Code:	062064	M-5 Rate:	.0182
Taxes:	$ 61.88	Tax Year:	15-16		

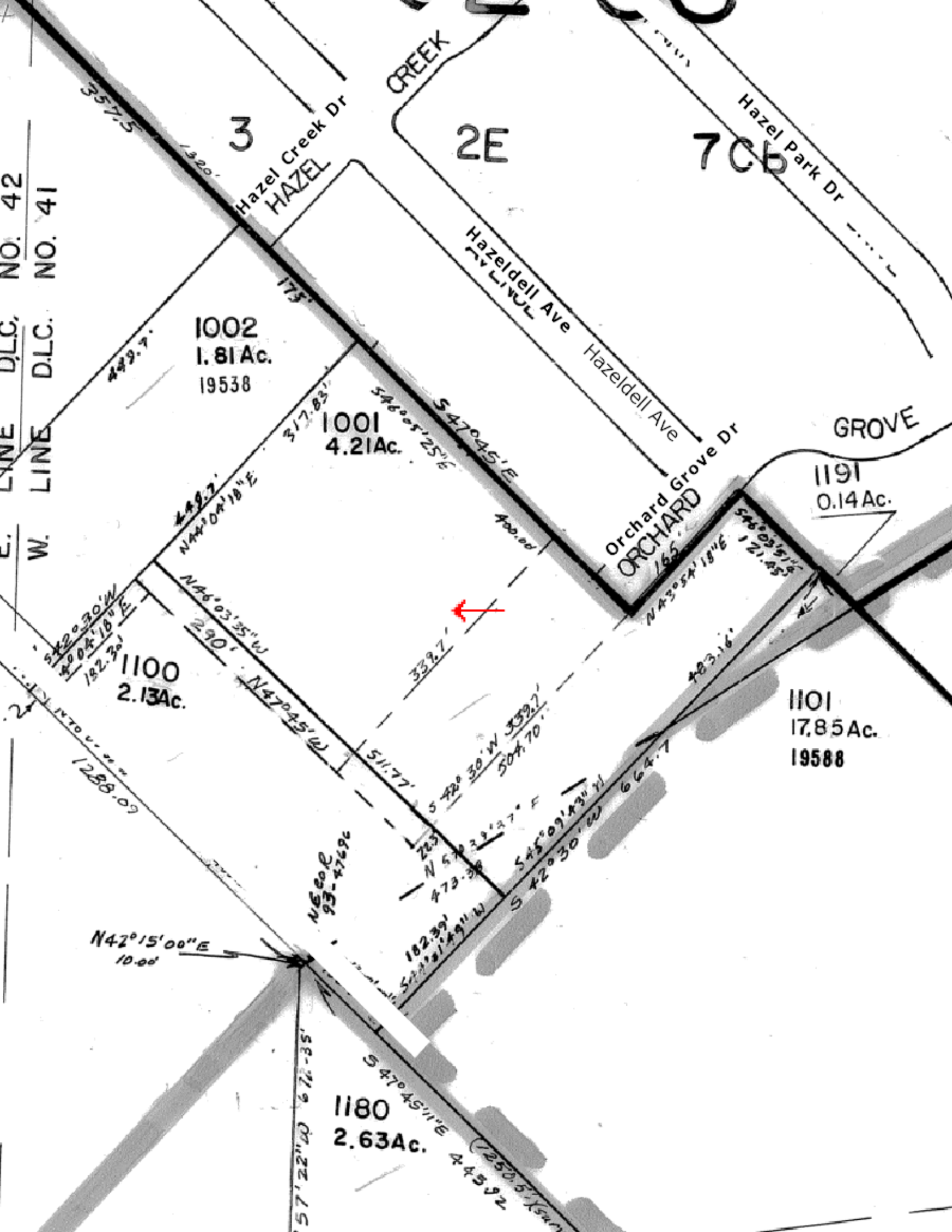
Previous Sale Information

Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
3/8/2013	$ 0		S	2013-016299	/
5/21/2007	$ 1		S	2007-043768	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
Accuracy of the information may vary by county.


CREEK
3
2E
7Cb
Hazel Creek Dr
HAZEL
Hazel Park Dr
Hazeldell Ave
Hazeldell Ave
Orchard Grove Dr
ORCHARD
GROVE
NO. 42
NO. 41
D.L.C.
D.L.C.
LINE
LINE
W.
1002
1.81 Ac.
19538
1001
4.21Ac.
1100
2.13Ac.
1191
0.14 Ac.
1101
17.85 Ac.
19588
1180
2.63Ac.
S46°05'25"E
S47°45'E
N44°04'18"E
N46°03'35"W
290'
N47°45'W
511.77'
S42°30'W
339.2'
504.70'
S45°09'43"W
664.1
N43°54'18"E
483.16'
S46°03'51"E
121.45'
N42°15'00"E
10.00'
S47°45'11"E
445.92'
1250.51'
317.83'
449.7'
400.00'
165'
175'
1320'
357.5'
182.39'
182.30'
1258.09'

STATUTORY BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTORS

TO
Wheeler Family Enterprises, LLC
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:
Jaylin Palacio
Tyler Smith
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013

Clackamas County Official Records
Sherry Hall, County Clerk

2013-016299

01662995201300162990030032

$58.00

03/08/2013 1:39:52 PM

D-D Cnt=1 Stn=2 TINAJAR
$15.00 $10.00 $16.00 $17.00

Until a change is requested, all tax statements shall be sent to:
Wheeler Family Enterprises, LLC
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY BARGAIN AND SALE DEED

The Wheeler Family Investment Limited Partnership, **GRANTOR**, hereby conveys to Wheeler Family Enterprises, LLC, as **GRANTEE**, the following described real property:

Tract 1 being fully described in the attached Exhibit A.

No monetary consideration for this conveyance exchange was all or part of the consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009

Dated: March 8, 2013, 2013.

David H. Wheeler, Sr.

David H. Wheeler Sr., General Partner, The Wheeler Family Investments Limited Partnership

STATE OF OREGON,)
County of Clackamas) ss.
This instrument was signed or acknowledged before me on March 8, 2013.

By:

OFFICIAL SEAL
JAYLIN D PALACIO
NOTARY PUBLIC - OREGON
COMMISSION NO. 458146
MY COMMISSION EXPIRES MAY 02, 2015

Jaylin D. Palacio

Notary Public for State of Oregon
My commission expires: May 2, 2015

Delivered to and accepted by:

David H. Wheeler Sr.

David H. Wheeler Sr., Member, Wheeler Family Enterprises, LLC.

ENGINEERING PLANNING
FORESTRY
13910 S.W. Galbreath Dr., Suite 100
Sherwood, Oregon 97140
Phone: (503) 925-8799
Fax: (503) 925-8969

AKS JOB No. 2142

LANDSCAPE ARCHITECTURE
SURVEYING
AKS Group of Companies:
SHERWOOD, OREGON
SALEM, OREGON
VANCOUVER, WASHINGTON
www.aks-eng.com

EXHIBIT A

Tract 1
City of Oregon City Planning File No. LL 12-01

A tract of land located in the Southwest One-Quarter of Section 7, Township 3 South, Range 2 East, Willamette Meridian, City of Oregon City, Clackamas County, Oregon, being more particularly described as follows:

Commencing at a 5/8 inch iron rod with a red plastic cap inscribed "AKS ENGR." at the southerly corner of Lot 75 of the plat "Hazel Creek Farms"; thence along the southwest line of said Lot 75, North 46°03'51" West 38.92 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." and the Point of Beginning; thence along the northwest line of that tract of land conveyed to David H. Wheeler Jr. and Carol A. Wheeler in Document Number 2004-103478 and clarified in Boundary Line Agreement Document Number 2012-039420, Clackamas County Deed Records, South 45°09'43" West 483.16 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR."; thence leaving said northwest line, North 46°03'35" West 511.77 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." on the southeast line of that tract of land conveyed to David H. Wheeler, Sr. Trustee of the David H. Wheeler Sr. Trust per Document Number 2002-068860, Clackamas County Deed Records; thence along said southeast line, North 44°04'18" East 317.83 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." on the southwest line of Lot 44 of the plat "Hazel Creek Farms"; thence along the westerly southwest line of "Hazel Creek Farms", South 46°05'25" East 400.00 feet to a 12 inch by 18 inch stone with a "X" scribed on top on the southeast right-of-way line of Orchard Grove Drive (26.00 feet from centerline); thence along said southeast right-of-way line, North 43°54'18" East 165.00 feet to the westerly corner of said Lot 75; thence along the westerly line of said Lot 75, South 46°03'51" East 121.45 feet to the Point of Beginning.

The above described tract of land contains 4.21 acres, more or less.

06-25-12
REGISTERED
PROFESSIONAL
LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/12

Fidelity National Title
OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	32E07C/01100
Account Num:	00862828	Owner Occ.:	No
Land Use:	541-	Census:	
Map Grid:	717-B5		
Subdivision:			

Legal Description: Township 3S Range 2E Section 07 Quarter C TAX LOT 01100 SEE SPLIT CODE ACCT 01180

Property Characteristics

Property Type:	SINGLE FAMILY	Building SF:	1,712	Pool:	No
House Style:		Living Area SF:	1,712	Deck SF:	
Year Built:	1926	Square Feet:	1,712	Deck Desc:	
Bedrooms:	5	1st Floor SF:		Patio SF:	
Bathrooms:	1.50	2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	96,907	Bsmnt SF:		Ext. Finish:	
Acres:	2.13	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 271,977	Land Value:	$ 179,617	Imp. Value:	$ 92,360
Total Assessed Value:	$ 132,652	Levy Code:	062064	M-5 Rate:	.0182
Taxes:	$ 2,409.93	Tax Year:	15-16		

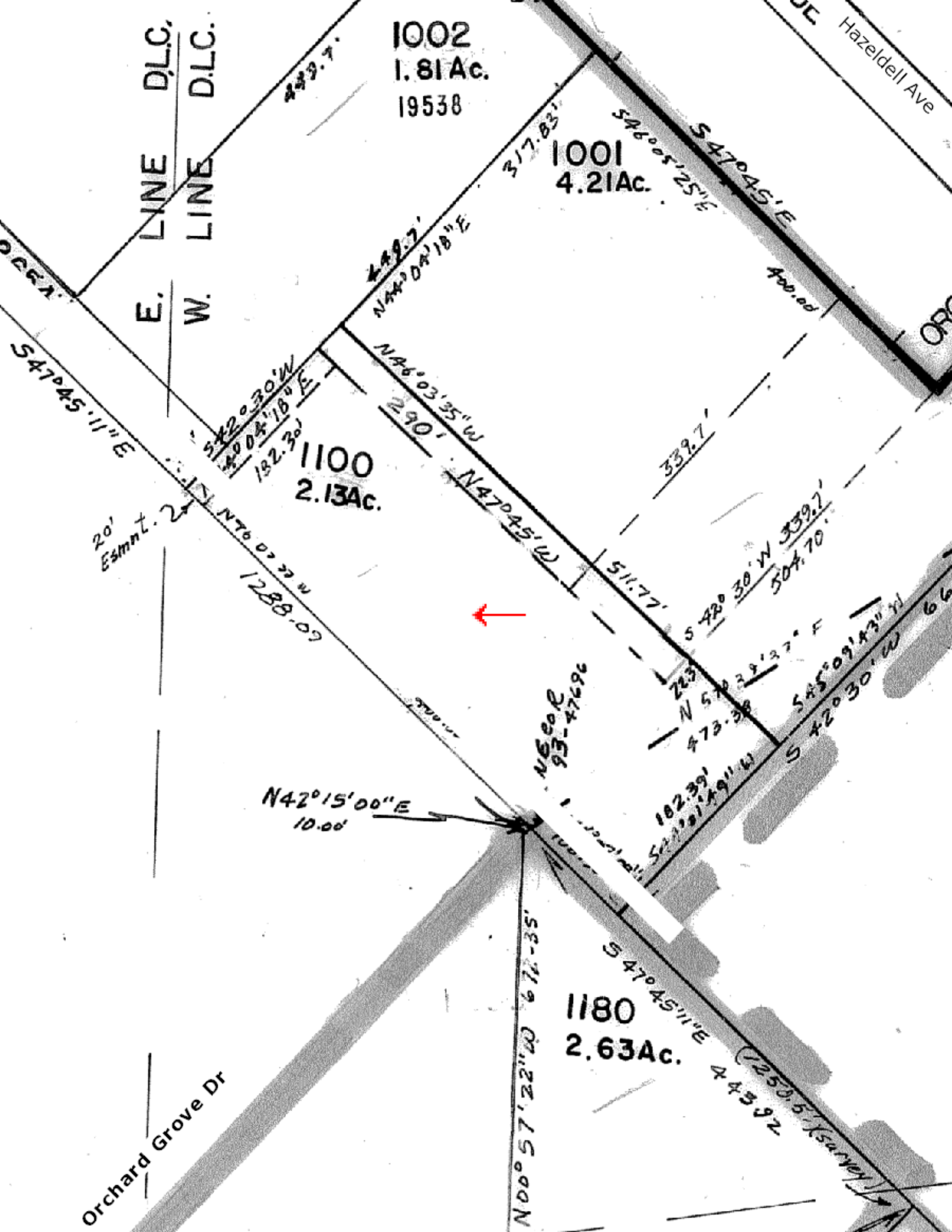
Previous Sale Information

Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
5/21/2007	$ 0	$ 0	X	2007-043769	/
11/9/2004	$ 1	$ 0	X	2004-103476	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
Accuracy of the information may vary by county.


1002
1.81 Ac.
19538
1001
4.21Ac.
1100
2.13Ac.
1180
2.63Ac.
E. W. LINE D.L.C.
E. W. LINE D.L.C.
449.7'
317.83'
S48°05'25"E
S47°45'E
400.00'
N44°04'18"E
449.7'
S42°30'W
N44°04'18"E
132.30'
N46°03'35"W
290'
N47°45'W
339.7'
S47°45'11"E
20' Esmnt. 2
N70°07'22"W
1288.09
511.77'
S 42° 30' W 339.7'
504.70'
N 47° 23' 37" E
223.
473.38
S45°09'43"W
182.39'
S 42°30'W
NE cor 93-47696
N42°15'00"E
10.00'
N00°57'22"W 671.35'
S47°45'11"E
1250.57' (survey)
443.92
Hazeldell Ave
Orchard Grove Dr

3P

STATUTORY QUIT CLAIM DEED

David H. Wheeler Jr.
19588 S Central Point Rd.
Oregon City, OR 97045

GRANTOR

TO
David H. Wheeler Sr. as Trustee
David H. Wheeler Sr. Trust
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:

Jaylin Palacio
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013
Anna Adams

Clackamas County Official Records
Sherry Hall, County Clerk
2013-007511
$58.00
01653157201300075110030034
02/01/2013 10:15:48 AM
D-D Cnt=1 Stn=1 JANISKEL
$15.00 $10.00 $16.00 $17.00

Until a change is requested, all tax statements shall be sent to:
The David H. Wheeler Sr. Trust
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY QUITCLAIM DEED

David H. Wheeler Jr., **GRANTOR**, hereby releases and quitclaim to the David H. Wheeler Sr. as Trustee of the David H. Wheeler Sr. Trust, as **GRANTEE**, all right, title, and interest in and to the Property described as:

All real property, if any, BETWEEN: the northwestern boundary of the lot conveyed to David H Wheeler Jr. and Carol Wheeler, with the established legal description in the recorded Document Number 2004-103478, and furthermore with a legal description of said Boundary Line being described in the Boundary Line Agreement recorded in the real property records of Clackamas County as document number 2012-039420;
AND
the southeastern boundary line of the adjacent lot to the northwest, with said adjacent lot (also known as Tract 2) being recorded as Clackamas County record number 2004-103477 as amended by Property Line Adjustment Oregon City Planning File 12-01and shown Survey Number SN2012-080, with said survey recorded as Clackamas County record 2012-058983. The full legal description of the entire Tract 2 is described in Attachment A.

No monetary consideration for this conveyance was all or part of the consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009

Dated: January 30, 2013.

David H. Wheeler Jr.

David H. Wheeler Jr., Grantor

STATE OF OREGON, County of Clackamas) ss.
This instrument was signed or acknowledged before me on January 30, 2013.

By:

OFFICIAL SEAL
JAYLIN D PALACIO
NOTARY PUBLIC - OREGON
COMMISSION NO. 458146
MY COMMISSION EXPIRES MAY 02, 2015

Jaylin D Palacio

Notary Public for State of Oregon
My commission expires: May 2, 2015

Delivered to and accepted by:

David H. Wheeler Sr.

David H. Wheeler Sr., Trustee, the David H. Wheeler Sr. Trust

ENGINEERING PLANNING
FORESTRY
13910 S.W. Galbreath Dr., Suite 100
Sherwood, Oregon 97140
Phone: (503) 925-8799
Fax: (503) 925-8969

AKS JOB No. 2142

LANDSCAPE ARCHITECTURE
SURVEYING
AKS Group of Companies:
SHERWOOD, OREGON
SALEM, OREGON
VANCOUVER, WASHINGTON
www.aks-eng.com

EXHIBIT A

Tract 2
City of Oregon City Planning File No. LL 12-01

A tract of land located in the Southwest One-Quarter of Section 7, Township 3 South, Range 2 East, Willamette Meridian, City of Oregon City, Clackamas County, Oregon, being more particularly described as follows:

Commencing at a 5/8 inch iron rod with a red plastic cap inscribed "AKS ENGR." at the southerly corner of Lot 75 of the plat "Hazel Creek Farms"; thence along the southwest line of said Lot 75, North 46°03'51" West 38.92 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR."; thence along the northwest line of that tract of land conveyed to David H. Wheeler Jr. and Carol A. Wheeler in Document Number 2004-103478 and clarified in Boundary Line Agreement Document Number 2012-039420, Clackamas County Deed Records, South 45°09'43" West 483.16 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." and the Point of Beginning; thence South 44°01'49" West 182.39 feet to a point on the northeasterly line of that tract of land conveyed to The Wheeler Family Investment Limited Partnership, an Oregon Limited Partnership in Document Number 2007-043768, Clackamas County Deed Records; thence along said northeasterly line and the northeasterly line, North 46°02'08" West 108.30 feet to a 6 inch by 6 inch stone with a "X" at the northerly corner thereof; thence along the northeasterly line of that tract of land conveyed to Edwin M. Tolstrup and Reitha M. Tolstrup in Document Number 2001-067656, Clackamas County Deed Records, North 46°03'35" West 400.00 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." at the southerly corner of that tract of land conveyed to David H. Wheeler Sr. Trust per Document Number 2002-068860, Clackamas County Deed Records; thence along the David H. Wheeler Sr. Trust tract, North 44°04'18" East 182.30 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR."; thence South 46°03'35" East 511.77 feet to the Point of Beginning.

The above described tract of land contains 2.13 acres, more or less.

06-25-12
REGISTERED
PROFESSIONAL
LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/12

Fidelity National Title OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	32E07C/01180
Account Num:	00862837	Owner Occ.:	No
Land Use:	680-	Census:	
Map Grid:	717-B5		
Subdivision:			

Legal Description: Township 3S Range 2E Section 07 Quarter C TAX LOT 01180 SEE SPLIT CODE ACCT 01100

Property Characteristics

Property Type:	OTHER	Building SF:		Pool:	No
House Style:		Living Area SF:		Deck SF:	
Year Built:		Square Feet:	0	Deck Desc:	
Bedrooms:		1st Floor SF:		Patio SF:	
Bathrooms:		2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	140,812	Bsmnt SF:		Ext. Finish:	
Acres:	2.63	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 236,355	Land Value:	$ 236,355	Imp. Value:	$ 0
Total Assessed Value:	$ 1,914	Levy Code:	062002	M-5 Rate:	.0182
Taxes:	$ 34.78	Tax Year:	15-16		

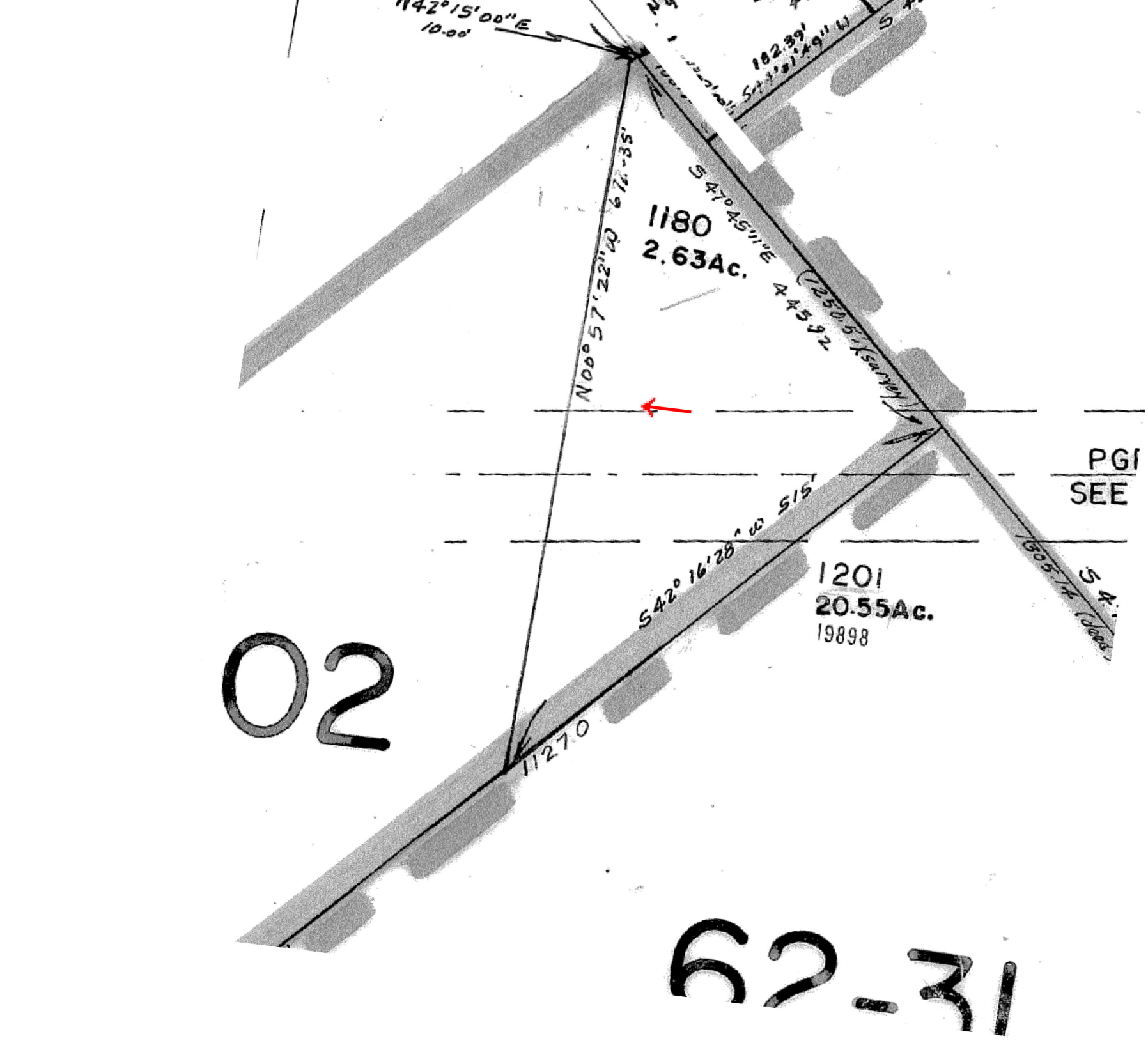
Previous Sale Information

Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
5/21/2007	$ 0		M	2007-043769	/
11/9/2004	$ 1		M	2004-103476	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
Accuracy of the information may vary by county.


N42°15'00"E
10.00'
182.39'
S47°45'49"W
N00°57'22"W 672.35'
1180
2.63Ac.
S47°45'11"E 445.92'
(1250.51' (Survey))
PGI
SEE
S42°16'28"W 515'
1201
20.55Ac.
19898
1305.14' (Meas.)
S 4
02
11270
62-31

3P

STATUTORY QUIT CLAIM DEED

David H. Wheeler Jr.
19588 S Central Point Rd.
Oregon City, OR 97045

GRANTOR

TO
David H. Wheeler Sr. as Trustee
David H. Wheeler Sr. Trust
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:

Jaylin Palacio
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013
Anna Adams

Clackamas County Official Records
Sherry Hall, County Clerk
2013-007511
$58.00
01653157201300075110030034
02/01/2013 10:15:48 AM
D-D Cnt=1 Stn=1 JANISKEL
$15.00 $10.00 $16.00 $17.00

Until a change is requested, all tax statements shall be sent to:
The David H. Wheeler Sr. Trust
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY QUITCLAIM DEED

David H. Wheeler Jr., **GRANTOR**, hereby releases and quitclaim to the David H. Wheeler Sr. as Trustee of the David H. Wheeler Sr. Trust, as **GRANTEE**, all right, title, and interest in and to the Property described as:

All real property, if any, BETWEEN: the northwestern boundary of the lot conveyed to David H Wheeler Jr. and Carol Wheeler, with the established legal description in the recorded Document Number 2004-103478, and furthermore with a legal description of said Boundary Line being described in the Boundary Line Agreement recorded in the real property records of Clackamas County as document number 2012-039420;
AND
the southeastern boundary line of the adjacent lot to the northwest, with said adjacent lot (also known as Tract 2) being recorded as Clackamas County record number 2004-103477 as amended by Property Line Adjustment Oregon City Planning File 12-01and shown Survey Number SN2012-080, with said survey recorded as Clackamas County record 2012-058983. The full legal description of the entire Tract 2 is described in Attachment A.

No monetary consideration for this conveyance was all or part of the consideration.

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Dated: January 30, 2013.

David H. Wheeler Jr.

David H. Wheeler Jr., Grantor

STATE OF OREGON, County of Clackamas) ss.
This instrument was signed or acknowledged before me on January 30, 2013.

By:

OFFICIAL SEAL
JAYLIN D PALACIO
NOTARY PUBLIC - OREGON
COMMISSION NO. 458146
MY COMMISSION EXPIRES MAY 02, 2015

Jaylin D Palacio

Notary Public for State of Oregon
My commission expires: May 2, 2015

Delivered to and accepted by:

David H. Wheeler Sr.

David H. Wheeler Sr., Trustee, the David H. Wheeler Sr. Trust

ENGINEERING PLANNING
FORESTRY
13910 S.W. Galbreath Dr., Suite 100
Sherwood, Oregon 97140
Phone: (503) 925-8799
Fax: (503) 925-8969

AKS JOB No. 2142

LANDSCAPE ARCHITECTURE
SURVEYING
AKS Group of Companies:
SHERWOOD, OREGON
SALEM, OREGON
VANCOUVER, WASHINGTON
www.aks-eng.com

EXHIBIT A

Tract 2
City of Oregon City Planning File No. LL 12-01

A tract of land located in the Southwest One-Quarter of Section 7, Township 3 South, Range 2 East, Willamette Meridian, City of Oregon City, Clackamas County, Oregon, being more particularly described as follows:

Commencing at a 5/8 inch iron rod with a red plastic cap inscribed "AKS ENGR." at the southerly corner of Lot 75 of the plat "Hazel Creek Farms"; thence along the southwest line of said Lot 75, North 46°03'51" West 38.92 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR."; thence along the northwest line of that tract of land conveyed to David H. Wheeler Jr. and Carol A. Wheeler in Document Number 2004-103478 and clarified in Boundary Line Agreement Document Number 2012-039420, Clackamas County Deed Records, South 45°09'43" West 483.16 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." and the Point of Beginning; thence South 44°01'49" West 182.39 feet to a point on the northeasterly line of that tract of land conveyed to The Wheeler Family Investment Limited Partnership, an Oregon Limited Partnership in Document Number 2007-043768, Clackamas County Deed Records; thence along said northeasterly line and the northeasterly line, North 46°02'08" West 108.30 feet to a 6 inch by 6 inch stone with a "X" at the northerly corner thereof; thence along the northeasterly line of that tract of land conveyed to Edwin M. Tolstrup and Reitha M. Tolstrup in Document Number 2001-067656, Clackamas County Deed Records, North 46°03'35" West 400.00 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." at the southerly corner of that tract of land conveyed to David H. Wheeler Sr. Trust per Document Number 2002-068860, Clackamas County Deed Records; thence along the David H. Wheeler Sr. Trust tract, North 44°04'18" East 182.30 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR."; thence South 46°03'35" East 511.77 feet to the Point of Beginning.

The above described tract of land contains 2.13 acres, more or less.

06-25-12
REGISTERED
PROFESSIONAL
LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/12

5
30

FORM No. 961 – BARGAIN AND SALE DEED – STATUTORY FORM (Individual Grantor). STEVENS-NESS LAW PUBLISHING CO., PORTLAND, OR 97204

NA

BARGAIN AND SALE DEED — STATUTORY FORM

INDIVIDUAL GRANTOR

David H. Wheeler and Winifred L. Wheeler, husband and wife

, Grantor,

conveys to Donald W. Wheeler and Roxanne O. Wheeler, husband and wife

, Grantee, the following real property situated in Clackamas

County, Oregon, to-wit:

Beginning at a point which is North 42°15' East 57.36 Feet from the most Northerly corner of a tract of land conveyed to Frank Rotter and Anna Rotter as described in Vol. 133 Pg. 629 in the deed records for Clackamas County, Oregon; Thence South 47°36'06" East 443.46 Feet; Thence South 42°16'28" West 25.00 Feet; Thence North 47°36'06" West 417.45 Feet; Thence South 42°15' West 7.41 Feet; Thence North 47°30' West 26.00 Feet; Thence north 42°15' East 32.36 Feet to the point of beginning.

Recorded By First American Title Insurance Company of Oregon 74751

IIF SPACE INSUFFICIENT, CONTINUE DESCRIPTION ON REVERSE SIDE

No The true consideration for this conveyance is $ ** 0 . (Here comply with the requirements of ORS 93.030)

** Lot Line Adjustment

Dated this 19 day of April, 19 94

David H. Wheeler

Winifred L. Wheeler

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

STATE OF OREGON, County of Clackamas) ss.

This instrument was acknowledged before me on April 19, 19 94,

by David H. Wheeler and Winifred L. Wheeler

OFFICIAL SEAL
SUSAN R. SEAWARD
NOTARY PUBLIC-OREGON
COMMISSION NO. 015780
MY COMMISSION EXPIRES MAY 31, 1996

Susan R. Seaward
Notary Public for Oregon

My commission expires 5/31/96

BARGAIN AND SALE DEED

David H. & Winifred L. Wheeler, GRANTOR
Donald W. & Roxanne O. Wheeler, GRANTEE

GRANTEE'S ADDRESS, ZIP

After recording return to:

A. Gregory McKenzie
1600 Willamette Falls Drive
West Linn, OR 97068

NAME, ADDRESS, ZIP

Until a change is requested, all tax statements shall be sent to the following address:

Donald W. Wheeler
Roxanne O. Wheeler
19898 S. White Lane
Oregon City, OR 97045

NAME, ADDRESS, ZIP

STATE OF OREGON
County of Clackamas } ss

I, John Kauffman, County Clerk, for the County of Clackamas, do hereby certify that the instrument of writing was received for recording in the records of said county at

94 APR 22 PM 3:20

COUNTY OF CLACKAMAS * STATE OF OREGON *

Witness my hand and seal affixed

JOHN KAUFFMAN
County Clerk

Deputy

Recording Certificate
CCP-R4 (Rev 6/91)

94 34241

94 34241

Fidelity National Title OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	31E12D/01700
Account Num:	00763276	Owner Occ.:	No
Land Use:	540-	Census:	
Map Grid:	717-B5		
Subdivision:			

Legal Description: Section 12 Township 3S Range 1E Quarter D TAX LOT 01700 SEE SPLIT CODE ACCT 01790

Property Characteristics

Property Type:	AGRICULTURAL	Building SF:		Pool:	No
House Style:		Living Area SF:		Deck SF:	
Year Built:		Square Feet:	0	Deck Desc:	
Bedrooms:		1st Floor SF:		Patio SF:	
Bathrooms:		2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	190,697	Bsmnt SF:		Ext. Finish:	
Acres:	4.62	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 270,495	Land Value:	$ 270,495	Imp. Value:	$ 0
Total Assessed Value:	$ 3,738	Levy Code:	062064	M-5 Rate:	.0182
Taxes:	$ 67.91	Tax Year:	15-16		

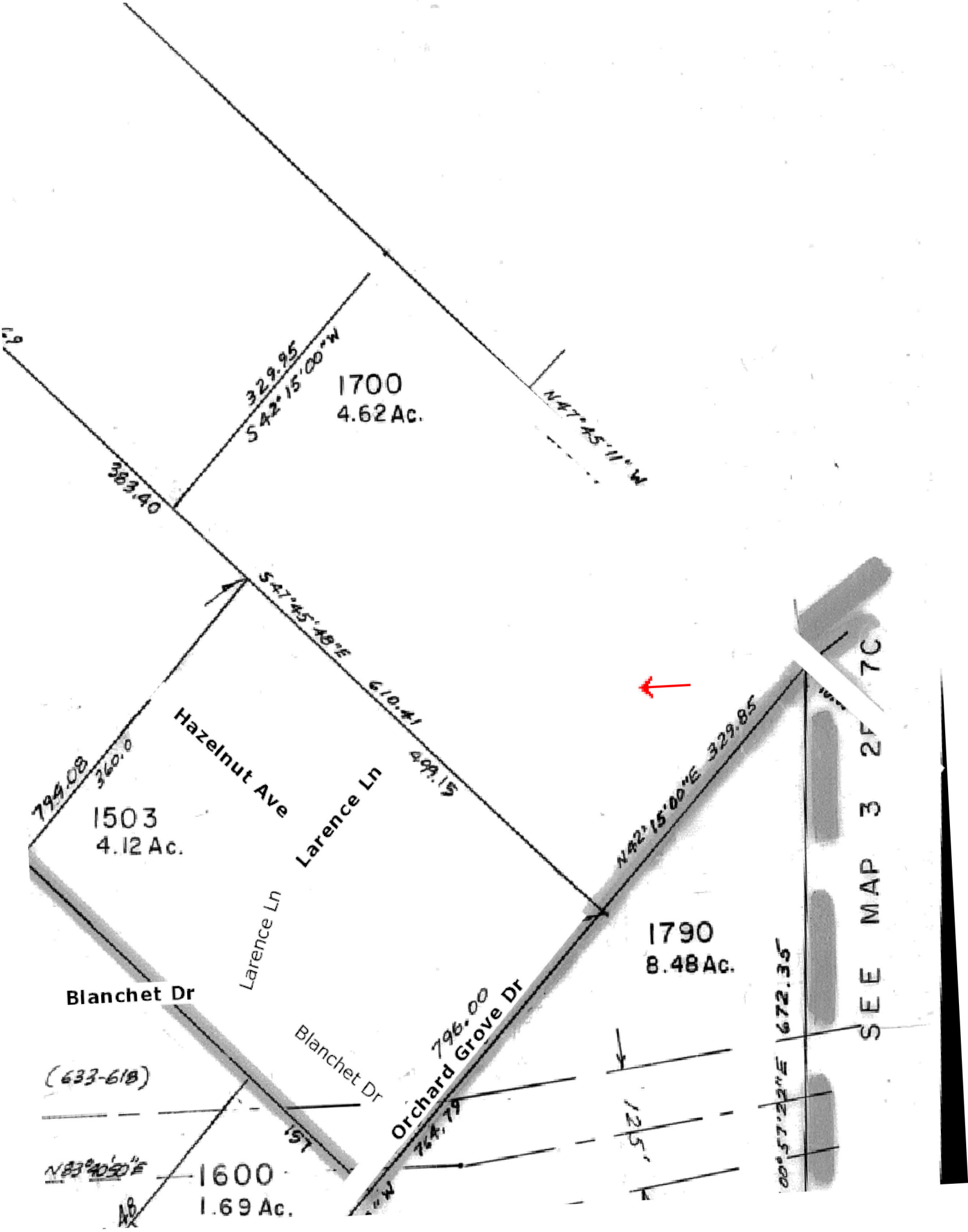
Previous Sale Information

Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
10/8/2013	$ 0		S	2013-070116	/
7/1/1993	$ 0			1993-047696	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
Accuracy of the information may vary by county.


1700
4.62 Ac.
329.95
S 42° 15' 00" W
N 47° 45' 11" W
383.40
S 47° 45' 48" E
610.41
499.15
794.08
360.0
1503
4.12 Ac.
Hazelnut Ave
Larence Ln
Larence Ln
Blanchet Dr
Blanchet Dr
N 42° 15' 00" E 329.85
1790
8.48 Ac.
796.00
Orchard Grove Dr
764.79
(633-618)
151
N 83° 40' 50" E
1600
1.69 Ac.
125.
672.35
SEE MAP 3 2

3P

BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTORS

TO
Wheeler Family, Enterprises LLC
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:

Tayda Ross
Tyler Smith
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013

Clackamas County Official Records
Sherry Hall, County Clerk
2013-070116

01723548201300701160030033
$58.00
10/08/2013 01:29:11 PM

D-D Cnt=1 Stn=9 COUNTER1
$15.00 $10.00 $16.00 $17.00

Until a change is requested, all tax statements shall be sent to:
Wheeler Family Enterprises, LLC
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership, **GRANTOR**, herby conveys to Wheeler Family Enterprises, LLC, as **GRANTEE**, the following described real property:

See attachment Exhibit A, (lot to be conveyed commonly known as Tax Lot 1700, T3S R1E Section 12D).

No monetary consideration for this conveyance was all or part of the consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE

UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009

Dated: October 8, 2013.

David H. Wheeler, Sr

David H. Wheeler Sr., General Partner Wheeler Family Investments Limited Partnership

STATE OF OREGON,)
County of Clackamas) ss.
This instrument was signed or acknowledged by David Wheeler, before me on October 8, 2013.

Sherry B Smith

Notary Public for State of Oregon
My commission expires: July 14, 2016

OFFICIAL SEAL
SHERRY B SMITH
NOTARY PUBLIC - OREGON
COMMISSION NO. 469538
MY COMMISSION EXPIRES JULY 14, 2016

Delivered to and accepted by:

David H. Wheeler Sr.

David H. Wheeler Sr., Member Wheeler Family Enterprises, LLC

EXHIBIT A

Beginning at a point on the northeasterly line of that tract of land described in Recorders Fee 93-47696, Clackamas County Deed Records, located in the S.E. 1/4 of Section 12, T.3S., R.1E., and the S.W. 1/4 of Section 7, T.3S., R.2E., W.M., Clackamas County, Oregon, said point being S42°41'31"W 65.05 feet and S47°45'11"E 677.68 feet from a 5/8 inch iron rod marking the most northerly curve point of Lot 1, "Filbert Orchard"; thence, leaving said northeasterly line, S42° 15'00"W 329.95 feet to the southwesterly line of said tract; thence, on the southwesterly line S47°45'48"E 610.41 feet to the most southerly corner of said track; thence, on the southeasterly line of said tract, N42°15'00"E 329.85 feet to the most easterly corner of said tract; thence, on the northeasterly line of said tract N47°45'11"W 610.41 feet to the POINT OF BEGINNING.

The tract known as tax lot 1700 conveyed herein contains 4.62 acres, more or less.

Subject to any easements of record.

Fidelity National Title OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	31E12D/01790
Account Num:	01655729	Owner Occ.:	No
Land Use:	640-	Census:	
Map Grid:	717-A6		
Subdivision:			

Legal Description: Section 12 Township 3S Range 1E Quarter D TAX LOT 01790 SEE SPLIT CODE ACCT 01700

Property Characteristics

Property Type:	VACANT LAND	Building SF:		Pool:	No
House Style:		Living Area SF:		Deck SF:	
Year Built:		Square Feet:	0	Deck Desc:	
Bedrooms:		1st Floor SF:		Patio SF:	
Bathrooms:		2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	346,764	Bsmnt SF:		Ext. Finish:	
Acres:	8.48	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 376,049	Land Value:	$ 376,049	Imp. Value:	$ 0
Total Assessed Value:	$ 2,985	Levy Code:	062002	M-5 Rate:	.0182
Taxes:	$ 54.23	Tax Year:	15-16		

Previous Sale Information

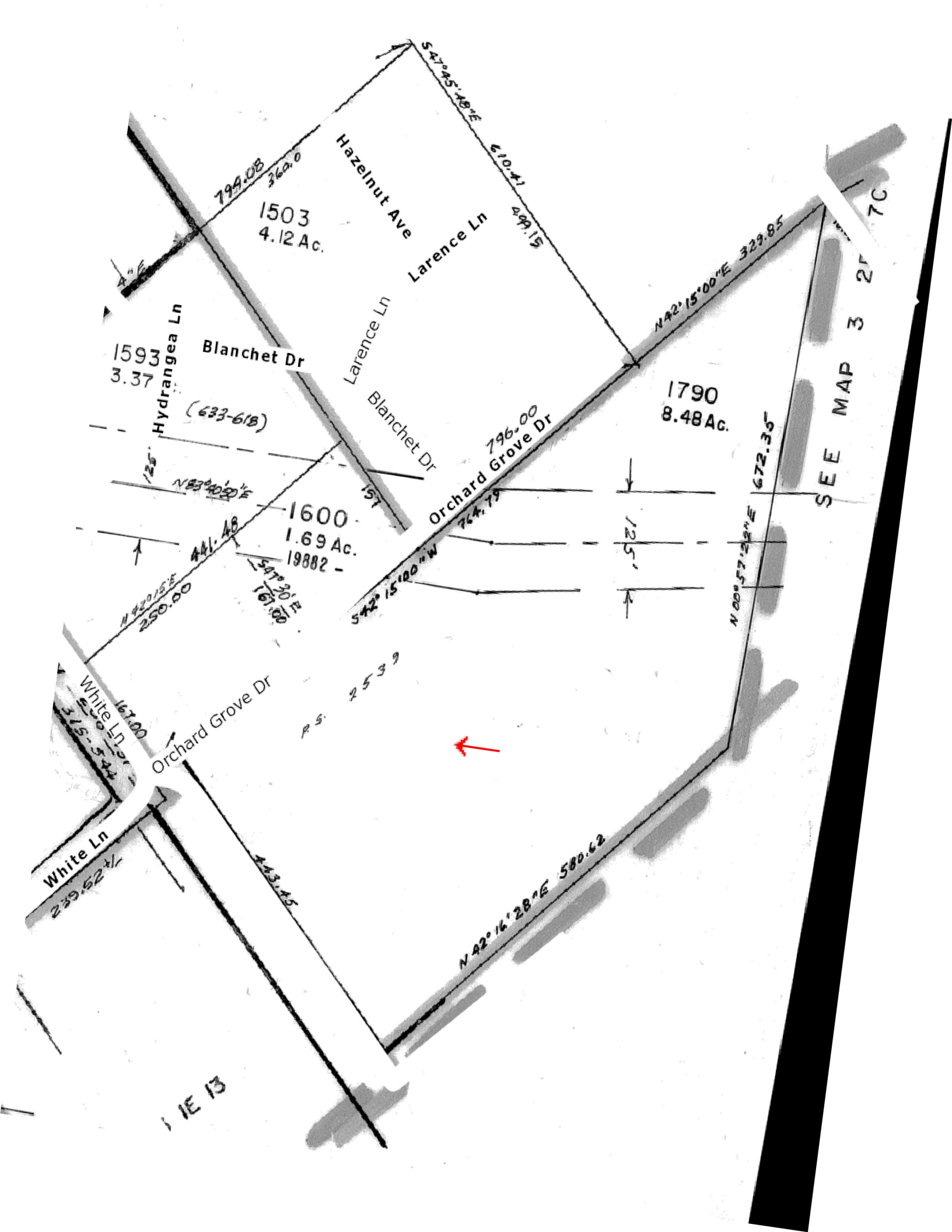
Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
10/8/2013	$ 0		S	2013-070117	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
Accuracy of the information may vary by county.

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1503
4.12 Ac.
Hazelnut Ave
Larence Ln
Larence Ln
Blanchet Dr
1593
3.37
Hydrangea Ln
Blanchet Dr
(633-618)
1600
1.69 Ac.
19882
1790
8.48 Ac.
Orchard Grove Dr
Orchard Grove Dr
White Ln
White Ln
SEE MAP
799.08
360.0
S47°45'48"E 610.41
499.15
N42°15'00"E 329.85
796.00
764.79
672.35'
441.48
250.00
N42°15'E
S47°30'E 161.00
S42°15'00"W
N 88°57'12"E
125'
N83°40'20"E
157'
167.00
239.52±
443.45
N 42°16'28"E 580.62
PS 4539

3P

BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTORS

TO

Wheeler Family, Enterprises LLC
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:

Fayda Ross
Tyler Smith
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013

Clackamas County Official Records
Sherry Hall, County Clerk

2013-070117

$58.00

01723549201300701170030030

10/08/2013 01:29:11 PM

D-D Cnt=1 Stn=9 COUNTER1
$15.00 $10.00 $16.00 $17.00

Until a change is requested, all tax statements shall be sent to:
Wheeler Family Enterprises, LLC
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership, **GRANTOR**, herby conveys to Wheeler Family Enterprises, LLC, as **GRANTEE**, the following described real property:

See attachment Exhibit A, (lot to be conveyed commonly known as Tax Lot 1790, T3S R1E Section 12D).

No monetary consideration for this conveyance was all or part of the consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE

UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009

Dated: October 8, 2013.

David H. Wheeler Sr

David H. Wheeler Sr., General Partner Wheeler Family Investments Limited Partnership

STATE OF OREGON,)
County of Clackamas) ss.
This instrument was signed or acknowledged by David Wheeler, before me on October 8, 2013.

OFFICIAL SEAL
SHERRY B SMITH
NOTARY PUBLIC - OREGON
COMMISSION NO. 469538
MY COMMISSION EXPIRES JULY 14, 2016

Sherry B Smith

Notary Public for State of Oregon
My commission expires: July 14, 2016

Delivered to and accepted by:

David H Wheeler Sr.

David H. Wheeler Sr., Member, Wheeler Enterprises LLC

EXHIBIT A

Beginning at a point on the northeasterly line of that tract of land described in Recorders Fee 93-47696, Clackamas County Deed Records, located in the S.E. 1/4 of Section 12, T.3S., R.1E., and the S.W. 1/4 of Section 7, T.3S., R.2E., W.M., Clackamas County, Oregon, said point being S42° 41'31"W 65.05 feet and S47° 45'11" E 677.68 feet from a 5/8 inch rod marking the most northerly curve point of Lot 1, "Filbert Orchard"; thence, leaving said northeasterly line, S42° 150' 0"W 329.95 feet to the southwesterly line of said tract; thence, on said southwesterly line S47°45' 48"E 610.41 feet to the most southerly corner of said tract, said corner being on the northwesterly line of that tract of land described in Recorders Fee No. 83-11698, Clackamas County deed Records; thence, on said northwesterly line S42°15' 00" W 764.79 feet to the most westerly corner of said tract; thence, on the southwesterly line of said tract S47°36' 06"E 443.45 feet; thence N42° 16' 28"E 580.62 feet; thence, N00°57'22"E 672.35 feet to the northwesterly line of said tract (Fee 83-11698); thence, on said northwesterly line N42°15'00"E 10.00 feet to the most easterly corner of said tract (Fee No. 93-47696); thence, on the northeasterly line of said tract N47°45'11"W 610.41 feet to the POINT OF BEGINNING.

(Above description includes both tax lot 1700 and 1790 as recorded and described in the boundary line agreement recorded in Clackamas County Records document number 2003-085041, Exhibit C).

EXCLUDING that portion of above description known as tax lot 1700 which is being conveyed by separate document, with full description of excluded portion being:

Beginning at a point on the northeasterly line of that tract of land described in Recorders Fee 93-47696, Clackamas County Deed Records, located in the S.E. 1/4 of Section 12, T.3S., R.1E., and the S.W. 1/4 of Section 7, T.3S., R.2E., W.M., Clackamas County, Oregon, said point being S42°41'31"W 65.05 feet and S47°45'11"E 677.68 feet from a 5/8 inch iron rod marking the most northerly curve point of Lot 1, "Filbert Orchard"; thence, leaving said northeasterly line, S42° 15'00"W 329.95 feet to the southwesterly line of said tract; thence, on the southwesterly line S47°45'48"E 610.41 feet to the most southerly corner of said track; thence, on the southeasterly line of said tract, N42°15'00"E 329.85 feet to the most easterly corner of said tract; thence, on the northeasterly line of said tract N47°45'45'11"W 610.41 feet to the POINT OF BEGINNING. (The tract known as tax lot 1700 contains 4.62 acres, more or less).

With the parcel being conveyed under this document consisting of 8.48 acres more or less.

Subject to any easements of record.

Exhibit E: 2016 Property Tax Statements

07/01/2016 - 06/30/2017 REAL PROPERTY TAX STATEMENT

CLACKAMAS COUNTY, OREGON * 150 BEAVERCREEK RD * OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION | **MAP: 32E07C 01001** | **ACCOUNT NO: 00862748**

NO SITUS

ADDRESS OR

Code Area: 062-064

Acres: 4.21

Farm Deferral - POTENTIAL ADDITIONAL TAX

VALUES:	LAST YEAR	THIS YEAR
REAL MARKET VALUES (RMV):		
RMV LAND	557,432	711,855
RMV BLDG		
RMV TOTAL	557,432	711,855
M5 TOTAL (SAV)	9,506	10,062
ASSESSED VALUE	3,406	3,507
TOTAL TAXABLE AV	3,406	3,507
PROPERTY TAXES:	**61.88**	**63.47**

* Property taxes may be paid online, see applicable fees prior to paying.
* Payments may be mailed to PO Box 6100, Portland, OR 97228-6100. When paying by mail, please make checks payable to Clackamas County Tax Collector.
* You may also pay in our office, located in the Development Services Building at 150 Beavercreek Road in Oregon City.
* If your mortgage company pays your taxes, this information is for your records.

TAX PAYMENT OPTIONS

Payment Options	Date Due	Discount Allowed		Net Amount
FULL	**Nov 15th, 2016**	**1.90**	**3%**	**61.57**
2/3	**Nov 15th, 2016**	**0.85**	**2%**	**41.46**
1/3	**Nov 15th, 2016**			**21.15**

2016 - 2017 CURRENT TAX BY DISTRICT:

COM COLL CLACK	1.85
ESD CLACKAMAS	1.23
SCH OREGON CITY	16.56
EDUCATION TOTAL:	**19.64**
CITY OREGON CITY	14.70
COUNTY CLACKAMAS	8.02
COUNTY EXTENSION & 4-H	0.17
COUNTY LIBRARY	1.32
COUNTY PUBLIC SFTY LOC OPT	0.87
COUNTY SOIL CONS	0.17
FD 1 CLACK CO	7.93
PORT OF PTLD	0.23
SRV 2 METRO	0.32
SRV 2 METRO LOC OPT	0.34
URBAN RENEWAL COUNTY	0.12
URBAN RENEWAL OREGON CITY	2.95
VECTOR CONTROL	0.02
VECTOR CONTROL LOC OPT	0.09
GENERAL GOVERNMENT TOTAL:	**37.25**
CITY OREGON CITY BOND	0.31
COM COLL CLACK BOND	0.62
FD 1 CLACK CO BOND	0.32
SCH OREGON CITY BOND	4.62
SRV 2 METRO BOND	0.71
EXCLUDED FROM LIMIT TOTAL:	**6.58**
2016 - 2017 TAX BEFORE DISCOUNT	**63.47**

DELINQUENT TAXES: **0.00**

TOTAL (after discount) **61.57**

Delinquent tax amount is included in payment options listed below. Delinquent taxes marked with an (*) are subject to foreclosure if not paid on or before May 15th.

The on-line tax statement information reflects the certified property tax as of the October certification date for the tax year referenced. This information does not reflect any tax payments, value corrections, or delinquent interest on an account after the due date listed. If you have questions or need current tax balance information, please contact our office at 503-655-8671. Our office hours are Monday through Thursday from 7:00 am to 6:00 pm; Clackamas County offices are closed on Fridays. You can leave a voice mail message or email us at PropertyTaxInfo@co.clackamas.or.us, our goal is to respond to you on the following business day.

07/01/2016 - 06/30/2017 REAL PROPERTY TAX STATEMENT

CLACKAMAS COUNTY, OREGON * 150 BEAVERCREEK RD * OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION | **MAP: 32E07C 01100** | **ACCOUNT NO: 00862828**

NO SITUS

ADDRESS OR

Code Area: 062-064

Acres: 2.13

Farm Deferral - POTENTIAL ADDITIONAL TAX

VALUES:	LAST YEAR	THIS YEAR
REAL MARKET VALUES (RMV):		
RMV LAND	179,617	229,376
RMV BLDG	92,360	99,970
RMV TOTAL	271,977	329,346
M5 TOTAL (SAV)	189,672	223,682
ASSESSED VALUE	132,652	136,631
TOTAL TAXABLE AV	132,652	136,631
PROPERTY TAXES:	**2,409.93**	**2,472.46**

* Property taxes may be paid online, see applicable fees prior to paying.
* Payments may be mailed to PO Box 6100, Portland, OR 97228-6100. When paying by mail, please make checks payable to Clackamas County Tax Collector.
* You may also pay in our office, located in the Development Services Building at 150 Beavercreek Road in Oregon City.
* If your mortgage company pays your taxes, this information is for your records.

TAX PAYMENT OPTIONS

Payment Options	Date Due	Discount Allowed		Net Amount
FULL	**Nov 15th, 2016**	**74.17**	**3%**	**2,398.29**
2/3	**Nov 15th, 2016**	**32.97**	**2%**	**1,615.34**
1/3	**Nov 15th, 2016**			**824.16**

2016 - 2017 CURRENT TAX BY DISTRICT:

COM COLL CLACK	72.15
ESD CLACKAMAS	47.74
SCH OREGON CITY	645.38
EDUCATION TOTAL:	**765.27**
CITY OREGON CITY	573.30
COUNTY CLACKAMAS	312.56
COUNTY EXTENSION & 4-H	6.48
COUNTY LIBRARY	51.46
COUNTY PUBLIC SFTY LOC OPT	33.88
COUNTY SOIL CONS	6.48
FD 1 CLACK CO	308.81
PORT OF PTLD	9.09
SRV 2 METRO	12.50
SRV 2 METRO LOC OPT	13.12
URBAN RENEWAL COUNTY	4.71
URBAN RENEWAL OREGON CITY	114.66
VECTOR CONTROL	0.85
VECTOR CONTROL LOC OPT	3.42
GENERAL GOVERNMENT TOTAL:	**1,451.32**
CITY OREGON CITY BOND	12.21
COM COLL CLACK BOND	24.27
FD 1 CLACK CO BOND	12.65
SCH OREGON CITY BOND	178.91
SRV 2 METRO BOND	27.83
EXCLUDED FROM LIMIT TOTAL:	**255.87**
2016 - 2017 TAX BEFORE DISCOUNT	**2,472.46**

DELINQUENT TAXES: **0.00**

TOTAL (after discount) **2,398.29**

Delinquent tax amount is included in payment options listed below. Delinquent taxes marked with an (*) are subject to foreclosure if not paid on or before May 15th.

The on-line tax statement information reflects the certified property tax as of the October certification date for the tax year referenced. This information does not reflect any tax payments, value corrections, or delinquent interest on an account after the due date listed. If you have questions or need current tax balance information, please contact our office at 503-655-8671. Our office hours are Monday through Thursday from 7:00 am to 6:00 pm; Clackamas County offices are closed on Fridays. You can leave a voice mail message or email us at PropertyTaxInfo@co.clackamas.or.us, our goal is to respond to you on the following business day.

07/01/2016 - 06/30/2017 REAL PROPERTY TAX STATEMENT

CLACKAMAS COUNTY, OREGON * 150 BEAVERCREEK RD * OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION | **MAP: 32E07C 01180** | **ACCOUNT NO: 00862837**

NO SITUS

ADDRESS OR

Code Area: 062-002

Acres: 2.63

Mixed Use Deferral - POTENTIAL ADDITIONAL TAX

VALUES:	LAST YEAR	THIS YEAR
REAL MARKET VALUES (RMV):		
RMV LAND	236,355	301,832
RMV BLDG		
RMV TOTAL	236,355	301,832
M5 TOTAL (SAV)	5,062	5,335
ASSESSED VALUE	1,914	1,970
TOTAL TAXABLE AV	1,914	1,970
PROPERTY TAXES:	**34.78**	**35.65**

* Property taxes may be paid online, see applicable fees prior to paying.
* Payments may be mailed to PO Box 6100, Portland, OR 97228-6100. When paying by mail, please make checks payable to Clackamas County Tax Collector.
* You may also pay in our office, located in the Development Services Building at 150 Beavercreek Road in Oregon City.
* If your mortgage company pays your taxes, this information is for your records.

TAX PAYMENT OPTIONS

Payment Options	Date Due	Discount Allowed		Net Amount
FULL	**Nov 15th, 2016**	**1.07**	**3%**	**34.58**
2/3	**Nov 15th, 2016**	**0.48**	**2%**	**23.29**
1/3	**Nov 15th, 2016**			**11.89**

2016 - 2017 CURRENT TAX BY DISTRICT:

COM COLL CLACK	1.04
ESD CLACKAMAS	0.69
SCH OREGON CITY	9.30
EDUCATION TOTAL:	**11.03**
CITY OREGON CITY	8.30
COUNTY CLACKAMAS	4.51
COUNTY EXTENSION & 4-H	0.09
COUNTY LIBRARY	0.74
COUNTY PUBLIC SFTY LOC OPT	0.49
COUNTY SOIL CONS	0.09
FD 1 CLACK CO	4.45
PORT OF PTLD	0.13
SRV 2 METRO	0.18
SRV 2 METRO LOC OPT	0.19
URBAN RENEWAL COUNTY	0.06
URBAN RENEWAL OREGON CITY	1.64
VECTOR CONTROL	0.01
VECTOR CONTROL LOC OPT	0.05
GENERAL GOVERNMENT TOTAL:	**20.93**
CITY OREGON CITY BOND	0.18
COM COLL CLACK BOND	0.35
FD 1 CLACK CO BOND	0.18
SCH OREGON CITY BOND	2.58
SRV 2 METRO BOND	0.40
EXCLUDED FROM LIMIT TOTAL:	**3.69**
2016 - 2017 TAX BEFORE DISCOUNT	**35.65**

DELINQUENT TAXES: **0.00**

TOTAL (after discount) **34.58**

Delinquent tax amount is included in payment options listed below. Delinquent taxes marked with an (*) are subject to foreclosure if not paid on or before May 15th.

The on-line tax statement information reflects the certified property tax as of the October certification date for the tax year referenced. This information does not reflect any tax payments, value corrections, or delinquent interest on an account after the due date listed. If you have questions or need current tax balance information, please contact our office at 503-655-8671. Our office hours are Monday through Thursday from 7:00 am to 6:00 pm; Clackamas County offices are closed on Fridays. You can leave a voice mail message or email us at PropertyTaxInfo@co.clackamas.or.us, our goal is to respond to you on the following business day.

07/01/2016 - 06/30/2017 REAL PROPERTY TAX STATEMENT

CLACKAMAS COUNTY, OREGON * 150 BEAVERCREEK RD * OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION | **MAP: 32E07C 01291** | **ACCOUNT NO: 01655738**

NO SITUS

ADDRESS OR

Code Area: 062-002

Acres: 0.26

Forest Deferral - POTENTIAL ADDITIONAL TAX

VALUES:	LAST YEAR	THIS YEAR
REAL MARKET VALUES (RMV):		
RMV LAND	4,288	5,475
RMV BLDG		
RMV TOTAL	4,288	5,475
M5 TOTAL (SAV)	180	180
ASSESSED VALUE	111	114
TOTAL TAXABLE AV	111	114
PROPERTY TAXES:	**2.02**	**2.06**

* Property taxes may be paid online, see applicable fees prior to paying.
* Payments may be mailed to PO Box 6100, Portland, OR 97228-6100. When paying by mail, please make checks payable to Clackamas County Tax Collector.
* You may also pay in our office, located in the Development Services Building at 150 Beavercreek Road in Oregon City.
* If your mortgage company pays your taxes, this information is for your records.

TAX PAYMENT OPTIONS

Payment Options	Date Due	Discount Allowed		Net Amount
FULL	**Nov 15th, 2016**	**0.06**	**3%**	**2.00**
2/3	**Nov 15th, 2016**	**0.03**	**2%**	**1.34**
1/3	**Nov 15th, 2016**			**0.68**

2016 - 2017 CURRENT TAX BY DISTRICT:

COM COLL CLACK	0.06
ESD CLACKAMAS	0.04
SCH OREGON CITY	0.54
EDUCATION TOTAL:	**0.64**
CITY OREGON CITY	0.49
COUNTY CLACKAMAS	0.26
COUNTY EXTENSION & 4-H	0.01
COUNTY LIBRARY	0.04
COUNTY PUBLIC SFTY LOC OPT	0.03
COUNTY SOIL CONS	0.01
FD 1 CLACK CO	0.26
PORT OF PTLD	0.01
SRV 2 METRO	0.01
SRV 2 METRO LOC OPT	0.01
URBAN RENEWAL OREGON CITY	0.08
GENERAL GOVERNMENT TOTAL:	**1.21**
CITY OREGON CITY BOND	0.01
COM COLL CLACK BOND	0.02
FD 1 CLACK CO BOND	0.01
SCH OREGON CITY BOND	0.15
SRV 2 METRO BOND	0.02
EXCLUDED FROM LIMIT TOTAL:	**0.21**
2016 - 2017 TAX BEFORE DISCOUNT	**2.06**

DELINQUENT TAXES: **0.00**

TOTAL (after discount) **2.00**

Delinquent tax amount is included in payment options listed below. Delinquent taxes marked with an (*) are subject to foreclosure if not paid on or before May 15th.

The on-line tax statement information reflects the certified property tax as of the October certification date for the tax year referenced. This information does not reflect any tax payments, value corrections, or delinquent interest on an account after the due date listed. If you have questions or need current tax balance information, please contact our office at 503-655-8671. Our office hours are Monday through Thursday from 7:00 am to 6:00 pm; Clackamas County offices are closed on Fridays. You can leave a voice mail message or email us at PropertyTaxInfo@co.clackamas.or.us, our goal is to respond to you on the following business day.

07/01/2016 - 06/30/2017 REAL PROPERTY TAX STATEMENT

CLACKAMAS COUNTY, OREGON * 150 BEAVERCREEK RD * OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION | **MAP: 31E12D 01700** | **ACCOUNT NO: 00763276**

NO SITUS

ADDRESS OR

Code Area: 062-064

Acres: 4.62

Farm Deferral - POTENTIAL ADDITIONAL TAX

VALUES:	LAST YEAR	THIS YEAR
REAL MARKET VALUES (RMV):		
RMV LAND	270,495	345,430
RMV BLDG		
RMV TOTAL	270,495	345,430
M5 TOTAL (SAV)	10,432	11,042
ASSESSED VALUE	3,738	3,848
TOTAL TAXABLE AV	3,738	3,848
PROPERTY TAXES:	**67.91**	**69.64**

* Property taxes may be paid online, see applicable fees prior to paying.
* Payments may be mailed to PO Box 6100, Portland, OR 97228-6100. When paying by mail, please make checks payable to Clackamas County Tax Collector.
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* If your mortgage company pays your taxes, this information is for your records.

TAX PAYMENT OPTIONS

Payment Options	Date Due	Discount Allowed		Net Amount
FULL	**Nov 15th, 2016**	**2.09**	**3%**	**67.55**
2/3	**Nov 15th, 2016**	**0.93**	**2%**	**45.50**
1/3	**Nov 15th, 2016**			**23.22**

2016 - 2017 CURRENT TAX BY DISTRICT:

COM COLL CLACK	2.03
ESD CLACKAMAS	1.34
SCH OREGON CITY	18.18
EDUCATION TOTAL:	**21.55**
CITY OREGON CITY	16.14
COUNTY CLACKAMAS	8.80
COUNTY EXTENSION & 4-H	0.18
COUNTY LIBRARY	1.45
COUNTY PUBLIC SFTY LOC OPT	0.95
COUNTY SOIL CONS	0.18
FD 1 CLACK CO	8.70
PORT OF PTLD	0.26
SRV 2 METRO	0.35
SRV 2 METRO LOC OPT	0.37
URBAN RENEWAL COUNTY	0.13
URBAN RENEWAL OREGON CITY	3.24
VECTOR CONTROL	0.02
VECTOR CONTROL LOC OPT	0.10
GENERAL GOVERNMENT TOTAL:	**40.87**
CITY OREGON CITY BOND	0.34
COM COLL CLACK BOND	0.68
FD 1 CLACK CO BOND	0.36
SCH OREGON CITY BOND	5.05
SRV 2 METRO BOND	0.79
EXCLUDED FROM LIMIT TOTAL:	**7.22**
2016 - 2017 TAX BEFORE DISCOUNT	**69.64**

DELINQUENT TAXES: **0.00**

TOTAL (after discount) **67.55**

Delinquent tax amount is included in payment options listed below. Delinquent taxes marked with an (*) are subject to foreclosure if not paid on or before May 15th.

The on-line tax statement information reflects the certified property tax as of the October certification date for the tax year referenced. This information does not reflect any tax payments, value corrections, or delinquent interest on an account after the due date listed. If you have questions or need current tax balance information, please contact our office at 503-655-8671. Our office hours are Monday through Thursday from 7:00 am to 6:00 pm; Clackamas County offices are closed on Fridays. You can leave a voice mail message or email us at PropertyTaxInfo@co.clackamas.or.us, our goal is to respond to you on the following business day.

07/01/2016 - 06/30/2017 REAL PROPERTY TAX STATEMENT

CLACKAMAS COUNTY, OREGON * 150 BEAVERCREEK RD * OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION | **MAP: 31E12D 01790** | **ACCOUNT NO: 01655729**

NO SITUS

ADDRESS OR

Code Area: 062-002

Acres: 8.48

Forest Deferral - POTENTIAL ADDITIONAL TAX

VALUES:	LAST YEAR	THIS YEAR
REAL MARKET VALUES (RMV):		
RMV LAND	376,049	480,224
RMV BLDG		
RMV TOTAL	376,049	480,224
M5 TOTAL (SAV)	4,848	4,855
ASSESSED VALUE	2,985	3,076
TOTAL TAXABLE AV	2,985	3,076
PROPERTY TAXES:	**54.23**	**55.66**

* Property taxes may be paid online, see applicable fees prior to paying.
* Payments may be mailed to PO Box 6100, Portland, OR 97228-6100. When paying by mail, please make checks payable to Clackamas County Tax Collector.
* You may also pay in our office, located in the Development Services Building at 150 Beavercreek Road in Oregon City.
* If your mortgage company pays your taxes, this information is for your records.

TAX PAYMENT OPTIONS

Payment Options	Date Due	Discount Allowed		Net Amount
FULL	**Nov 15th, 2016**	**1.67**	**3%**	**53.99**
2/3	**Nov 15th, 2016**	**0.74**	**2%**	**36.37**
1/3	**Nov 15th, 2016**			**18.56**

2016 - 2017 CURRENT TAX BY DISTRICT:

COM COLL CLACK	1.62
ESD CLACKAMAS	1.07
SCH OREGON CITY	14.54
EDUCATION TOTAL:	**17.23**
CITY OREGON CITY	12.91
COUNTY CLACKAMAS	7.04
COUNTY EXTENSION & 4-H	0.15
COUNTY LIBRARY	1.16
COUNTY PUBLIC SFTY LOC OPT	0.76
COUNTY SOIL CONS	0.15
FD 1 CLACK CO	6.95
PORT OF PTLD	0.20
SRV 2 METRO	0.28
SRV 2 METRO LOC OPT	0.30
URBAN RENEWAL COUNTY	0.10
URBAN RENEWAL OREGON CITY	2.57
VECTOR CONTROL	0.02
VECTOR CONTROL LOC OPT	0.08
GENERAL GOVERNMENT TOTAL:	**32.67**
CITY OREGON CITY BOND	0.27
COM COLL CLACK BOND	0.55
FD 1 CLACK CO BOND	0.28
SCH OREGON CITY BOND	4.04
SRV 2 METRO BOND	0.62
EXCLUDED FROM LIMIT TOTAL:	**5.76**
2016 - 2017 TAX BEFORE DISCOUNT	**55.66**

DELINQUENT TAXES: **0.00**

TOTAL (after discount) **53.99**

Delinquent tax amount is included in payment options listed below. Delinquent taxes marked with an (*) are subject to foreclosure if not paid on or before May 15th.

The on-line tax statement information reflects the certified property tax as of the October certification date for the tax year referenced. This information does not reflect any tax payments, value corrections, or delinquent interest on an account after the due date listed. If you have questions or need current tax balance information, please contact our office at 503-655-8671. Our office hours are Monday through Thursday from 7:00 am to 6:00 pm; Clackamas County offices are closed on Fridays. You can leave a voice mail message or email us at PropertyTaxInfo@co.clackamas.or.us, our goal is to respond to you on the following business day.

Exhibit F: Approved Subdivision Name

REQUEST TO RESERVE SUBDIVISION / CONDOMINIUM NAME

Clackamas County Surveyor's Office
150 Beavercreek Road #325
Oregon City, OR 97045
(503) 742-4475 / FAX (503) 742-4481
E-mail address: surveyor@clackamas.us

PLAT NAME REQUESTED:

Wheeler Farms

	TWP/RANGE:	SECTION#:	TAX LOT#(s):
***Location of Plat*:**	32E 31E	07C 12D	1001, 1100, 1180, 1291 1700, 1790

I understand that if the above name plat is not pending or recorded within two years, the name will be removed from the reserved list.

RESERVED BY:

DATE:	TELEPHONE:	FAX:
04/03/2017	(503) 563 - 6151	(503) 563 - 6152

EMAIL ADDRESS: scheideggerm@aks-eng.com

PLAT SURVEYOR: #

NAME OF DEVELOPER:

ADDRESS:

DATE:	TELEPHONE:	FAX:
	( ) -	( ) -

EMAIL ADDRESS:

APPROVED BY:	APPROVAL DATE:

Matt Scheidegger

From: Fuller, Debbie <DebbieFul@co.clackamas.or.us>
Sent: Tuesday, April 4, 2017 8:42 AM
To: Matt Scheidegger
Subject: Good News for You!

Categories: Filed by Newforma

Hey Matt,

Ray and I confer that the requested name of "Wheeler Farms" is approved. Since the other plat recorded 22 years ago, it doesn't seem feasible that they would be developing any further plats with that name.
Have a wonderful day! ☺

Debbie Fuller
Department of Transportation & Development
County Surveyor & Engineering
Phone: 503.742.4492 | Email: debbieful@clackamas.us
My office hours 7:30-4:30 Monday – Thursday and Friday 7:30-3:00

The Clackamas County Department of Transportation and Development is dedicated to providing excellent customer service. Please help us to serve you better by giving us your feedback. We appreciate your comments and will use them to evaluate and improve the quality of our public service.

Exhibit G: Draft CC&R's

DRAFT

AFTER RECORDING, RETURN TO:

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS

This Declaration of Protective Covenants, Conditions and Restrictions ("Declaration") is made and effective the ____, day of _____, 2017. This Declaration affects that certain real property (the "Property") located in the City of Oregon City, Clackamas County, Oregon and more particularly described as Lots 1 through 77, inclusive, as shown on Subdivision Plat _____ (the "Plat) recorded in the official records of Clackamas County on _____, and all improvements now existing or to be constructed on Property, which Property and improvements are collectively known and referred to as Wheeler Farms.

RECITALS, INTENT AND PURPOSE

A. _____ is the owner in fee simple of the Property and the Declarant herein.

NOW, THEREFORE, for such purposes, Declarant makes this Declaration for governance of the Property:

DECLARATION

Declarant hereby declares on behalf of itself, its successors, grantees and assigns, as well as any and all persons having, acquiring or seeking to have or acquire any interest of any nature whatsoever in and to any part of the Property, as follows:

1. Definitions. Except as otherwise provided or modified by this Section 1, the terms contained herein shall have the meaning set forth in the Oregon Planned Community Act, ORS 94.550 et seq. As used in this Declaration, the following terms shall have the following meanings:

1.1 Mortgage. Mortgage means a recorded first mortgage, first trust deed or first contract of sale that creates a first lien against a Lot, and “Mortgagee” means the holder,

beneficiary or vendor of such a mortgage, trust deed or contract of sale, but only when such holder, beneficiary or vendor notifies the Association in writing of the existence of such mortgage and gives the Association a current name and mailing address.

1.2 Owner. Owner means the sole, or all joint, owners of one or more Lots.

1.3 Plat. Plat has the meaning provided in the initial paragraph of this Declaration.

2. Name Description

2.1. Name. The name by which the Property shall be known is Wheeler Farms.

2.2. Lot Designation. The Property is comprised of seventy-seven (77) Lots, each suitable for construction of one residential building, and easements as described in the Plat. The boundaries, designation, location and dimensions of each Lot are shown on the Plat.

3. Easements. Easements are reserved as shown on the Plat. Within these easements no structure, planting or other materials shall be placed or permitted to remain which may damage or interfere with the purpose of the easement.

4. Building Materials and Size Limitations. All building materials to be incorporated into and visible as a part of the external structure of any building or other structure in the Property conform to the following criteria:

4.1. Roofing material. In particular, all roofing material for any building or structure shall be of wood (shake or shingle), tile, or a 25-year or better composition architectural shake with ridge caps.

4.2. Siding material. All siding materials shall be natural wood, or man-made lap siding materials provided.

4.3. Minimum House Size. Each residence constructed on a Lot shall have a minimum floor area of 1,000 square feet, exclusive of garages.

5. Landscape, Hedges and Fences. All front and side yards must be completely landscaped within six (6) months of initial occupancy. All grounds and related structures shall be maintained in harmony with surrounding landscaping. No weeds, noxious plants, or unsightly vegetation shall be planted or allowed to grow. Fences shall comply with applicable City regulations but shall not exceed six(6) feet in height. Fences shall be well constructed of suitable materials and shall not detract from the appearance of the adjacent structures or buildings. No high output exterior lighting, including but not limited to mercury vapor and halide lights, shall be installed. No tree shall be removed except in accordance with City of Oregon City permit standards.

6. No Rezoning or Redivision. No property within the Property may be rezoned or

redivided, nor may a Lot line or boundary line of a Lot be altered, without the written consent of the City of Oregon City and a majority of Owners.

7. Restrictions on Animals. No animals of any kind shall be raised, bred or kept in the Property, except that dogs, cats and other commonly maintained household pets may be kept so long as they are not bred, maintained or kept for commercial purposes. No animal of any kind, including dogs and cats, shall be allowed to interfere with the quiet enjoyment of the other residents in the Property, or permitted untended upon the streets, or upon premises of other occupants of the Property.

8. No Commercial Use. No portion of property in the Property shall be used for business or commercial purposes. No occupant of property within the Property shall park, nor permit to be parked, any commercial vehicle such as log trucks, dump trucks, tractor trailer rigs, or any other vehicles except passenger automobiles (including pickups) upon property, including streets, in the Property. No owner or occupant shall permit, initiate, or carry on activities in the Property that are obnoxious or offensive, nor allow conditions on any Lot to become a nuisance or annoyance to the neighborhood. No commercial signs shall be erected on the property, except real estate sales signs of not more than five (5) square feet advertising property within the Property for sale or rent.

9. Screening. Trash, garbage and other waste shall not be kept except in sanitary containers, screened from public view. No Lot or Tract shall be used as a dumping ground for trash, garbage, waste or debris. All heat pumps and condensers on Lots (or other utilities and devices commonly placed out of doors) shall receive special consideration to provide visual screening and noise attenuation. All boats, trailers, recreational vehicles, equipment, campers and the like must be parked off streets of the Property in a garage or on a concrete pad beside a garage built specifically for the purpose.

10. No Interference. Owners or occupants within the Property shall not engage in nor continue uses which unreasonably interfere with use of other property within the Property. The following activities shall conclusively be deemed to unreasonably interfere with other property in the Property: (1) construction and maintenance of communications transmission and reception towers and antenna; and (2) construction and maintenance of exterior radio and television antennae and other receptors except for satellite dish type antennae not larger than 36 inches in diameter.

11. Completion of Improvements. All structures (including flat work and landscaping) constructed within the Property shall be erected and completed within one year after the commencement of construction. All remodeling, reconstruction, or enhancement of structures shall be completed within one year of the commencement of construction. Commencement of construction shall be deemed to be the date upon which a building permit was first issued for the construction, or, if no building permit was obtained, the date on which Lot clearing, demolition or remodeling commenced.

12. No Further Subdivision. No Lot may be subdivided or partitioned into divisions of any nature without City approval.

13. Mandatory Mediation Prior to Litigation. All Lot owners agree that all claims, controversies or disputes, whether they be statutory, contract and/or tort claims between or among the parties hereto which arise out of or are related to this Agreement, or which relate to the formation, interpretation, breach or invalidity of this Agreement, whether arising before, during or after termination (hereinafter collectively referred to as "Claims"), shall be resolved in accordance with the mediation and litigation procedures specified herein.

13.1 Mediation. All "Claims" defined in the foregoing paragraph shall be submitted to mediation. The parties shall agree to a mediator. If the parties cannot agree as to the selection of a mediator, then either party may request appointment of a mediator from the American Arbitration Association or the Arbitration Service of Portland, Inc., whichever organization is selected by the party which first initiates mediation by filing a claim in accordance with the filing rules of the organization selected. The parties shall share equally the cost of the mediation process.

13.2 Litigation and Attorney's Fees. Any "Claims" that have not been resolved by mediation may be the subject of litigation in which the parties shall have all rights and remedies available at law and in equity, and the prevailing party in such litigation shall be entitled to an award of attorneys' fees and costs of action at trial and on appeal and review.

13.3 Judgment. Judgment upon the award rendered pursuant to such arbitration may be entered in any court having jurisdiction thereof. The parties shall share equally the fees and costs charged by the arbitration entity. The parties knowingly and voluntarily waive their rights to have their dispute tried and adjudicated by a judge or jury. In the event a party fails to proceed with arbitration, unsuccessfully challenges the arbitrator's award, or fails to comply with the arbitrator's award, the other party is entitled to costs, including reasonable attorney's fees, for having to compel arbitration or defend or enforce the award.

13.4 Venue. The venue for any litigation to interpret or enforce the provisions hereof shall be Oregon City, Oregon. The parties expressly consent to the jurisdiction of such court.

14. Section and Paragraph Captions. Section and paragraph captions shall not be deemed to be a part of this Declaration unless the context otherwise requires. In construing this Declaration, if the context so requires, the singular shall be taken to mean and to include the plural, the masculine shall be taken to mean and to include the feminine and the neuter and, generally, all grammatical changes shall be made, assumed and implied to make the provisions hereof apply equally to individuals, trusts, estates, personal representative, trustees and corporations.

The undersigned Owner of the subject property has caused this Declaration to be executed this

_____ day of _____, 2017.

DECLARANT:

_____

Exhibit H: Transportation Impact Study

Wheeler Farms

Transportation Impact Study

Oregon City, Oregon

Date:
June 15, 2017

Prepared for:
Rian Park Development, Inc.

Prepared by:
Todd Mobley, PE
Richard Martin, EI



RENEWS: 12/31/2018

LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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Executive Summary

1. A zone change from R10 to R8 is proposed for a site that consists of six tax lots, totalling approximately 22.56 acres. The site is located to the southeast of S Central Point Road, southwest of Hazeldell Avenue, and northeast of S White Lane. A subdivision is proposed under the R8 zoning that would accommodate 77 lots for construction of single-family homes.
2. The trip generation calculations show that the proposed subdivision is projected to generate a total of 57 trips during the morning peak hour and 76 trips during the evening peak hour. The change in zoning is expected to result in a potential net increase in trips of 8 during the morning peak hour and 11 during the evening peak hour.
3. For 2019 conditions with the proposed Wheeler Farms subdivision in place, all study area intersections are expected to operate acceptably and no mitigations are necessary to accommodate the proposed subdivision.
4. By 2035, all study-area intersections will continue to operate acceptably, with the exception of the signalized intersection of Warner-Parrott/Warner-Milne Road at Linn Avenue/Leland Road, which will operate slightly over capacity. However, the proposed zone change will not degrade the operation of the intersection, since the net increase in trips associated with the change in zoning is quite small. As such, the Transportation Planning Rule is satisfied and there is no significant effect on the surrounding transportation system.
5. Based on the detailed review of all of the crash data, no significant patterns and no contributing design concerns were identified at the study intersections. Accordingly, no safety mitigations are recommended.

Introduction

The proposed subdivision consists of the construction of 77 single-family detached houses. The project site is located immediately to the southeast of S Central Point Road, southwest of Hazeldell Avenue, and northeast of S White Lane at 19584 and 19532 Central Point Road in Oregon City, Oregon. The project site consists of tax lots 1001, 1291, 1100, 1180, 1700, and 1790 and encompasses an approximate total of 22.56 acres. All six lots are currently utilized for agricultural purposes with lot 1100 containing one single-family detached house and outbuildings.

The proposed subdivision will connect to five street stubs from adjacent subdivisions and connect these streets within the site, completing the local street system in the immediate vicinity. This improved connectivity will offer multiple travel routes to the neighborhood, distributing trips and avoiding concentrated traffic impacts. Wheeler Farms will have access to S Central Point Road via four street connections, including Hazeldell Avenue, Skellenger Way, Blanchet Drive, and White Lane. However, given the site location, street layout, and expected travel patterns, White Lane is not expected to carry any significant traffic from the project.

This report addresses the impacts of the proposed development on the nearby street system and includes safety and capacity / level-of-service analyses at the following five intersections:

1. S Central Point Road at Blanchet Drive
2. S Central Point Road at Skellenger Way
3. S Central Point Road at Hazeldell Avenue
4. S Central Point Road at Warner Parrott Road
5. Warner Milne Road at Linn Avenue/Leland Road

The purpose of the study is to determine whether the transportation system in the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses, and to determine any mitigation that might be necessary to do so.

Vicinity Streets

S Central Point Road is classified as a Collector by the City of Oregon City. The roadway has a two-lane cross-section southwest of Trade Wind Street, widening to a three-lane cross-section, with one standard travel lane in each direction and a center two-way left-turn lane northeast of Trade Wind Street. It has a posted speed of 45 mph southwest of and a posted speed of 35 mph northeast of Partlow Road. Partial bike lanes, curbs and sidewalks are in place between the project site and Warner Parrott Road, however these facilities are not continuous. Some on-street parking is also available along both sides of the roadway.

Warner Parrott Road is classified as a Minor Arterial by the City of Oregon City. The roadway has a two-lane cross-section and has a posted speed of 30 mph. Bike lanes are in place on both sides of the street. Partial curbs and sidewalks are provided along both sides of the roadway within the study area.

Warner Milne Road is classified as a Minor Arterial by the City of Oregon City. The roadway has a two-lane cross-section and has a posted speed of 30 mph. Bike lanes are in place on both sides of the street. Partial curbs and sidewalks are provided along both sides of the roadway within the site vicinity.

Skellenger Way is classified as a Local Street by the City of Oregon City. The roadway has a two-lane cross-section without centerline striping and has a posted speed of 25 mph. On-street parking is permitted along both sides of the roadway. Curbs and sidewalks are also provided along both sides of the roadway.

Linn Avenue is classified as a Minor Arterial by the City of Oregon City. The roadway has a two-lane cross-section and has a posted speed of 35 mph. Bike lanes are in place on both sides of the street. On-street parking is generally permitted along both sides of the roadway between Williams Street and Ethel Street. Curbs and sidewalks are provided along both sides of the roadway within the site vicinity.

Leland Road is classified as a Minor Arterial by the City of Oregon City. The roadway has a two-lane cross-section and has a posted speed of 35 mph. Bike lanes are in place on both sides of the street. Partial curbs and sidewalks are provided along the eastern side of the roadway within the site vicinity.

Study Intersections

The intersection of Warner Parrott Road at S Central Point Road is a three-legged intersection that is stop-controlled for the northeast bound approach of S Central Point Road. The northeast bound approach has one left-turn lane, one right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest bound approach has one through lane, one left-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The southeast bound approach has one through lane that feeds into the left-turn lane at the traffic signal at Leland Road/Linn Avenue, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The southwestern intersection leg has a marked crosswalk while all other intersection leg crosswalks are unmarked.

The intersection of Warner Parrott/Milne Road at Linn Avenue/Leland Road is a four-legged intersection that is controlled by a traffic signal. The north-, south-, and eastbound approaches each have one left-turn lane served by protected phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The westbound approach of Warner Milne Road has one left-turn lane served by protected phasing, one through lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. All four intersection legs have marked crosswalks.

The intersection of S Central Point Road and Blanchet Drive is a three-legged intersection that is stop-controlled for the northwest bound approach of Blanchet Drive. The northeast and southeast bound approaches each have one through/turn lane and parking is available on the southeast side of the street. S Central Point Road has a posted speed limit of 45 mph in both directions and Blanchet Drive has a posted speed limit of 25 mph at the intersection.

The intersection of S Central Point Road and Skellenger Way is a three-legged intersection that is stop-controlled for the southeast bound approach of Skellenger Way. The northeast and southeast bound approaches each have one through/turn lane and parking is available on the northwest side of the street. S Central Point Road has a posted speed limit of 45 mph in both directions and Skellenger Way has a posted speed limit of 25 mph at the intersection.

The intersection of S Central Point Road and S Hazeldell Avenue is a four-legged intersection that is stop-controlled for the northwest and southeast bound approaches of S Hazeldell Avenue. The northeast and southeast bound approaches each have one through/turn lane and parking is available on the southeast side of the street. S Central Point Road has a posted speed limit of 45 mph in both directions and S Hazeldell Avenue has a posted speed limit of 25 mph at the intersection. All four approaches have sidewalks and unmarked crosswalks.

A vicinity map displaying the project site, vicinity streets, and the study area intersections with their associated lane configurations is shown in Figure 1**Error! Reference source not found.** on page five.

Traffic Counts

Traffic counts were conducted at study area intersections on Wednesday, April 5th, 2017 from 7:00 AM to 9:00 AM and on Tuesday, April 4th, 2017 from 4:00 PM to 6:00 PM. Data from each intersection peak hour was used for analysis.

Figure 2 on page six shows the existing AM and PM peak hour traffic volumes for the study area intersections.

Transit

TriMet bus line *#33 – McLoughlin* operates along Warner Milne Road and Linn Avenue near the site vicinity, with the closest northbound/westbound and southbound/eastbound bus stops located approximately 1.35 miles from the project site. This route provides service between Portland City Center, the last stop at the intersection of NW 5th Avenue and NW Hoyt Street, and the Oregon City Transit Center/Clackamas Community College depending on the time of day. Weekday service is scheduled from approximately 4:30 AM to 1:45 AM, with headways of approximately 15 to 60 minutes. Saturday service is scheduled from approximately 5:45 AM to 1:30 AM with headways of about 15 to 60 minutes. Sunday service is scheduled from 6:00 AM to 1:30 AM with headways of approximately 15 to 60 minutes.

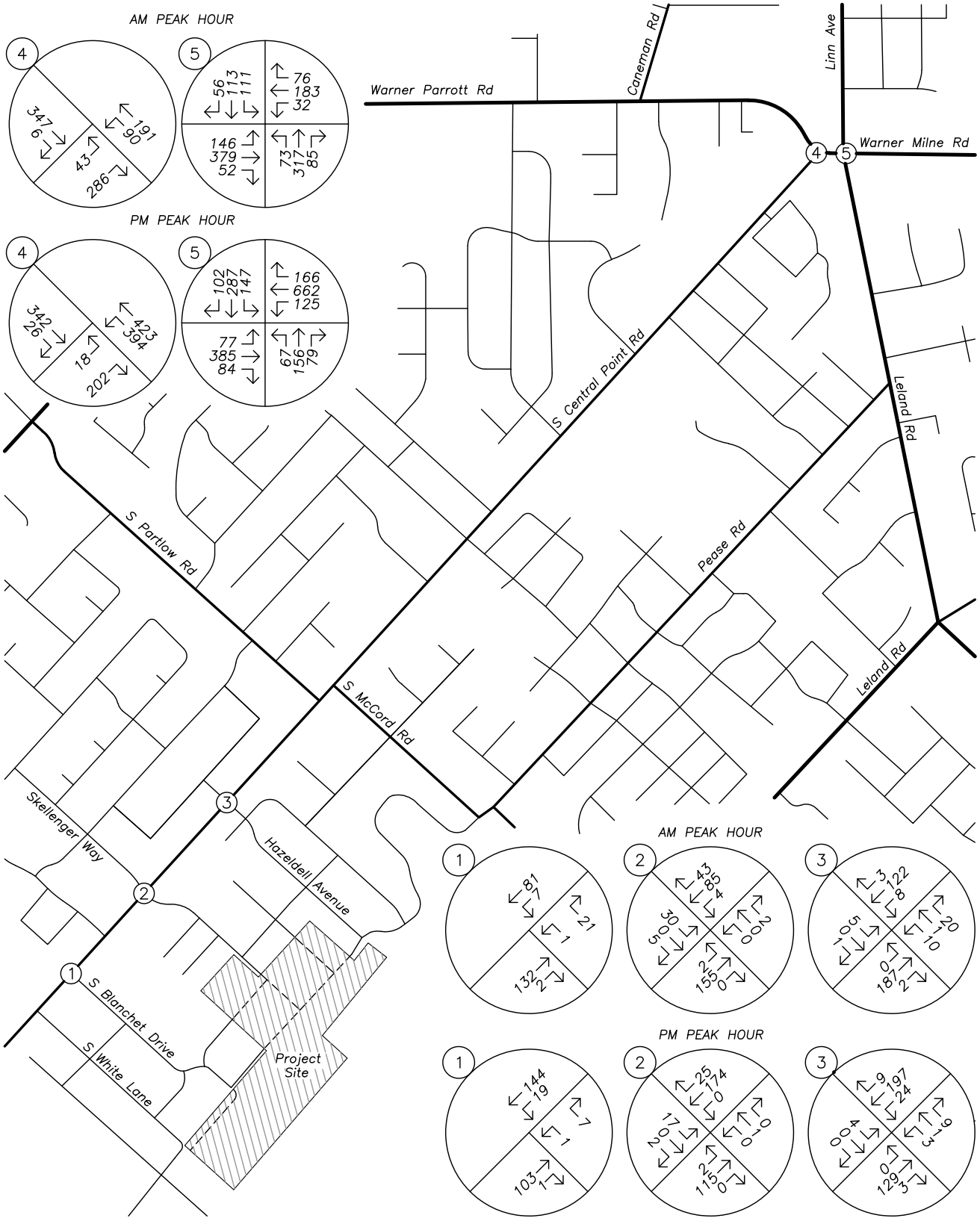


VICINITY MAP

no scale

FIGURE 1

PAGE 5



TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours

no scale

FIGURE 2

PAGE 6

Project-Generated Trips

Under the proposed R-8 zoning, the Wheeler Farms subdivision includes 77 single-family detached homes. There is currently one single-family home on the site that will be removed with site development. The sections below describe the methodology used to calculate the number of trips generated by the new homes and the way they are expected to use the transportation system in the project study area.

Trip Generation

To estimate the number of trips that will be generated by the proposed subdivision, trip rates from the *TRIP GENERATION MANUAL*[1] were used. Data from land-use code 210, *Single-Family Detached Housing*, was used to estimate the proposed development's trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision is projected to generate a net increase of 57 trips during the morning peak hour and 76 trips during the evening peak hour. The trip generation estimates are summarized in Table 1 below. Detailed trip generation calculations are included in the technical appendix to this report.

Table 1: Subdivision Trip Generation Summary

	ITE		Morning Peak Hour			Evening Peak Hour			Weekday
	Code	Size	In	Out	Total	In	Out	Total	Total
Single-Family Detached Housing									
Proposed Development	210	77 units	15	43	58	49	28	77	734
Existing Development	210	1 unit	*0*	*-1*	*-1*	*-1*	*0*	*-1*	*-10*
Total		**83 units**	**15**	**42**	**57**	**48**	**28**	**76**	**724**

Because a change in zoning is proposed for the site, a comparison of the reasonable worst-case development potential under both the existing and proposed zoning designations is necessary to gauge the traffic impact that could occur due to the change. Under the existing R-10 zoning, approximately 73 dwelling units could be constructed. Under the proposed R-8 zone, approximately 84 dwelling units are possible, for a net increase of 11 homes. The comparative trip generation analysis for the zone change is shown in Table 2 below.

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION MANUAL, 9th Edition*, 2012

Table 2: Zone Change Trip Generation Summary

	ITE Code	Size	Morning Peak Hour In	Morning Peak Hour Out	Morning Peak Hour Total	Evening Peak Hour In	Evening Peak Hour Out	Evening Peak Hour Total	Weekday Total
Single-Family Detached Housing									
R-8 Zoning Potential	210	84 units	16	47	63	53	31	84	800
R-10 Zoning Potential	210	73 units	14	41	55	46	27	73	694
Potential Net Increase in Trips		**11 units**	**2**	**6**	**8**	**7**	**4**	**11**	**106**

Trip Distribution

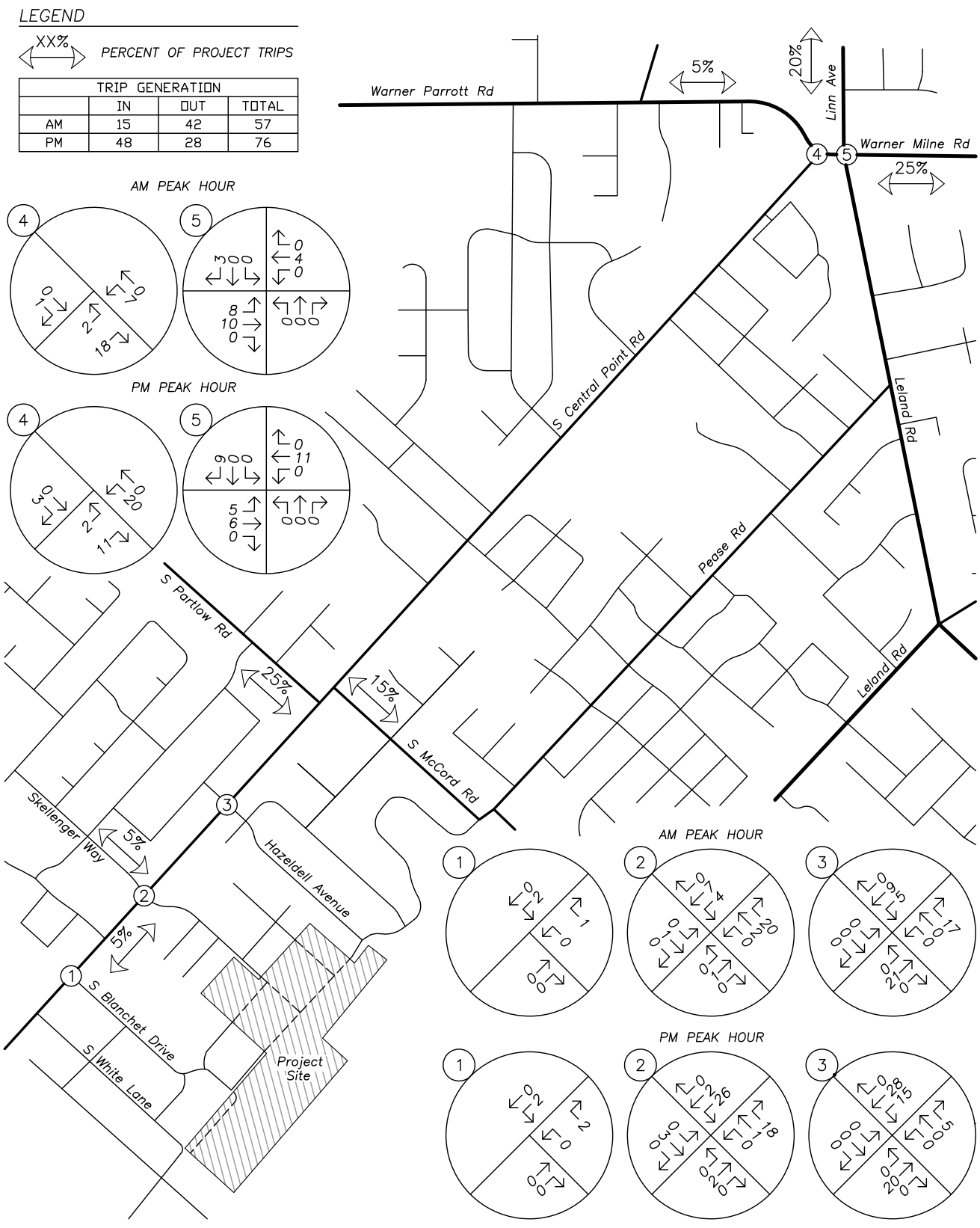
The directional distribution of site trips to and from the proposed development was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study area intersections.

The following trip distribution was estimated and used for analysis:

- Approximately 25 percent of trips will travel to/from the east along Warner Milne Road.
- Approximately 25 percent of trips will travel to/from the northwest along S Partlow Road.
- Approximately 20 percent of trips will travel to/from the north along Linn Avenue.
- Approximately 15 percent of trips will travel to/from the southeast along S McCord Road.
- Approximately 5 percent of trips will travel to/from the west along Warner Parrott Road.
- Approximately 5 percent of trips will travel to/from the northwest along Skellenger Way.
- Approximately 5 percent of trips will travel to/from the southwest along S Central Point Road.

As described previously, there are three primary streets that the subdivision will use to reach S Central Point Road. Approximately one-third of site trips were assumed to utilize each access point along S Central Point Road at Skellenger Way, S Hazeldell Avenue, and Blanchet Drive.

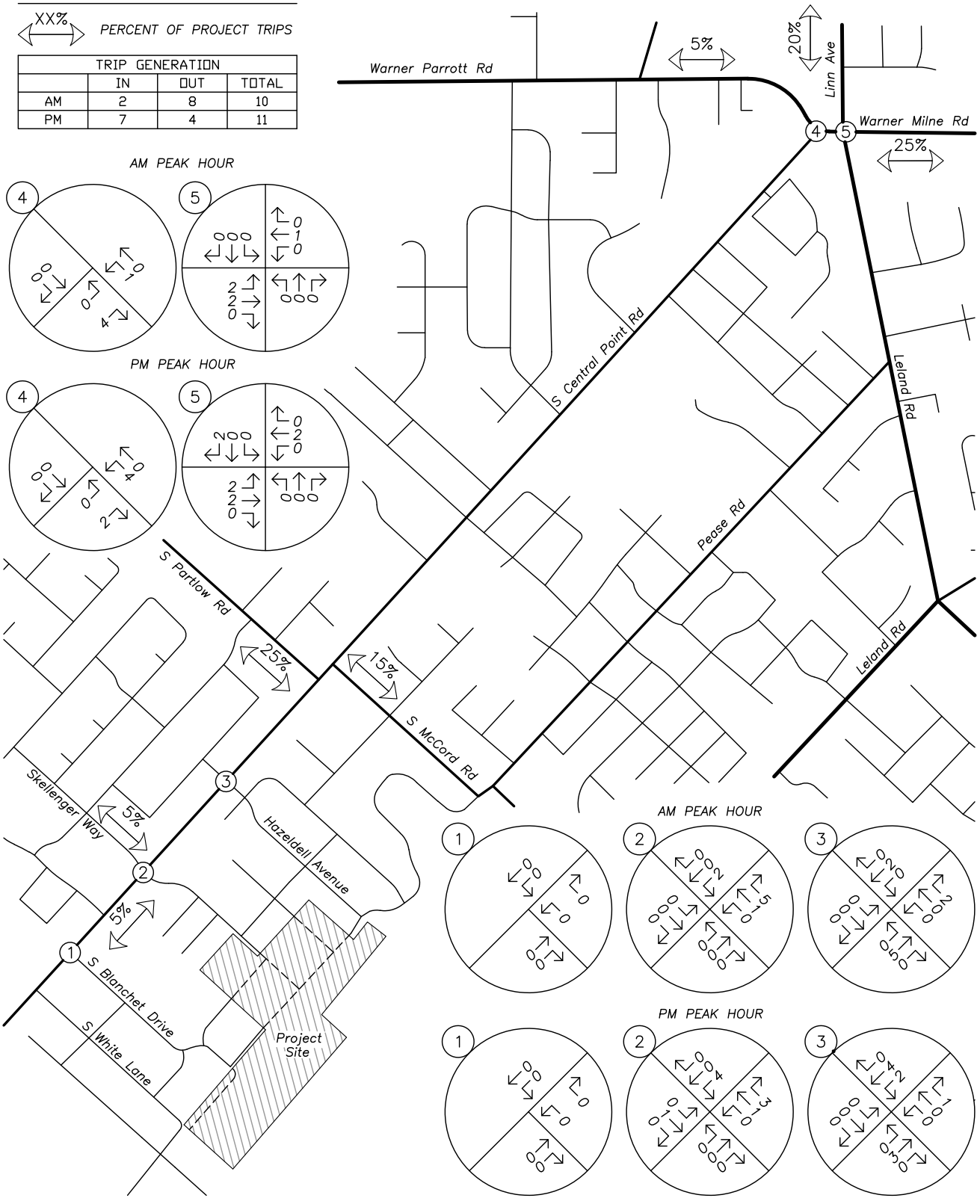
The trip assignment for the AM and PM peak hours for build out of the subdivision is shown in Figure 3 on page 9 and the assignment of the potential net increase in trips from the zone chage is shown in Figure 4 on page 10.



SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
AM & PM Peak Hours

no scale

FIGURE 3



ZONE CHANGE DISTRIBUTION & ASSIGNMENT
Net Increase in Trips from Zone Change
AM & PM Peak Hour

no scale

FIGURE 4

PAGE 10

Operational Analysis

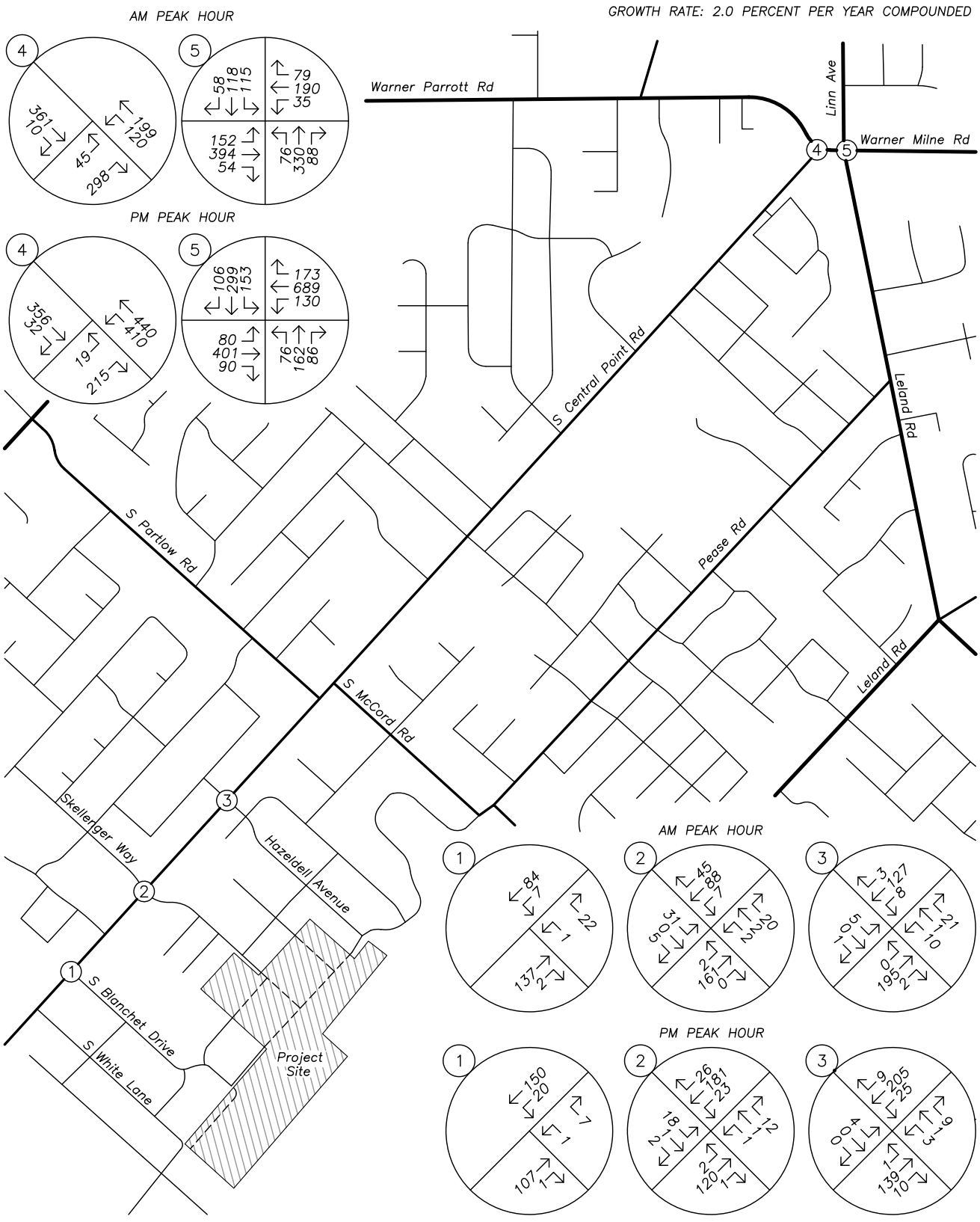
To gauge the operation of the study area intersections, an operational analysis was conducted. The following subsections describe how future traffic volumes were derived as well as the operation (level of service, delay, and volume-to-capacity ratio) of the study area intersections.

Background Traffic

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. Growth in traffic voloumes was estimated based on data from the 2013 Transportation System Plan (TSP), which examines a base year of 2010 and a future year of 2035. Growth in the TSP averages a rate of two percent per year, which was applied to all intersection movements.

It was assumed that the proposed subdivision would be completed by 2019. In order to calculate traffic volumes in 2019 without the subdivision in place, a compounded growth rate of two percent per year was applied over a period of two years. In addition, trips from nearby and adjacent subdivisions that have been approved but are not yet built out were added. Year 2019 background volumes (conditions without the proposed subdivision) are shown in Figure 5 on page 12. Year 2019 conditions with the subdivision at build out are shown in Figure 6 on page 13.

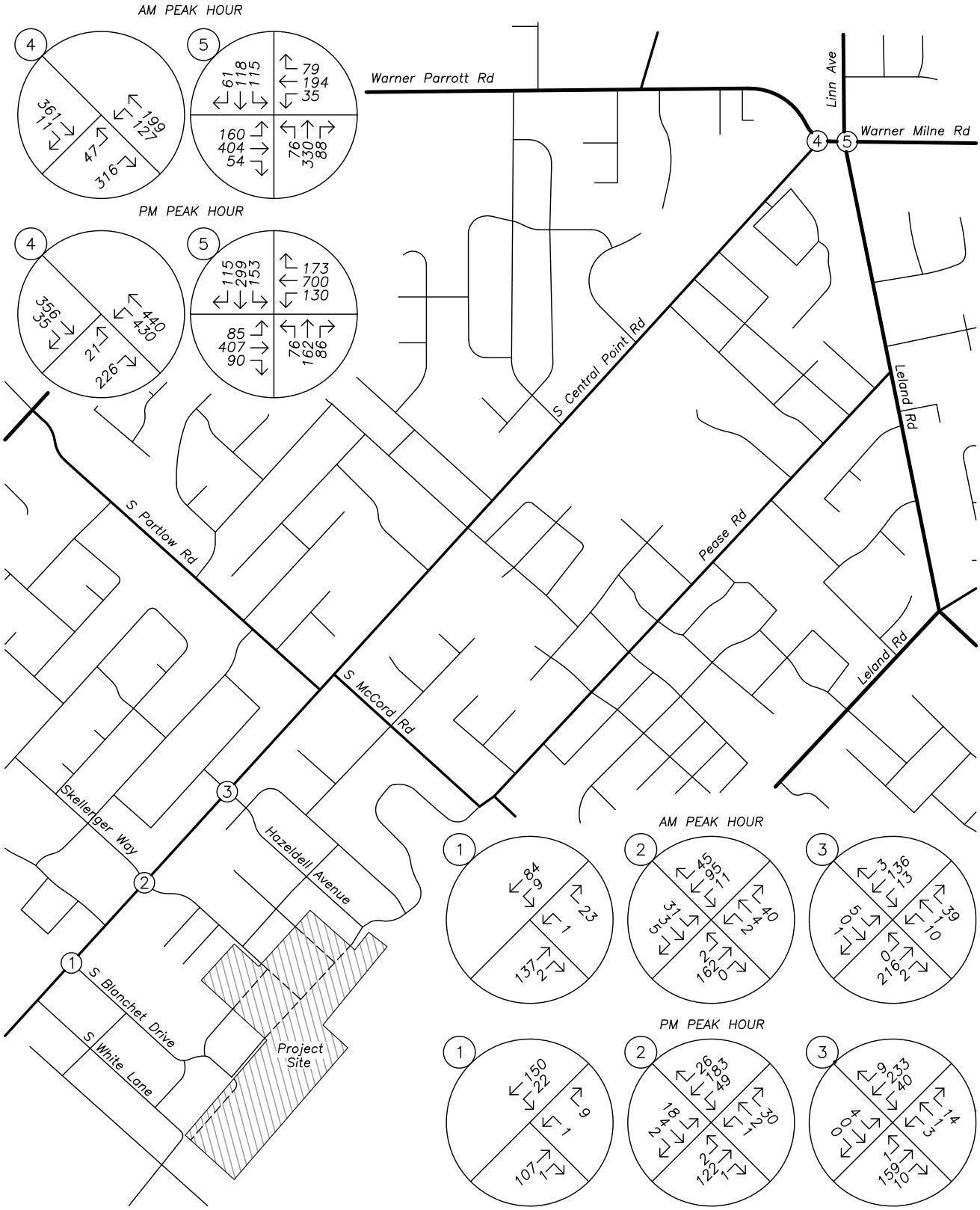
In order to assess the impacts of the proposed zone change on traffic conditions at the planning horizon, the existing traffic volumes at the study area intersections were increased to account for anticipated growth through year 2035. Background conditions for the year 2035, including development on the site under the existing zone, are shown in Figure 7 on page 14. Figure 8 of page 15 shows the sum of 2035 background conditions plus the net increase in trips from the zone change.



TRAFFIC VOLUMES
Year 2019 Background Conditions
AM & PM Peak Hours

no scale

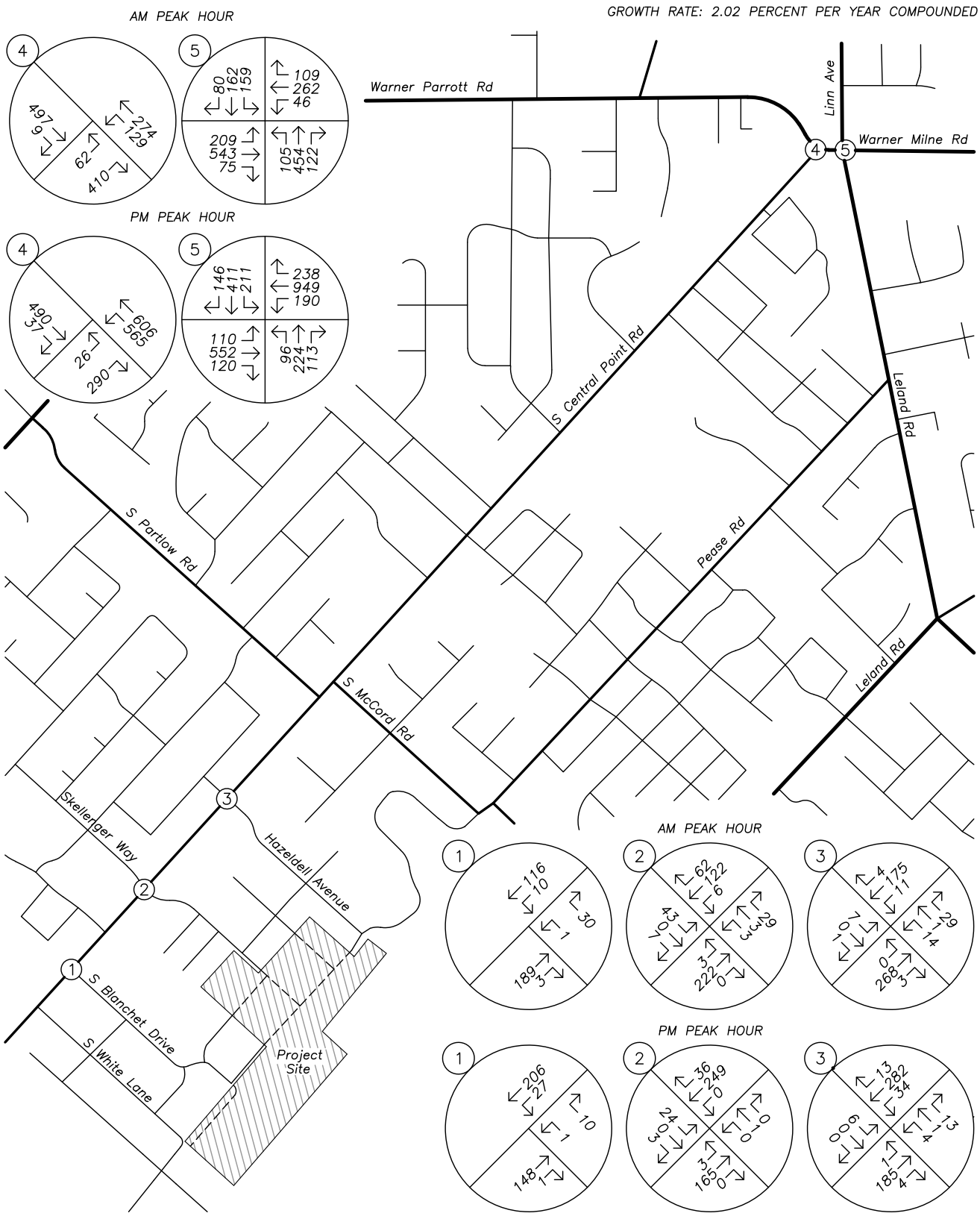
FIGURE 5



TRAFFIC VOLUMES
Year 2019 Background plus Site Trips
AM & PM Peak Hours

no scale

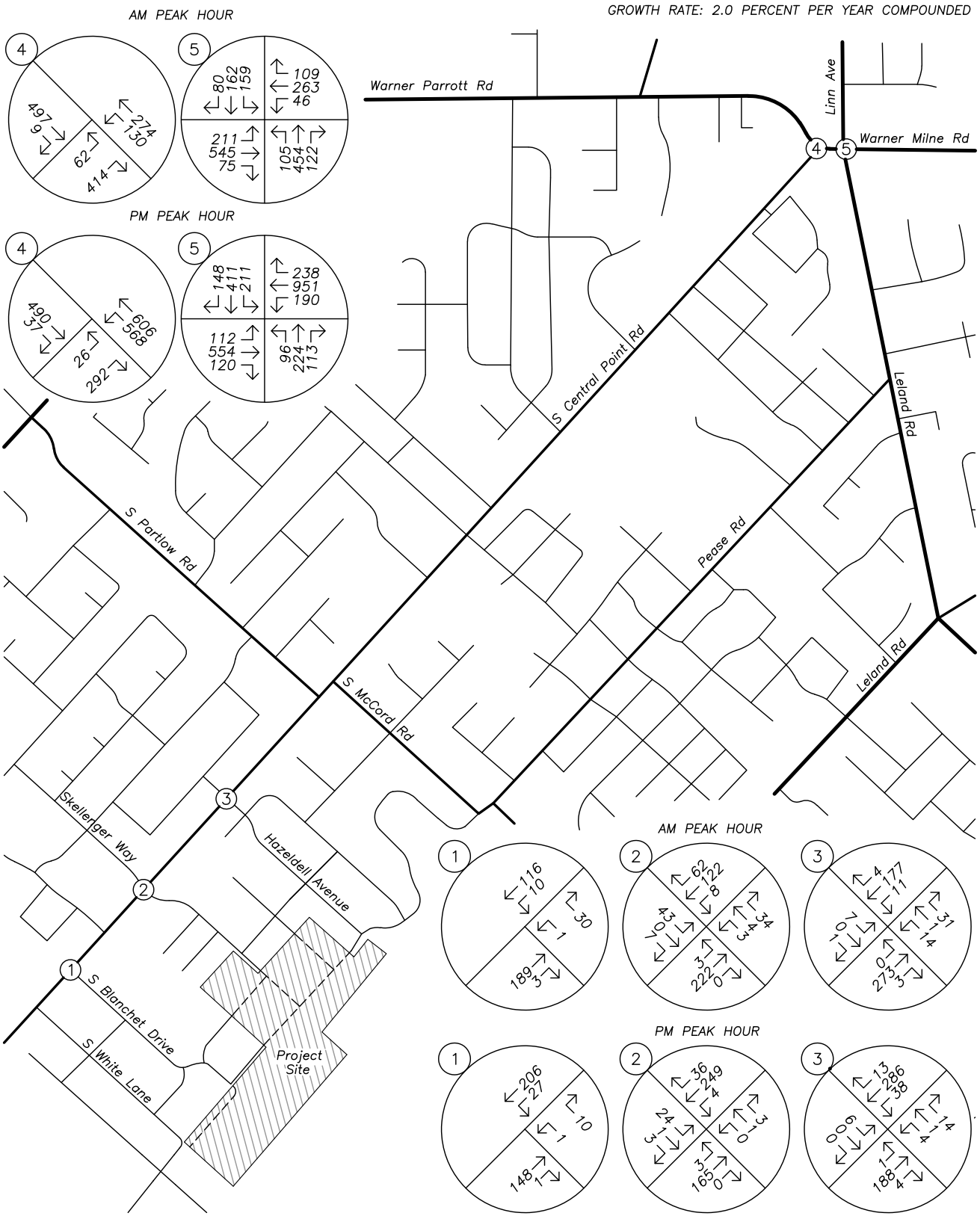
FIGURE 6



TRAFFIC VOLUMES
Year 2035 Background Conditions
AM & PM Peak Hour

no scale

FIGURE 7



TRAFFIC VOLUMES
Year 2035 Existing plus Net Increase in Trips
AM & PM Peak Hour

no scale

FIGURE 8

PAGE 15

Intersection Capacity and Level-of-Service Analysis

To determine the performance of the study intersections, a capacity analysis was conducted for the morning and evening peak hours for existing conditions, year 2019 background conditions, and year 2019 background plus site trips from the proposed development. The analysis was conducted according to the unsignalized and signalized intersection analysis methodologies given in the *HIGHWAY CAPACITY MANUAL* (HCM), published by the Transportation Research Board.

Intersections outside the Regional Center but designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, shall operate with a v/c ratio of 0.99 or less. This standard applies to signalized intersections as a whole. For unsignalized intersections this standard applies to movements on the major street, whereas there is no performance standard for the minor street approach. The study intersections of Warner Parrott Road at S Central Point Road and Warner Parrott/Milne Road at Linn Avenue/Leland Road are subject to these standards.

For unsignalized intersections outside the Regional Center and not designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, all movements serving more than 20 vehicles are required to operate at level of service (LOS) E or better during both the morning and evening peak hours, however LOS F is tolerated for movements serving 20 or less vehicles. Levels of service can range from LOS A, which indicates very little or no delay experience by vehicles, to LOS F, which indicates a high degree of congestion and delay. The intersections of Hazeldell Avenue, Skellenger Way, and Blanchet Drive with S Central Point Road are subject to these standards.

The intersection of S Central Point Road at Blanchet Drive currently operates at LOS A during both the morning and evening peak hours. The intersection is projected to operated at LOS A under all peak hour conditions, except for 2035 background plus zone change conditions, under which it will operate at LOS B.

The intersection of S Central Point Road at Skellenger Way currently operates at LOS B during both the morning and evening peak hours. The intersection is projected to operate at LOS B under all peak hour conditions, except for 2035 background and background plus zone change conditions. Under those conditions, the intersection is projected to operate at LOS C in the evening peak hour.

The intersection of S Central Point Road at Hazeldell Avenue currently operates at LOS B during both the morning and evening peak hours. It is projected to operate at LOS B under all potential peak hour conditions.

The intersection of Warner Parrott Road at S Central Point Road operates at LOS A during both the morning and evening peak hours, with a maximum V/C ratio of 0.36 for the westbound left turn movement. The intersection is projected to operate at LOS A during the morning peak hour and LOS B during the evening peak hour for all projections, with a maximum V/C ratio of 0.60 for the westbound left turn movement.

The intersection of Warner Parrott/Milne Road at Linn Avenue/Leland Road currently operates at LOS D during both the morning and evening peak hours, with a maximum V/C ratio of 0.82. Failure levels are seen under 2035 background and background plus zone change conditions in the morning and evening peak

hours. Under these conditions, the intersection is projected to operate at LOS E with a v/c ratio of 1.01 for both the morning and evening peak hours.

The results of the capacity analysis, along with the levels of service, delay, and v/c ratios are shown in Table 3. Detailed calculations, as well as tables showing the relationships between delay and level of service are included in the appendix to this report.

Based on the results of the operational analysis, all study area intersections will operating acceptably through 2019, even with the proposed development in place. It is important to note that because of the City of Oregon City's performance standard, the northbound stop-controlled approach on S Central Point Road is not subject to a level of service or v/c standard.

The intersection of Warner Milne Road/Warner Parrott Road at Linn Avenue/Leland Road is projected to operate above capacity by 2035, even without the proposed zone change. The proposed zone change has very little impact on operation of the intersection at the planning horizon, since the net increase in trips from the change in zoning is very low.

Also, Oregon City's TSP includes a potential future roundabout at the intersection of Warner Milne Road/Warner Parrott Road and Linn Avenue/Leland Road. This roundabout would mitigate the operation of the intersection and bring it into compliance with the applicable performance standard.

Table 3: Capacity and LOS Summary

	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
S Central Point Rd at Blanchet Drive						
Existing Conditions	A	10	0.06	A	9	0.02
2019 Background Conditions	A	9	0.03	A	9	0.02
2019 Background + Site Trips	A	9	0.03	A	9	0.02
2035 Background Conditions	A	10	0.05	A	10	0.02
2035 Background + Zone Change	A	10	0.04	A	9	0.02
S Central Point Rd at Skellenger Way						
Existing Conditions	B	11	0.07	B	12	0.04
2019 Background Conditions	B	12	0.08	B	12	0.05
2019 Background + Site Trips	B	12	0.10	B	14	0.07
2035 Background Conditions	B	14	0.14	B	13	0.07
2035 Background + Zone Change	B	14	0.14	B	13	0.07
S Central Point Rd at S Hazeldell Avenue						
Existing Conditions	B	11	0.06	B	12	0.04
2019 Background Conditions	B	12	0.06	B	12	0.02
2019 Background + Site Trips	B	13	0.10	B	14	0.03
2035 Background Conditions	B	14	0.10	C	15	0.03
2035 Background + Zone Change	B	14	0.10	C	15	0.04
S Central Point Rd at Warner Parrott Road*						
Existing Conditions	A	8	0.08	A	10	0.36
2019 Background Conditions	A	9	0.11	B	10	0.38
2019 Background + Site Trips	A	9	0.12	B	10	0.40
2035 Background Conditions	A	9	0.14	B	14	0.59
2035 Background + Zone Change	A	9	0.14	B	14	0.60
Warner Parrott/Milne Road at Linn Ave/Leland Road						
Existing Conditions	D	42	0.71	D	38	0.82
2019 Background Conditions	D	35	0.82	D	40	0.82
2019 Background + Site Trips	D	36	0.83	D	43	0.83
2035 Background Conditions	E	67	1.01	E	66	1.01
2035 Background + Zone Change	E	67	1.01	E	69	1.01

***Westbound left turn LOS, delay, and v/c are reported

Safety Analysis

Safety of the transportation system is related to the operations discussed in the previous section, but is a separate consideration. The safety of the roads and intersections within the project study area are addressed in the following subsection.

Crash Analysis

Using data obtained from ODOT's Crash Data Analysis and Reporting Unit, a review of the most recent available five years of crash history (2011 – 2015) at the study area intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare relative safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents 10% of the average annual daily traffic (AADT) at the intersection. Crash rates more than 1.0 crashes per million entering vehicles (CMEV) may be indicative of safety hazards that should be further investigated and mitigated.

The intersections of S Central Point Road at Skellenger Way, Blanchet Drive, and Hazeldell Avenue had no reported crashes during the five-year analysis period.

The intersection of Warner Parrott Road at S Central Point Road had seven reported crashes during the analysis period. The crashes consisted of three turning-type collisions, two rear-end collisions, one backing collision, and one fixed-object collision. Of these reported crashes, four were classified as "Property Damage Only" (*PDO*), two as "Possible Injury – Complaint of Pain" (*Injury-C*), and one as "Non-Incapacitating Injury" (*Injury-B*). The crash rate at the intersection was calculated to be 0.27 CMEV.

The intersection of Warner Parrott/Milne Road at Linn Avenue/Leland Road had two reported crashes during the analysis period. The crashes consisted of one angle-type collision and one collision involving a pedestrian. Of these reported crashes one was classified as "Property Damage Only" (*PDO*) and one as "Non-Incapacitating Injury" (*Injury-B*). The crash rate at the intersection was calculated to be 0.04 CMEV.

Based on the detailed review of all the crash data, no significant patterns and no contributing design concerns were identified at the study intersections. Accordingly, no safety mitigations are recommended.

Transportation Planning Rule

The Transportation Planning Rule (TPR) is in place to ensure that the transportation system is capable of supporting possible increases in traffic intensity that could result from changes to adopted plans and land-use regulations. Because the proposed project includes a change in zoning, the TPR must be addressed. The applicable elements of the TPR are each quoted directly in *italics* below, with a response directly following.

Oregon Administrative Rule 660-12-0600

(1) If an amendment to a functional plan, an acknowledge comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of the rule, unless the amendment is allowed under section (3), (9), or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan;

(b) Change standards implementing a functional classification system; or

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet performance standards identified in the TSP or comprehensive plan.

In the case of this report, subsections (a) and (b) are not triggered, since the proposed zone change will not impact or alter the functional classification of any existing or planned facility and the proposal does not include a change to any functional classification standards.

Subsection (c) is also not triggered since the addition of the net increase in trips from the zone change will not degrade the performance of the one intersection in the project study area that is projected to not meet performance standards at the planning horizon.

The TPR is satisfied, since the proposed zone change does not significantly affect the transportation system.

Conclusions

For 2019 conditions, all study area intersections are expected to operate acceptably and no mitigations are necessary to accommodate the proposed 77-lot subdivision.

By 2035, all study-area intersections will continue to operate acceptably, with the exception of the signalized intersection of Warner-Parrott/Warner-Milne Road at Linn Avenue/Leland Road, which will operate slightly over capacity. However, the proposed zone change will not degrade the operation of the intersection, since the net increase in trips associated with the change in zoning is quite small. As such, the Transportation Planning Rule is satisfied and there is no significant effect on the surrounding transportation system.

Appendix



SCALE 1" = 80 FEET
SCALE AT HALF SIZE (11"x17") 1" = 160 FEET
DATE: 04/17/2017

NOTES:
1. INFORMATION SHOWN IS BASED ON A VARIETY OF SOURCES, INCLUDING GEOGRAPHIC INFORMATION SYSTEMS (GIS), AERIAL PHOTOGRAPHS, AS-BUILT INFORMATION, AND TAX ASSESSOR MAP INFORMATION.
2. DIMENSIONS SHOWN ARE APPROXIMATE.

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ENGINEERING • SURVEYING • NATURAL RESOURCES
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WHEELER FARMS

OREGON CITY, OREGON
TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

PRELIMINARY SUBDIVISION LAYOUT

DESIGNED BY:
DRAWN BY:
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 05/16/2017

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

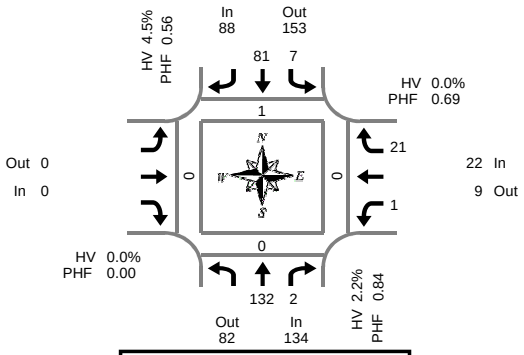
JOB NUMBER 5621

SHEET 2

AKS DRAWING FILE: 5621 NEIGHBOR PLANS.DWG | LAYOUT: 2

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Blanchet Dr

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	3	0	0		1	3		0				0	0		1	0	8	0	0	0	0
7:05 AM	2	0	0		1	4		0				0	0		1	0	8	0	0	0	0
7:10 AM	6	0	0		0	6		0				0	0		2	0	14	0	0	0	0
7:15 AM	15	0	0		0	4		0				0	0		1	0	20	0	0	0	0
7:20 AM	8	0	0		0	6		0				0	0		2	0	16	0	0	0	0
7:25 AM	8	0	0		0	4		0				0	1		1	0	14	0	0	0	0
7:30 AM	13	1	0		2	4		0				0	0		3	0	23	0	0	0	0
7:35 AM	8	0	0		0	1		0				0	0		2	0	11	0	0	0	0
7:40 AM	12	1	0		1	9		0				0	0		3	0	26	0	0	0	0
7:45 AM	16	0	0		0	7		0				0	0		3	0	26	0	0	0	0
7:50 AM	11	0	0		1	12		0				0	0		0	0	24	1	0	0	0
7:55 AM	13	0	0		1	12		1				0	0		0	0	26	0	0	0	0
8:00 AM	9	0	0		1	12		0				0	0		0	0	22	0	0	0	0
8:05 AM	5	0	0		0	5		0				0	0		2	0	12	0	0	0	0
8:10 AM	14	0	0		1	5		0				0	0		4	0	24	0	0	0	0
8:15 AM	7	0	0		0	4		0				0	0		0	0	11	0	0	0	0
8:20 AM	9	0	0		1	7		0				0	0		0	0	17	0	0	0	0
8:25 AM	9	0	0		0	4		0				0	0		0	0	13	0	0	0	0
8:30 AM	2	0	0		1	7		0				0	0		0	0	10	0	0	0	0
8:35 AM	7	0	0		0	8		0				0	0		1	0	16	0	0	2	0
8:40 AM	7	0	0		0	2		0				0	0		2	0	11	0	0	0	0
8:45 AM	7	0	0		1	4		0				0	0		1	0	13	0	0	0	0
8:50 AM	10	0	0		2	9		0				0	0		1	0	22	0	0	0	0
8:55 AM	8	0	0		1	4		0				0	0		1	0	14	0	0	0	0
Total Survey	209	2	0		15	143		1				0	1		31	0	401	1	0	2	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	11	0	0		2	13		0				0	0		4	0	30	0	0	0	0
7:15 AM	31	0	0		0	14		0				0	1		4	0	50	0	0	0	0
7:30 AM	33	2	0		3	14		0				0	0		8	0	60	0	0	0	0
7:45 AM	40	0	0		2	31		1				0	0		3	0	76	1	0	0	0
8:00 AM	28	0	0		2	22		0				0	0		6	0	58	0	0	0	0
8:15 AM	25	0	0		1	15		0				0	0		0	0	41	0	0	0	0
8:30 AM	16	0	0		1	17		0				0	0		3	0	37	0	0	2	0
8:45 AM	25	0	0		4	17		0				0	0		3	0	49	0	0	0	0
Total Survey	209	2	0		15	143		1				0	1		31	0	401	1	0	2	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	134	82	216	0	88	153	241	1	0	0	0	0	22	9	31	0	244	1	0	0	0
%HV	2.2%				4.5%				0.0%				0.0%				2.9%				
PHF	0.84				0.56				0.00				0.69				0.80				

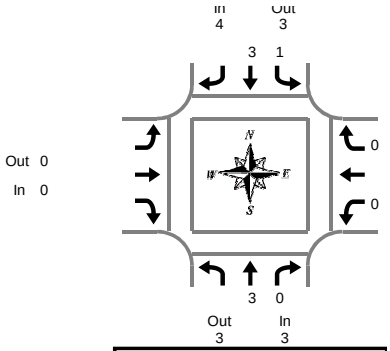
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	132	2	134		7	81		88				0	1		21	22	244
%HV	NA	2.3%	0.0%	2.2%	14.3%	3.7%	NA	4.5%	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	2.9%
PHF		0.83	0.25	0.84	0.58	0.56		0.56				0.00	0.25		0.66	0.69	0.80

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	115	2	0		7	72		1				0	1		19	0	216	1	0	0	0
7:15 AM	132	2	0		7	81		1				0	1		21	0	244	1	0	0	0
7:30 AM	126	2	0		8	82		1				0	0		17	0	235	1	0	0	0
7:45 AM	109	0	0		6	85		1				0	0		12	0	212	1	0	2	0
8:00 AM	94	0	0		8	71		0				0	0		12	0	185	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Blanchet Dr

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		0	0	0	0	0		0				0	0		0	0	0
7:05 AM		0	0	0	0	0		0				0	0		0	0	0
7:10 AM		0	0	0	0	0		0				0	0		0	0	0
7:15 AM		0	0	0	0	0		0				0	0		0	0	0
7:20 AM		0	0	0	0	0		0				0	0		0	0	0
7:25 AM		1	0	1	0	0		0				0	0		0	0	1
7:30 AM		0	0	0	1	0		1				0	0		0	0	1
7:35 AM		1	0	1	0	0		0				0	0		0	0	1
7:40 AM		0	0	0	0	0		0				0	0		0	0	0
7:45 AM		0	0	0	0	1		1				0	0		0	0	1
7:50 AM		0	0	0	0	0		0				0	0		0	0	0
7:55 AM		0	0	0	0	0		0				0	0		0	0	0
8:00 AM		0	0	0	0	1		1				0	0		0	0	1
8:05 AM		0	0	0	0	0		0				0	0		0	0	0
8:10 AM		1	0	1	0	1		1				0	0		0	0	2
8:15 AM		0	0	0	0	0		0				0	0		0	0	0
8:20 AM		1	0	1	1	1		2				0	0		0	0	3
8:25 AM		0	0	0	0	0		0				0	0		0	0	0
8:30 AM		0	0	0	0	0		0				0	0		0	0	0
8:35 AM		0	0	0	0	2		2				0	0		0	0	2
8:40 AM		1	0	1	0	0		0				0	0		0	0	1
8:45 AM		0	0	0	0	0		0				0	0		0	0	0
8:50 AM		0	0	0	0	0		0				0	0		0	0	0
8:55 AM		1	0	1	0	0		0				0	0		0	0	1
Total Survey		6	0	6	2	6		8				0	0		0	0	14

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		0	0	0	0	0		0				0	0		0	0	0
7:15 AM		1	0	1	0	0		0				0	0		0	0	1
7:30 AM		1	0	1	1	0		1				0	0		0	0	2
7:45 AM		0	0	0	0	1		1				0	0		0	0	1
8:00 AM		1	0	1	0	2		2				0	0		0	0	3
8:15 AM		1	0	1	1	1		2				0	0		0	0	3
8:30 AM		1	0	1	0	2		2				0	0		0	0	3
8:45 AM		1	0	1	0	0		0				0	0		0	0	1
Total Survey		6	0	6	2	6		8				0	0		0	0	14

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Blanchet Dr			Westbound Blanchet Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	3	6	4	3	7	0	0	0	0	1	1	7
PHF	0.38			0.50			0.00			0.00			0.58

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		3	0	3	1	3		4				0	0		0	0	7
PHF		0.38	0.00	0.38	0.25	0.38		0.50				0.00	0.00		0.00	0.00	0.58

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		2	0	2	1	1		2				0	0		0	0	4
7:15 AM		3	0	3	1	3		4				0	0		0	0	7
7:30 AM		3	0	3	2	4		6				0	0		0	0	9
7:45 AM		3	0	3	1	6		7				0	0		0	0	10
8:00 AM		4	0	4	1	5		6				0	0		0	0	10

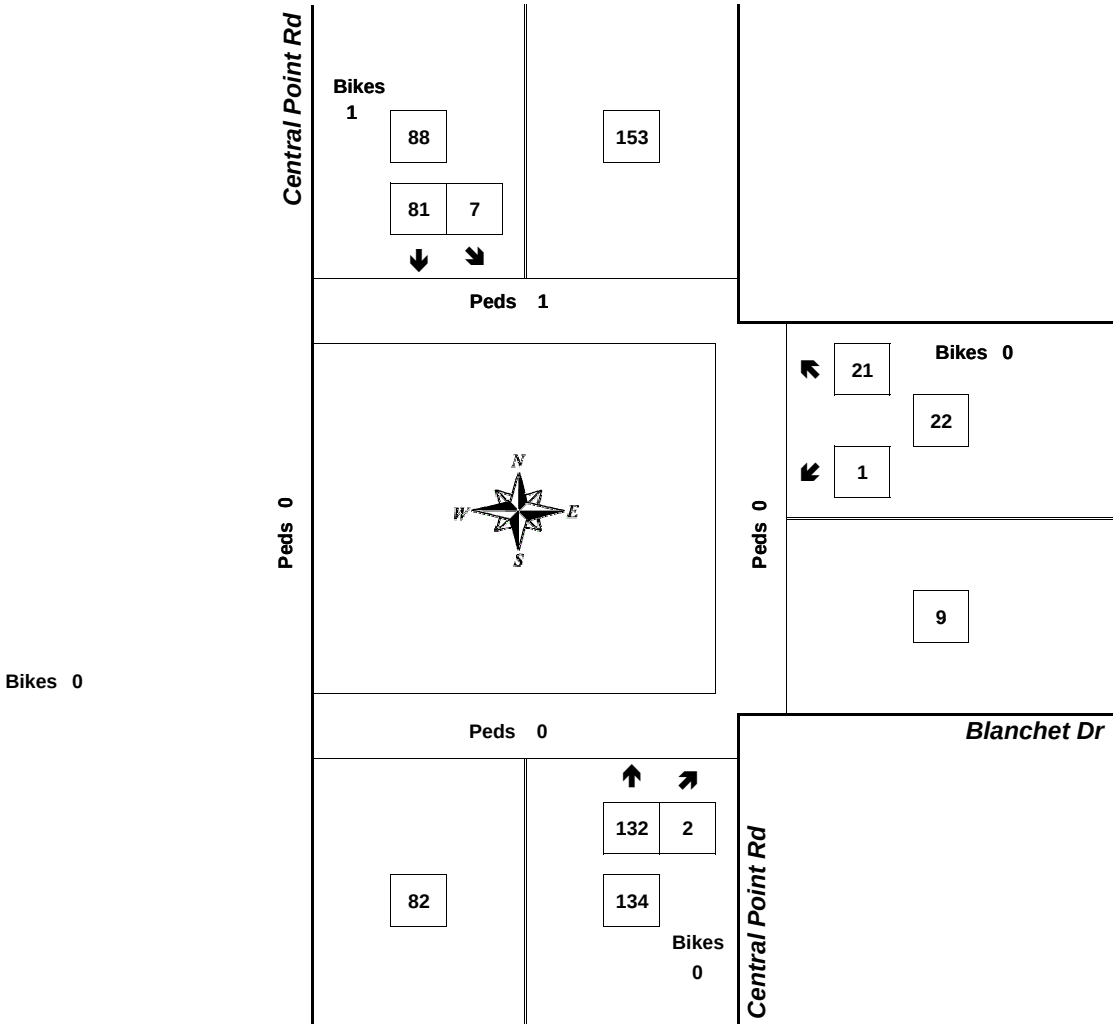
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Central Point Rd & Blanchet Dr

7:15 AM to 8:15 AM
Wednesday, April 05, 2017

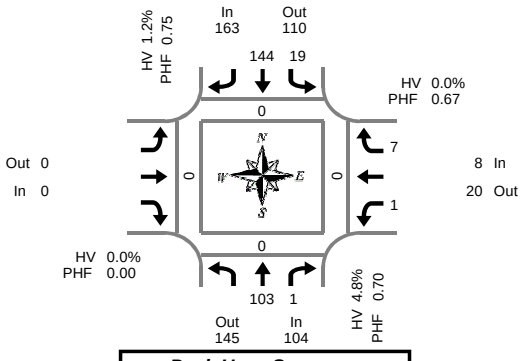


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.69	0.0%	22
NB	0.84	2.2%	134
SB	0.56	4.5%	88
Intersection	0.80	2.9%	244

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Blanchet Dr

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	4	1	0		0	8		0				0	0		1	0	14	0	0	0	0
4:05 PM	5	0	0		1	12		0				0	1		0	0	19	0	0	0	0
4:10 PM	6	0	1		1	7		1				0	0		0	0	14	0	0	0	0
4:15 PM	11	0	0		0	9		0				0	0		1	0	21	0	0	0	0
4:20 PM	3	0	0		1	10		0				0	0		0	0	14	0	0	0	0
4:25 PM	4	0	0		0	14		0				0	0		0	0	18	0	0	0	0
4:30 PM	7	0	0		1	6		0				0	0		0	0	14	0	0	0	0
4:35 PM	6	0	0		0	11		0				0	0		0	0	17	0	0	0	0
4:40 PM	11	0	0		2	9		0				0	0		0	0	22	0	0	0	0
4:45 PM	6	0	0		0	6		0				0	0		0	0	12	0	0	0	0
4:50 PM	7	0	0		2	2		0				0	0		0	0	11	0	0	0	0
4:55 PM	8	0	0		2	16		0				0	0		0	0	26	0	0	0	0
5:00 PM	5	0	0		0	10		0				0	0		2	0	17	0	0	0	0
5:05 PM	14	0	2		2	4		0				0	0		1	0	21	0	0	0	0
5:10 PM	10	0	0		5	14		0				0	0		0	0	29	0	0	0	0
5:15 PM	13	0	0		0	9		0				0	1		1	0	24	0	0	0	0
5:20 PM	6	0	0		3	20		0				0	0		0	0	29	0	0	0	0
5:25 PM	11	0	0		1	5		0				0	0		1	0	18	0	0	0	0
5:30 PM	7	0	0		2	9		0				0	0		2	0	20	0	0	0	0
5:35 PM	9	1	0		0	7		0				0	0		0	0	17	0	0	0	0
5:40 PM	9	0	0		0	14		0				0	0		0	0	23	0	0	0	0
5:45 PM	5	0	0		2	16		0				0	0		0	0	23	0	0	0	0
5:50 PM	6	0	0		2	20		0				0	0		0	0	28	0	0	0	0
5:55 PM	3	0	0		2	8		0				0	0		0	0	13	0	0	1	0
Total Survey	176	2	3		29	246		1				0	2		9	0	464	0	0	1	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	15	1	1		2	27		1				0	1		1	0	47	0	0	0	0
4:15 PM	18	0	0		1	33		0				0	0		1	0	53	0	0	0	0
4:30 PM	24	0	0		3	26		0				0	0		0	0	53	0	0	0	0
4:45 PM	21	0	0		4	24		0				0	0		0	0	49	0	0	0	0
5:00 PM	29	0	2		7	28		0				0	0		3	0	67	0	0	0	0
5:15 PM	30	0	0		4	34		0				0	1		2	0	71	0	0	0	0
5:30 PM	25	1	0		2	30		0				0	0		2	0	60	0	0	0	0
5:45 PM	14	0	0		6	44		0				0	0		0	0	64	0	0	1	0
Total Survey	176	2	3		29	246		1				0	2		9	0	464	0	0	1	0

Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	104	145	249	2	163	110	273	0	0	0	0	0	8	20	28	0	275	0	0	0	0
%HV	4.8%				1.2%				0.0%				0.0%				2.5%				
PHF	0.70				0.75				0.00				0.67				0.84				

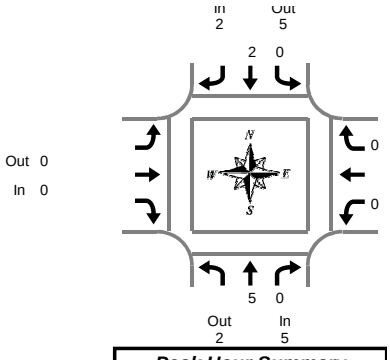
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	103	1	104		19	144		163				0	1		7	8	275
%HV	NA	4.9%	0.0%	4.8%	0.0%	1.4%	NA	1.2%	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	2.5%
PHF		0.70	0.25	0.70	0.59	0.72		0.75				0.00	0.25		0.58	0.67	0.84

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	78	1	1		10	110		1				0	1		2	0	202	0	0	0	0
4:15 PM	92	0	2		15	111		0				0	0		4	0	222	0	0	0	0
4:30 PM	104	0	2		18	112		0				0	1		5	0	240	0	0	0	0
4:45 PM	105	1	2		17	116		0				0	1		7	0	247	0	0	0	0
5:00 PM	98	1	2		19	136		0				0	1		7	0	262	0	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Blanchet Dr

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		0	0	0	0	0		0				0	0		0	0	0
4:05 PM		0	0	0	0	0		0				0	1		0	1	1
4:10 PM		0	0	0	0	2		2				0	0		0	0	2
4:15 PM		0	0	0	0	0		0				0	0		0	0	0
4:20 PM		0	0	0	0	1		1				0	0		0	0	1
4:25 PM		1	0	1	0	1		1				0	0		0	0	2
4:30 PM		0	0	0	0	0		0				0	0		0	0	0
4:35 PM		0	0	0	0	1		1				0	0		0	0	1
4:40 PM		0	0	0	0	0		0				0	0		0	0	0
4:45 PM		0	0	0	0	1		1				0	0		0	0	1
4:50 PM		0	0	0	0	0		0				0	0		0	0	0
4:55 PM		1	0	1	0	0		0				0	0		0	0	1
5:00 PM		1	0	1	0	0		0				0	0		0	0	1
5:05 PM		0	0	0	0	0		0				0	0		0	0	0
5:10 PM		0	0	0	0	1		1				0	0		0	0	1
5:15 PM		0	0	0	0	0		0				0	0		0	0	0
5:20 PM		0	0	0	0	0		0				0	0		0	0	0
5:25 PM		2	0	2	0	0		0				0	0		0	0	2
5:30 PM		0	0	0	0	0		0				0	0		0	0	0
5:35 PM		1	0	1	0	0		0				0	0		0	0	1
5:40 PM		0	0	0	0	0		0				0	0		0	0	0
5:45 PM		0	0	0	0	0		0				0	0		0	0	0
5:50 PM		0	0	0	0	1		1				0	0		0	0	1
5:55 PM		0	0	0	0	0		0				0	0		0	0	0
Total Survey		6	0	6	0	8		8				0	1		0	1	15

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		0	0	0	0	2		2				0	1		0	1	3
4:15 PM		1	0	1	0	2		2				0	0		0	0	3
4:30 PM		0	0	0	0	1		1				0	0		0	0	1
4:45 PM		1	0	1	0	1		1				0	0		0	0	2
5:00 PM		1	0	1	0	1		1				0	0		0	0	2
5:15 PM		2	0	2	0	0		0				0	0		0	0	2
5:30 PM		1	0	1	0	0		0				0	0		0	0	1
5:45 PM		0	0	0	0	1		1				0	0		0	0	1
Total Survey		6	0	6	0	8		8				0	1		0	1	15

Heavy Vehicle Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Blanchet Dr			Westbound Blanchet Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	2	7	2	5	7	0	0	0	0	0	0	7
PHF	0.42			0.50			0.00			0.00			0.58

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		5	0	5	0	2		2				0	0		0	0	7
PHF		0.42	0.00	0.42	0.00	0.50		0.50				0.00	0.00		0.00	0.00	0.58

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

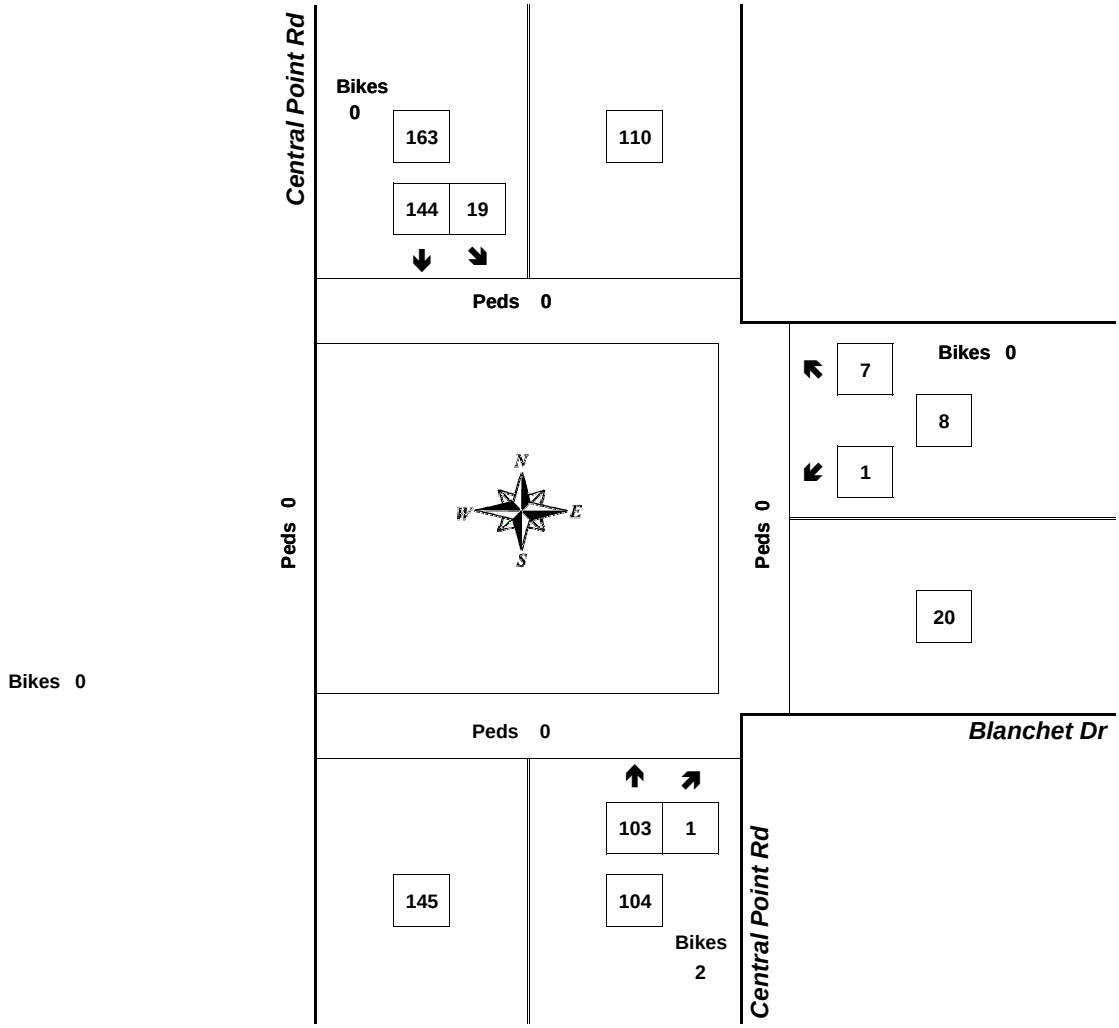
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		2	0	2	0	6		6				0	1		0	1	9
4:15 PM		3	0	3	0	5		5				0	0		0	0	8
4:30 PM		4	0	4	0	3		3				0	0		0	0	7
4:45 PM		5	0	5	0	2		2				0	0		0	0	7
5:00 PM		4	0	4	0	2		2				0	0		0	0	6

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Blanchet Dr

4:55 PM to 5:55 PM
Tuesday, April 04, 2017

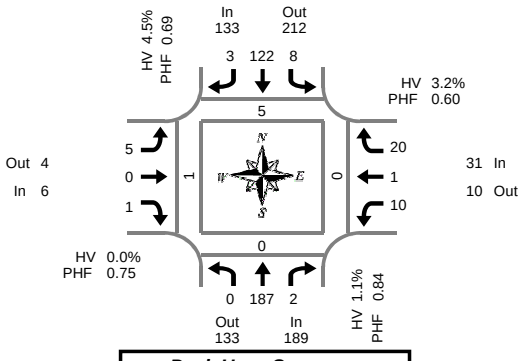


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.67	0.0%	8
NB	0.70	4.8%	104
SB	0.75	1.2%	163
Intersection	0.84	2.5%	275

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Central Point Rd & Hazeldell Ave

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	7	0	0	1	4	1	0	2	0	0	0	0	0	1	0	16	0	0	0	0
7:05 AM	0	8	0	0	1	6	0	0	0	0	0	0	0	0	2	0	17	0	0	0	0
7:10 AM	0	15	0	0	0	9	0	0	2	0	0	0	0	0	0	0	26	0	0	0	0
7:15 AM	0	20	0	0	1	5	0	0	0	0	0	0	1	0	1	0	28	0	0	0	0
7:20 AM	0	15	0	0	1	9	0	0	1	0	0	0	0	0	1	0	27	0	0	0	0
7:25 AM	0	14	0	0	0	6	0	0	0	0	0	0	0	0	1	0	21	0	0	0	0
7:30 AM	0	16	0	0	3	13	0	0	1	0	0	0	2	0	3	0	38	1	0	0	0
7:35 AM	0	15	1	0	0	7	0	0	1	0	0	0	1	0	1	0	26	0	0	0	0
7:40 AM	0	17	1	0	1	23	1	0	0	0	0	0	1	0	3	0	47	1	0	0	0
7:45 AM	0	22	0	0	0	5	0	0	0	0	0	0	5	0	2	0	34	0	0	0	0
7:50 AM	0	13	0	0	1	14	1	0	1	0	0	0	0	0	2	0	32	0	0	0	0
7:55 AM	0	16	0	0	0	17	1	0	0	0	0	0	0	0	0	0	34	0	0	0	1
8:00 AM	0	10	0	0	1	11	0	0	0	0	0	0	0	0	2	0	24	1	0	0	0
8:05 AM	0	10	0	0	0	3	0	0	0	0	1	0	0	0	1	0	15	2	0	0	0
8:10 AM	0	19	0	0	0	9	0	0	1	0	0	0	0	1	3	0	33	0	0	0	0
8:15 AM	0	9	0	0	0	5	0	0	3	0	0	0	0	0	2	0	19	0	0	0	0
8:20 AM	0	12	0	0	1	12	1	0	1	0	0	0	0	0	0	0	27	0	0	0	0
8:25 AM	0	7	1	0	0	5	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0
8:30 AM	0	5	0	0	0	9	0	0	0	0	0	0	0	0	2	0	16	0	0	0	0
8:35 AM	0	11	0	0	0	10	0	0	0	0	0	0	0	0	2	0	23	0	0	0	0
8:40 AM	0	9	0	0	0	5	0	0	0	0	0	0	0	0	1	0	15	0	0	0	0
8:45 AM	0	10	0	0	1	10	0	0	0	0	0	0	0	0	1	0	22	0	0	0	0
8:50 AM	0	15	0	0	1	9	0	0	0	0	0	0	0	0	2	0	27	0	0	0	1
8:55 AM	0	10	0	0	1	7	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0
Total Survey	0	305	3	0	14	213	5	0	13	0	1	0	10	1	33	0	598	5	0	0	2

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	30	0	0	2	19	1	0	4	0	0	0	0	0	3	0	59	0	0	0	0
7:15 AM	0	49	0	0	2	20	0	0	1	0	0	0	1	0	3	0	76	0	0	0	0
7:30 AM	0	48	2	0	4	43	1	0	2	0	0	0	4	0	7	0	111	2	0	0	0
7:45 AM	0	51	0	0	1	36	2	0	1	0	0	0	5	0	4	0	100	0	0	0	1
8:00 AM	0	39	0	0	1	23	0	0	1	0	1	0	0	1	6	0	72	3	0	0	0
8:15 AM	0	28	1	0	1	22	1	0	4	0	0	0	0	0	2	0	59	0	0	0	0
8:30 AM	0	25	0	0	0	24	0	0	0	0	0	0	0	0	5	0	54	0	0	0	0
8:45 AM	0	35	0	0	3	26	0	0	0	0	0	0	0	0	3	0	67	0	0	0	1
Total Survey	0	305	3	0	14	213	5	0	13	0	1	0	10	1	33	0	598	5	0	0	2

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	189	133	322	0	133	212	345	0	6	4	10	0	31	10	41	0	359	5	0	0	1
%HV	1.1%				4.5%				0.0%				3.2%				2.5%				
PHF	0.84				0.69				0.75				0.60				0.79				

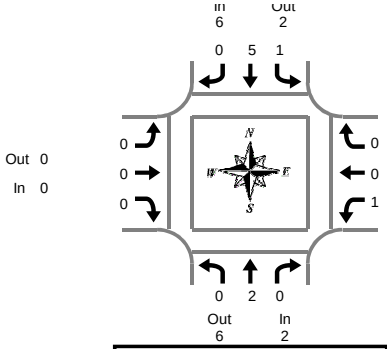
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	187	2	189	8	122	3	133	5	0	1	6	10	1	20	31	359
%HV	0.0%	1.1%	0.0%	1.1%	12.5%	4.1%	0.0%	4.5%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	3.2%	2.5%
PHF	0.00	0.87	0.25	0.84	0.50	0.71	0.38	0.69	0.63	0.00	0.25	0.75	0.36	0.25	0.71	0.60	0.79

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	178	2	0	9	118	4	0	8	0	0	0	10	0	17	0	346	2	0	0	1
7:15 AM	0	187	2	0	8	122	3	0	5	0	1	0	10	1	20	0	359	5	0	0	1
7:30 AM	0	166	3	0	7	124	4	0	8	0	1	0	9	1	19	0	342	5	0	0	1
7:45 AM	0	143	1	0	3	105	3	0	6	0	1	0	5	1	17	0	285	3	0	0	1
8:00 AM	0	127	1	0	5	95	1	0	5	0	1	0	0	1	16	0	252	3	0	0	1

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Hazeldell Ave

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	1	0	0	1	3
7:35 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:10 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
8:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:20 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
8:40 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	5	0	5	1	9	0	10	0	0	0	0	1	0	0	1	16

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	1	2	0	3	0	0	0	0	1	0	0	1	4
7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
8:15 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
8:30 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	5	0	5	1	9	0	10	0	0	0	0	1	0	0	1	16

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Hazeldell Ave			Westbound Hazeldell Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	6	8	6	2	8	0	0	0	1	1	2	9
PHF	0.50			0.38			0.00			0.25			0.38

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	2	0	2	1	5	0	6	0	0	0	0	1	0	0	1	9
PHF	0.00	0.50	0.00	0.50	0.25	0.42	0.00	0.38	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.38

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

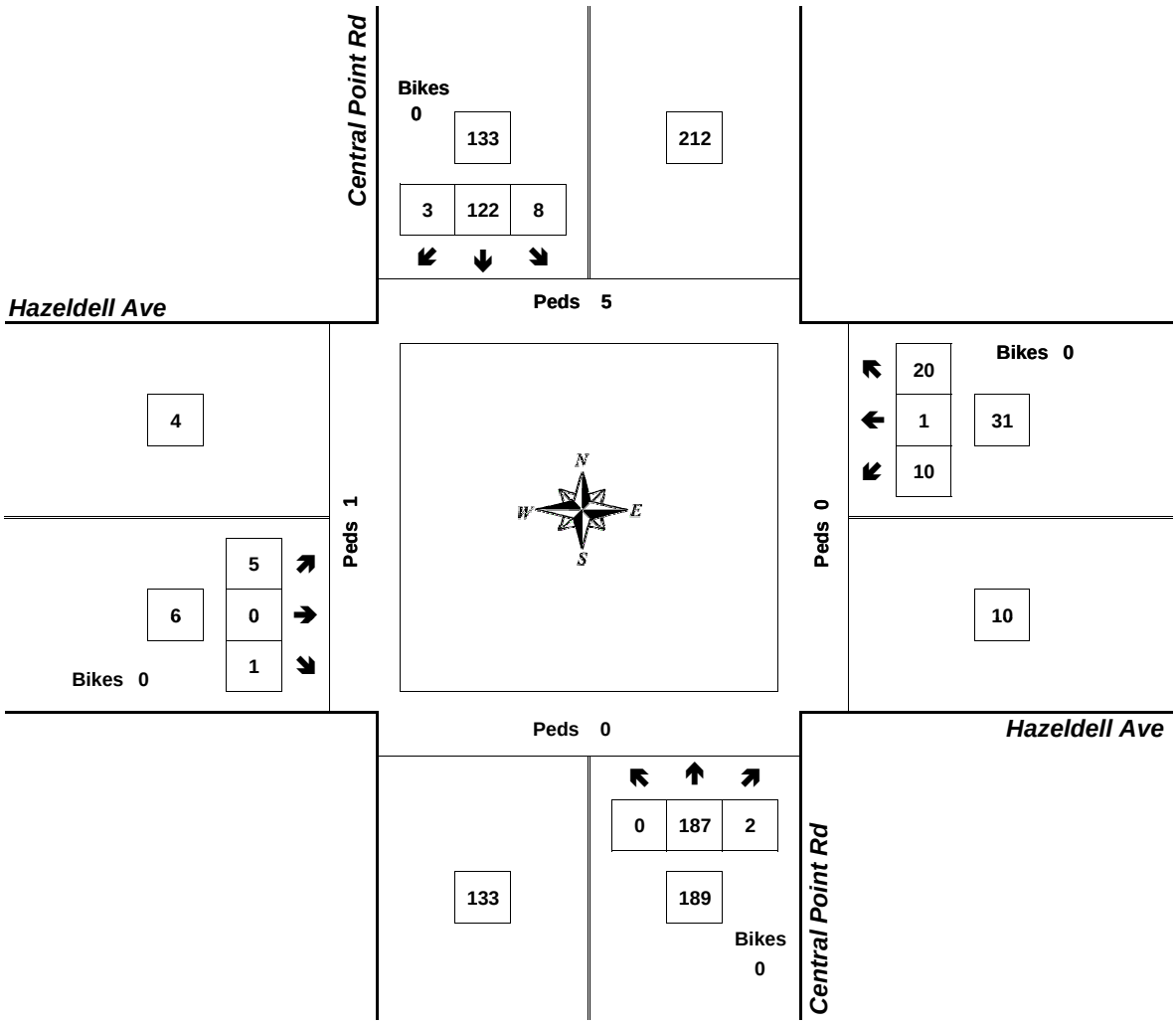
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	0	1	1	4	0	5	0	0	0	0	1	0	0	1	7
7:15 AM	0	2	0	2	1	5	0	6	0	0	0	0	1	0	0	1	9
7:30 AM	0	3	0	3	1	6	0	7	0	0	0	0	1	0	0	1	11
7:45 AM	0	4	0	4	0	6	0	6	0	0	0	0	0	0	0	0	10
8:00 AM	0	4	0	4	0	5	0	5	0	0	0	0	0	0	0	0	9

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Hazeldell Ave

7:15 AM to 8:15 AM
Wednesday, April 05, 2017

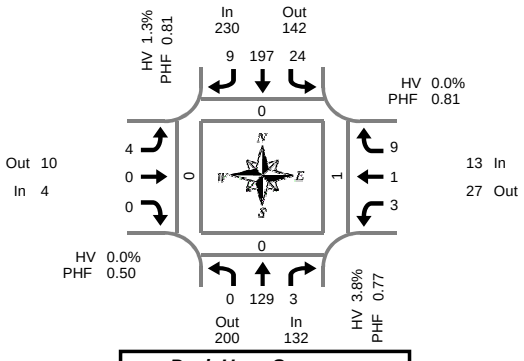


Approach	PHF	HV%	Volume
EB	0.75	0.0%	6
WB	0.60	3.2%	31
NB	0.84	1.1%	189
SB	0.69	4.5%	133
Intersection	0.79	2.5%	359

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:55 PM to 5:55 PM

Central Point Rd & Hazeldell Ave

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	7	0	0	0	11	1	0	2	0	0	0	0	0	0	0	21	0	0	0	0
4:05 PM	0	6	0	0	2	16	0	1	0	0	0	0	0	0	0	0	24	0	0	0	0
4:10 PM	0	7	0	1	1	11	0	0	1	0	0	0	1	0	0	0	21	0	0	0	0
4:15 PM	0	0	0	0	1	18	1	0	0	0	0	0	0	0	0	0	20	0	0	0	0
4:20 PM	0	5	0	0	2	10	0	0	0	0	0	0	0	1	0	0	18	0	0	0	0
4:25 PM	0	5	0	0	3	20	0	0	0	0	0	0	0	0	3	0	31	0	0	0	0
4:30 PM	0	7	0	0	2	12	1	0	0	0	0	0	0	0	1	0	23	0	0	0	0
4:35 PM	0	9	0	0	2	15	0	0	1	1	0	0	0	0	1	0	29	0	0	0	0
4:40 PM	0	11	0	0	4	15	1	0	0	0	0	0	0	0	0	0	31	0	0	0	0
4:45 PM	0	8	0	0	1	6	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0
4:50 PM	1	6	1	0	3	9	0	0	0	0	0	0	0	0	2	0	22	0	0	0	0
4:55 PM	0	13	0	0	1	21	1	0	2	0	0	0	0	0	0	0	38	0	0	0	0
5:00 PM	0	10	0	0	1	12	3	0	0	0	0	0	0	0	2	0	28	0	0	0	0
5:05 PM	0	16	0	0	0	10	3	0	0	0	0	0	0	0	0	0	29	0	0	0	0
5:10 PM	0	10	0	0	2	25	0	1	0	0	0	0	1	0	1	0	39	0	0	0	0
5:15 PM	0	17	0	0	3	14	0	0	0	0	0	0	0	1	0	0	35	0	0	0	0
5:20 PM	0	9	0	0	4	23	0	0	1	0	0	0	0	0	1	0	38	0	0	0	0
5:25 PM	0	12	0	0	2	10	0	0	0	0	0	0	0	0	1	0	25	0	0	0	0
5:30 PM	0	9	1	0	2	10	0	0	1	0	0	0	1	0	1	0	25	0	0	0	0
5:35 PM	0	9	1	0	3	13	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0
5:40 PM	0	9	0	0	0	19	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0
5:45 PM	0	9	0	0	3	16	1	0	0	0	0	0	0	0	1	0	30	0	0	0	0
5:50 PM	0	6	1	0	3	24	1	0	0	0	0	0	1	0	2	0	38	0	0	1	0
5:55 PM	0	4	0	0	1	10	0	0	1	0	0	0	0	0	0	0	16	0	0	0	0
Total Survey	1	204	4	1	46	350	13	2	9	1	0	0	4	2	16	0	650	0	0	1	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	20	0	1	3	38	1	1	3	0	0	0	1	0	0	0	66	0	0	0	0
4:15 PM	0	10	0	0	6	48	1	0	0	0	0	0	0	1	3	0	69	0	0	0	0
4:30 PM	0	27	0	0	8	42	2	0	1	1	0	0	0	0	2	0	83	0	0	0	0
4:45 PM	1	27	1	0	5	36	1	0	2	0	0	0	0	0	2	0	75	0	0	0	0
5:00 PM	0	36	0	0	3	47	6	1	0	0	0	0	1	0	3	0	96	0	0	0	0
5:15 PM	0	38	0	0	9	47	0	0	1	0	0	0	0	1	2	0	98	0	0	0	0
5:30 PM	0	27	2	0	5	42	0	0	1	0	0	0	1	0	1	0	79	0	0	0	0
5:45 PM	0	19	1	0	7	50	2	0	1	0	0	0	1	0	3	0	84	0	0	1	0
Total Survey	1	204	4	1	46	350	13	2	9	1	0	0	4	2	16	0	650	0	0	1	0

Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	132	200	332	0	230	142	372	1	4	10	14	0	13	27	40	0	379	0	0	1	0
%HV	3.8%				1.3%				0.0%				0.0%				2.1%				
PHF	0.77				0.81				0.50				0.81				0.85				

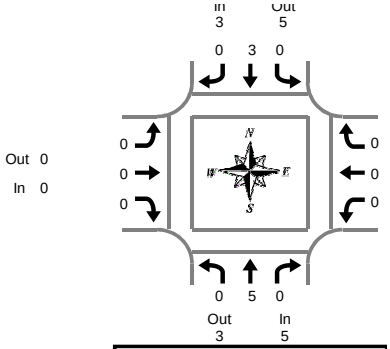
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	129	3	132	24	197	9	230	4	0	0	4	3	1	9	13	379
%HV	0.0%	3.9%	0.0%	3.8%	0.0%	1.5%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%
PHF	0.00	0.75	0.38	0.77	0.67	0.79	0.32	0.81	0.50	0.00	0.00	0.50	0.75	0.25	0.75	0.81	0.85

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	1	84	1	1	22	164	5	1	6	1	0	0	1	1	7	0	293	0	0	0	0
4:15 PM	1	100	1	0	22	173	10	1	3	1	0	0	1	1	10	0	323	0	0	0	0
4:30 PM	1	128	1	0	25	172	9	1	4	1	0	0	1	1	9	0	352	0	0	0	0
4:45 PM	1	128	3	0	22	172	7	1	4	0	0	0	2	1	8	0	348	0	0	0	0
5:00 PM	0	120	3	0	24	186	8	1	3	0	0	0	3	1	9	0	357	0	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Hazeldell Ave

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:10 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:25 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	7	0	7	1	7	0	8	0	0	0	0	0	0	0	0	15

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
4:15 PM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
5:15 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Survey	0	7	0	7	1	7	0	8	0	0	0	0	0	0	0	0	15

Heavy Vehicle Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Hazeldell Ave			Westbound Hazeldell Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	3	8	3	5	8	0	0	0	0	0	0	8
PHF	0.42			0.38			0.00			0.00			0.67

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	5	0	5	0	3	0	3	0	0	0	0	0	0	0	0	8
PHF	0.00	0.42	0.00	0.42	0.00	0.38	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

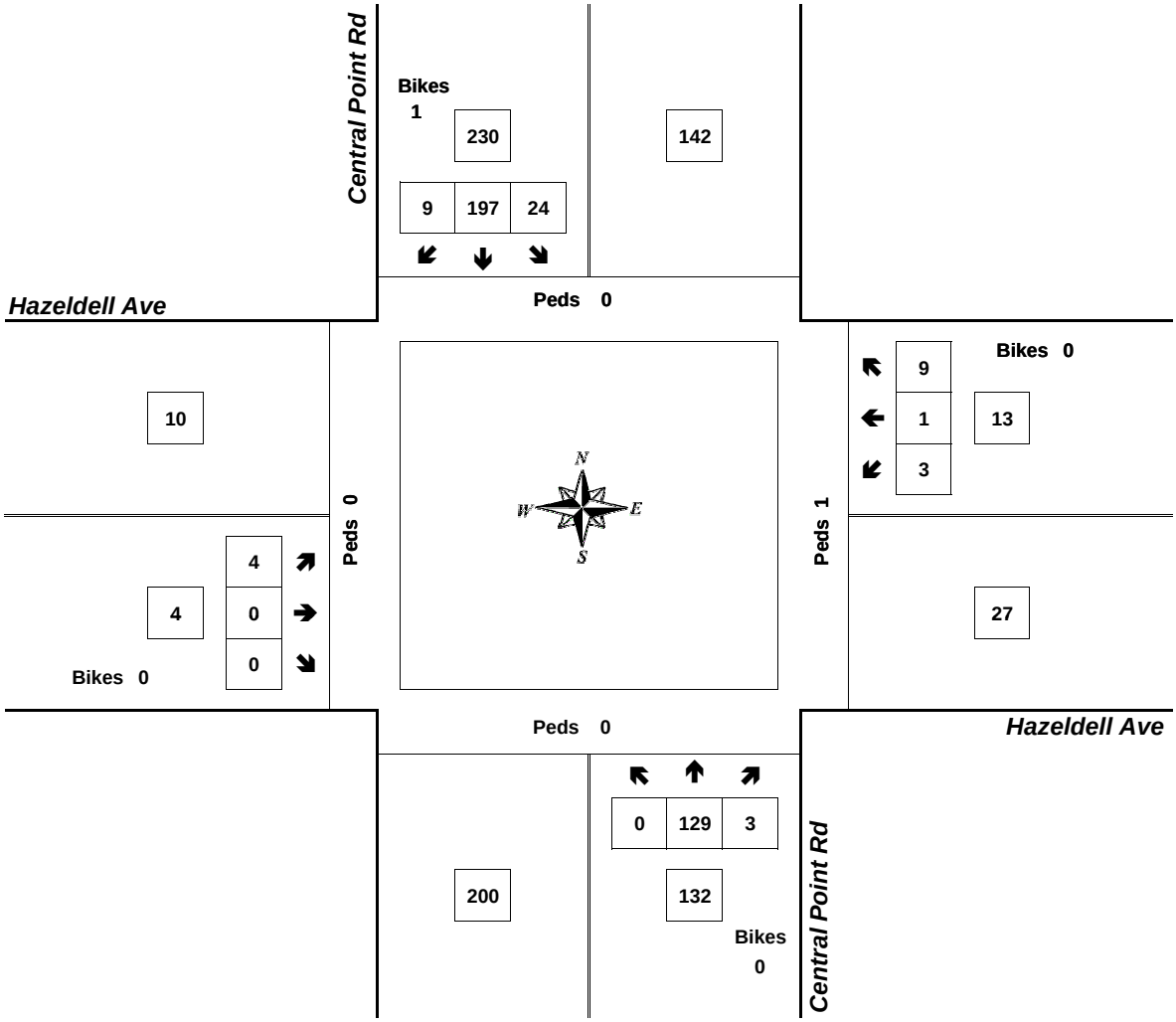
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	3	0	3	1	4	0	5	0	0	0	0	0	0	0	0	8
4:15 PM	0	2	0	2	1	3	0	4	0	0	0	0	0	0	0	0	6
4:30 PM	0	4	0	4	0	3	0	3	0	0	0	0	0	0	0	0	7
4:45 PM	0	5	0	5	0	2	0	2	0	0	0	0	0	0	0	0	7
5:00 PM	0	4	0	4	0	3	0	3	0	0	0	0	0	0	0	0	7

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Hazeldell Ave

4:55 PM to 5:55 PM
Tuesday, April 04, 2017

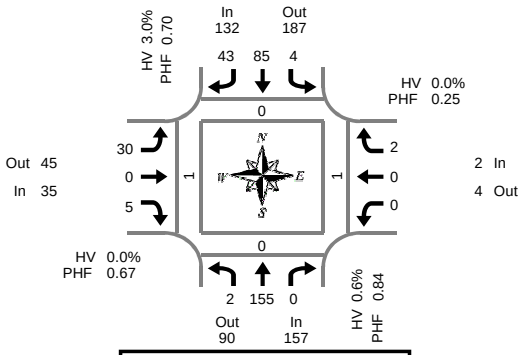


Approach	PHF	HV%	Volume
EB	0.50	0.0%	4
WB	0.81	0.0%	13
NB	0.77	3.8%	132
SB	0.81	1.3%	230
Intersection	0.85	2.1%	379

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Central Point Rd & Skellenger Way

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	3	0	0	0	3	1	0	5	0	1	0	0	0	0	0	13	0	0	0	0
7:05 AM	0	6	0	0	0	6	0	0	0	0	0	0	0	0	1	0	13	0	0	0	0
7:10 AM	0	10	0	0	0	6	2	0	7	0	1	0	0	0	0	0	26	0	0	0	0
7:15 AM	0	16	0	0	0	5	2	0	3	0	0	0	0	0	0	0	26	0	0	0	0
7:20 AM	0	12	0	0	0	8	1	0	2	0	0	0	0	0	0	0	23	0	0	0	0
7:25 AM	0	12	0	0	1	4	1	0	2	0	0	0	0	0	0	0	20	0	0	0	0
7:30 AM	0	17	0	0	2	6	7	0	0	0	0	0	0	0	0	0	32	0	0	0	0
7:35 AM	0	13	0	0	0	1	7	0	2	0	0	0	0	0	0	0	23	0	0	0	0
7:40 AM	0	16	0	0	0	10	12	0	2	0	1	0	0	0	0	0	41	0	0	0	0
7:45 AM	2	16	0	0	0	7	3	0	6	0	1	0	0	0	0	0	35	0	0	0	0
7:50 AM	0	10	0	0	0	11	4	0	2	0	1	0	0	0	0	0	28	0	0	0	1
7:55 AM	0	15	0	0	0	14	3	0	1	0	0	0	0	0	1	0	34	0	0	0	0
8:00 AM	0	8	0	0	1	9	1	0	2	0	0	0	0	0	0	0	21	0	0	0	0
8:05 AM	0	10	0	0	0	4	0	0	1	0	1	0	0	0	1	0	17	0	0	1	0
8:10 AM	0	16	0	0	0	8	1	0	0	0	0	0	0	0	0	0	25	0	0	3	0
8:15 AM	0	8	0	0	0	3	2	0	2	0	0	0	0	0	0	0	15	0	0	0	0
8:20 AM	0	10	0	0	0	10	2	0	1	0	0	0	0	0	0	0	23	0	0	0	0
8:25 AM	0	9	0	0	0	4	1	0	1	0	0	0	0	0	0	0	15	0	0	0	0
8:30 AM	0	2	0	0	0	9	0	0	1	0	1	0	0	0	0	0	13	0	0	0	0
8:35 AM	0	9	0	0	0	8	3	0	2	0	0	0	0	0	0	0	22	0	0	0	0
8:40 AM	0	10	0	0	0	4	1	0	0	0	0	0	0	0	0	0	15	0	0	0	0
8:45 AM	0	7	0	0	0	7	2	0	2	0	0	0	0	0	0	0	18	0	0	0	0
8:50 AM	0	12	0	0	0	8	0	0	3	0	0	0	0	0	0	0	23	0	0	0	0
8:55 AM	1	8	0	0	0	5	1	0	1	0	0	0	0	0	1	0	17	0	0	0	0
Total Survey	3	255	0	0	4	160	57	0	48	0	7	0	0	0	4	0	538	0	0	4	1

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	19	0	0	0	15	3	0	12	0	2	0	0	0	1	0	52	0	0	0	0
7:15 AM	0	40	0	0	1	17	4	0	7	0	0	0	0	0	0	0	69	0	0	0	0
7:30 AM	0	46	0	0	2	17	26	0	4	0	1	0	0	0	0	0	96	0	0	0	0
7:45 AM	2	41	0	0	0	32	10	0	9	0	2	0	0	0	1	0	97	0	0	0	1
8:00 AM	0	34	0	0	1	21	2	0	3	0	1	0	0	0	1	0	63	0	0	4	0
8:15 AM	0	27	0	0	0	17	5	0	4	0	0	0	0	0	0	0	53	0	0	0	0
8:30 AM	0	21	0	0	0	21	4	0	3	0	1	0	0	0	0	0	50	0	0	0	0
8:45 AM	1	27	0	0	0	20	3	0	6	0	0	0	0	0	1	0	58	0	0	0	0
Total Survey	3	255	0	0	4	160	57	0	48	0	7	0	0	0	4	0	538	0	0	4	1

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	157	90	247	0	132	187	319	0	35	45	80	0	2	4	6	0	326	0	0	1	1
%HV	0.6%				3.0%				0.0%				0.0%				1.5%				
PHF	0.84				0.70				0.67				0.25				0.78				

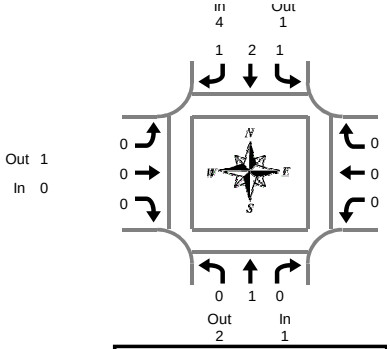
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	155	0	157	4	85	43	132	30	0	5	35	0	0	2	2	326
%HV	0.0%	0.6%	0.0%	0.6%	25.0%	2.4%	2.3%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%
PHF	0.25	0.84	0.00	0.84	0.33	0.63	0.41	0.70	0.63	0.00	0.42	0.67	0.00	0.00	0.25	0.25	0.78

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	2	146	0	0	3	81	43	0	32	0	5	0	0	0	2	0	314	0	0	0	1
7:15 AM	2	161	0	0	4	87	42	0	23	0	4	0	0	0	2	0	325	0	0	4	1
7:30 AM	2	148	0	0	3	87	43	0	20	0	4	0	0	0	2	0	309	0	0	4	1
7:45 AM	2	123	0	0	1	91	21	0	19	0	4	0	0	0	2	0	263	0	0	4	1
8:00 AM	1	109	0	0	1	79	14	0	16	0	2	0	0	0	2	0	224	0	0	4	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Skellenger Way

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
7:35 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:10 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
8:20 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
8:40 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:55 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Survey	0	4	0	4	1	7	1	9	1	0	0	1	0	0	0	0	14

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:15 AM	0	1	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
8:30 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Survey	0	4	0	4	1	7	1	9	1	0	0	1	0	0	0	0	14

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Skellenger Way			Westbound Skellenger Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	2	3	4	1	5	0	1	1	0	1	1	5
PHF	0.25			0.33			0.00			0.00			0.31

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	1	0	1	1	2	1	4	0	0	0	0	0	0	0	0	5
PHF	0.00	0.25	0.00	0.25	0.25	0.50	0.25	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

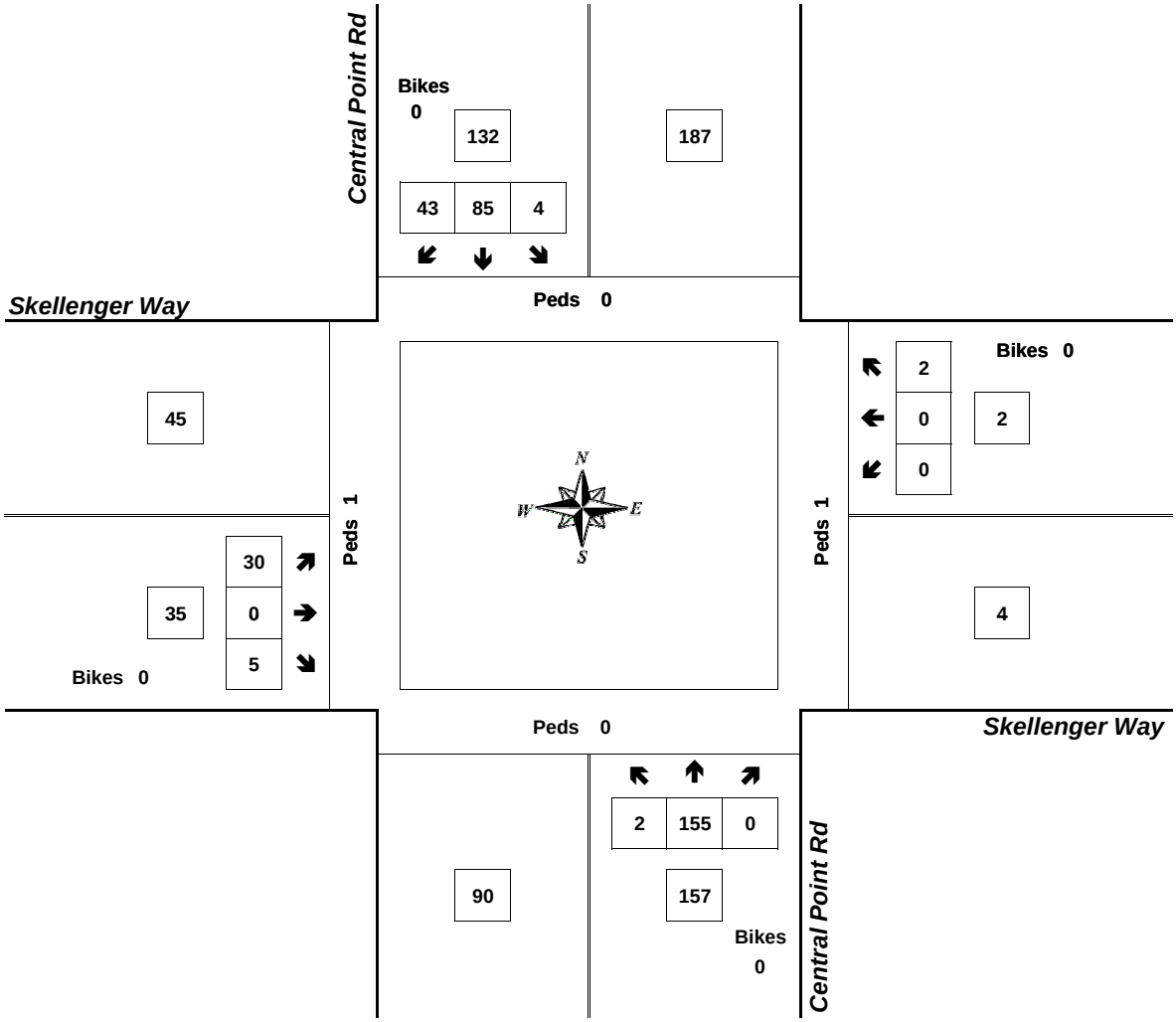
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	0	1	1	2	1	4	0	0	0	0	0	0	0	0	5
7:15 AM	0	1	0	1	1	3	1	5	0	0	0	0	0	0	0	0	6
7:30 AM	0	1	0	1	1	5	1	7	1	0	0	1	0	0	0	0	9
7:45 AM	0	2	0	2	0	6	0	6	1	0	0	1	0	0	0	0	9
8:00 AM	0	3	0	3	0	5	0	5	1	0	0	1	0	0	0	0	9

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Skellenger Way

7:10 AM to 8:10 AM
Wednesday, April 05, 2017

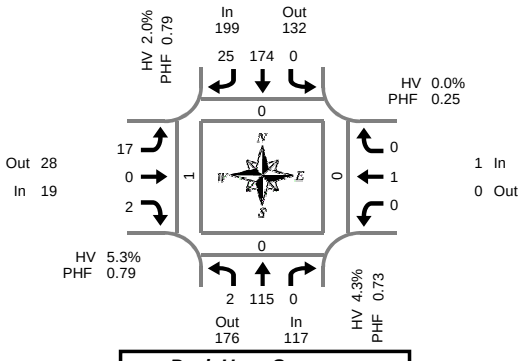


Approach	PHF	HV%	Volume
EB	0.67	0.0%	35
WB	0.25	0.0%	2
NB	0.84	0.6%	157
SB	0.70	3.0%	132
Intersection	0.78	1.5%	326

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Skellenger Way

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	5	0	0	0	6	3	0	0	0	1	0	0	0	0	0	15	0	0	0	0
4:05 PM	1	5	0	0	0	15	2	1	2	0	0	0	0	0	0	0	25	0	0	0	0
4:10 PM	0	7	0	1	0	12	1	0	2	0	0	0	0	0	0	0	22	0	0	0	0
4:15 PM	1	11	0	0	0	14	4	0	1	0	0	0	0	0	0	0	31	0	0	0	0
4:20 PM	0	5	0	0	0	8	2	0	0	0	0	0	0	0	0	0	15	0	0	0	0
4:25 PM	0	4	0	0	0	16	3	0	0	0	0	0	0	0	0	0	23	0	0	0	0
4:30 PM	0	8	0	0	0	8	4	0	0	0	0	0	0	0	0	0	20	0	0	0	0
4:35 PM	0	6	0	0	0	12	2	0	3	0	0	0	0	0	0	0	23	2	0	0	0
4:40 PM	0	11	0	0	0	12	1	0	2	0	0	0	0	0	0	0	26	0	0	0	0
4:45 PM	0	6	0	0	0	8	1	0	0	0	0	0	0	0	0	0	15	0	0	0	0
4:50 PM	0	6	0	0	0	8	1	0	4	1	0	0	0	0	0	0	20	0	0	0	0
4:55 PM	1	8	0	0	0	19	2	0	2	0	0	0	0	0	0	0	32	0	0	0	0
5:00 PM	0	10	0	0	0	10	2	0	2	0	0	0	0	0	0	0	24	0	0	0	0
5:05 PM	0	14	0	0	0	10	0	0	1	0	0	0	0	1	0	0	26	0	0	0	0
5:10 PM	0	10	0	0	0	21	3	1	0	0	1	0	0	0	0	0	35	0	0	0	0
5:15 PM	0	16	0	0	0	13	3	0	3	0	0	0	0	0	0	0	35	0	0	0	0
5:20 PM	0	8	0	0	0	21	2	0	2	0	0	0	0	0	0	0	33	0	0	0	0
5:25 PM	0	11	0	0	0	5	3	0	0	0	0	0	0	0	0	0	19	0	0	0	0
5:30 PM	1	8	0	0	0	10	2	0	2	0	0	0	0	0	0	0	23	0	0	0	0
5:35 PM	0	9	0	0	0	12	2	0	1	0	0	0	0	0	0	0	24	0	0	0	0
5:40 PM	0	8	0	0	0	15	2	0	1	0	0	0	0	0	0	0	26	0	0	0	0
5:45 PM	0	7	0	0	0	17	1	0	2	0	1	0	0	0	0	0	28	0	0	0	0
5:50 PM	0	6	0	0	0	21	3	0	1	0	0	0	0	0	0	0	31	0	0	0	1
5:55 PM	0	3	0	0	0	11	0	0	1	0	0	0	0	0	0	0	15	0	0	0	0
Total Survey	4	192	0	1	0	304	49	2	32	1	3	0	0	1	0	0	586	2	0	0	1

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	1	17	0	1	0	33	6	1	4	0	1	0	0	0	0	0	62	0	0	0	0
4:15 PM	1	20	0	0	0	38	9	0	1	0	0	0	0	0	0	0	69	0	0	0	0
4:30 PM	0	25	0	0	0	32	7	0	5	0	0	0	0	0	0	0	69	2	0	0	0
4:45 PM	1	20	0	0	0	35	4	0	6	1	0	0	0	0	0	0	67	0	0	0	0
5:00 PM	0	34	0	0	0	41	5	1	3	0	1	0	0	1	0	0	85	0	0	0	0
5:15 PM	0	35	0	0	0	39	8	0	5	0	0	0	0	0	0	0	87	0	0	0	0
5:30 PM	1	25	0	0	0	37	6	0	4	0	0	0	0	0	0	0	73	0	0	0	0
5:45 PM	0	16	0	0	0	49	4	0	4	0	1	0	0	0	0	0	74	0	0	0	1
Total Survey	4	192	0	1	0	304	49	2	32	1	3	0	0	1	0	0	586	2	0	0	1

Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	117	176	293	0	199	132	331	1	19	28	47	0	1	0	1	0	336	0	0	0	1
%HV	4.3%				2.0%				5.3%				0.0%				3.0%				
PHF	0.73				0.79				0.79				0.25				0.82				

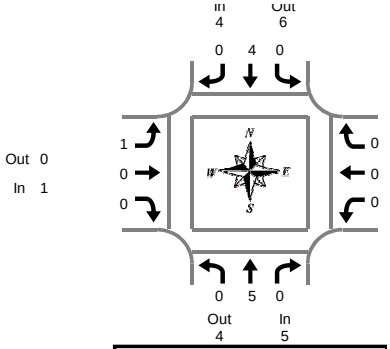
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	115	0	117	0	174	25	199	17	0	2	19	0	1	0	1	336
%HV	0.0%	4.3%	0.0%	4.3%	0.0%	2.3%	0.0%	2.0%	5.9%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	0.0%	3.0%
PHF	0.50	0.72	0.00	0.73	0.00	0.79	0.78	0.79	0.85	0.00	0.50	0.79	0.00	0.25	0.00	0.25	0.82

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	3	82	0	1	0	138	26	1	16	1	1	0	0	0	0	0	267	2	0	0	0
4:15 PM	2	99	0	0	0	146	25	1	15	1	1	0	0	1	0	0	290	2	0	0	0
4:30 PM	1	114	0	0	0	147	24	1	19	1	1	0	0	1	0	0	308	2	0	0	0
4:45 PM	2	114	0	0	0	152	23	1	18	1	1	0	0	1	0	0	312	0	0	0	0
5:00 PM	1	110	0	0	0	166	23	1	16	0	2	0	0	1	0	0	319	0	0	0	1

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Skellenger Way

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	0	0	0	0	0	2	0	2	1	0	0	1	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:05 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:10 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:25 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:50 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	6	0	6	0	7	1	8	2	0	0	2	0	0	0	0	16

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	2	1	3	1	0	0	1	0	0	0	0	4
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
5:00 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
5:15 PM	0	2	0	2	0	0	0	0	1	0	0	1	0	0	0	0	3
5:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total Survey	0	6	0	6	0	7	1	8	2	0	0	2	0	0	0	0	16

Heavy Vehicle Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Skellenger Way			Westbound Skellenger Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	4	9	4	6	10	1	0	1	0	0	0	10
PHF	0.42			0.50			0.25			0.00			0.83

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	5	0	5	0	4	0	4	1	0	0	1	0	0	0	0	10
PHF	0.00	0.42	0.00	0.42	0.00	0.50	0.00	0.50	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.83

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

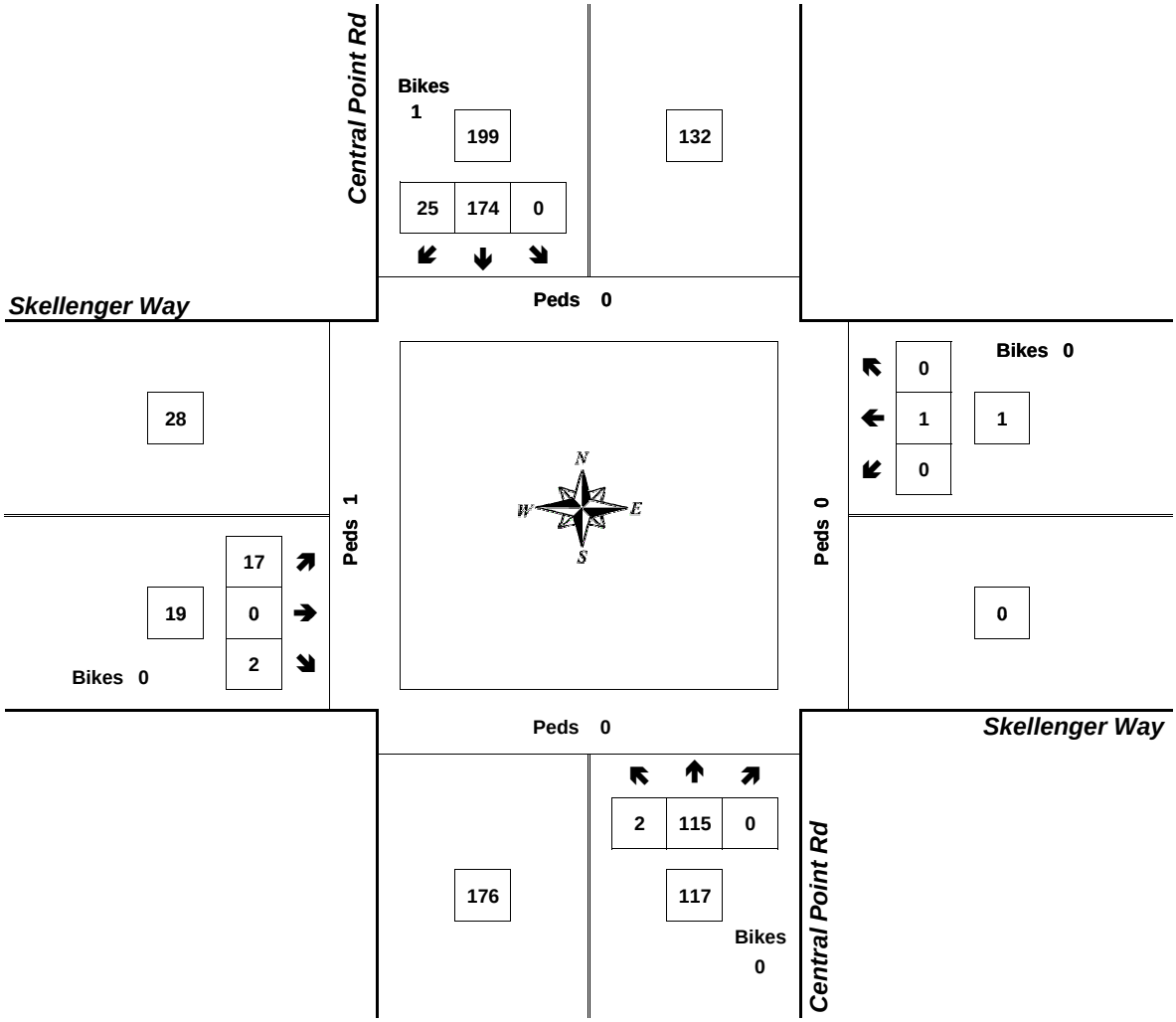
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	2	0	2	0	3	1	4	1	0	0	1	0	0	0	0	7
4:15 PM	0	3	0	3	0	3	0	3	0	0	0	0	0	0	0	0	6
4:30 PM	0	4	0	4	0	3	0	3	1	0	0	1	0	0	0	0	8
4:45 PM	0	5	0	5	0	3	0	3	1	0	0	1	0	0	0	0	9
5:00 PM	0	4	0	4	0	4	0	4	1	0	0	1	0	0	0	0	9

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Skellenger Way

4:55 PM to 5:55 PM
Tuesday, April 04, 2017

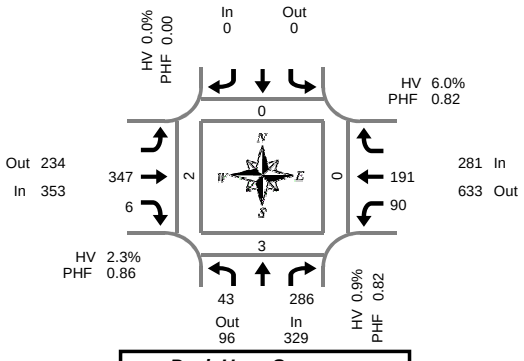


Approach	PHF	HV%	Volume
EB	0.79	5.3%	19
WB	0.25	0.0%	1
NB	0.73	4.3%	117
SB	0.79	2.0%	199
Intersection	0.82	3.0%	336

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:00 AM to 8:00 AM

Central Point Rd & Warner Parrott Rd

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	2		30	0				0	22	1	0	8	14		0	77	0	0	0	0
7:05 AM	2		22	0				0	29	1	0	4	10		0	68	0	0	0	0
7:10 AM	4		24	0				0	30	1	0	10	8		0	77	0	0	0	0
7:15 AM	4		23	0				0	26	0	0	6	13		0	72	0	0	0	0
7:20 AM	3		19	0				0	43	0	0	6	15		0	86	0	1	0	0
7:25 AM	4		21	0				0	33	1	0	9	18		0	86	0	0	0	0
7:30 AM	4		24	0				0	22	0	0	11	18		0	79	0	0	0	0
7:35 AM	5		29	0				0	22	0	0	7	23		0	86	0	1	0	0
7:40 AM	4		27	0				0	25	0	0	8	13		0	77	0	0	0	0
7:45 AM	8		27	0				0	24	0	0	7	21		0	87	0	0	0	0
7:50 AM	2		21	0				0	36	1	0	9	20		0	89	0	1	0	2
7:55 AM	1		19	0				0	35	1	0	5	18		0	79	0	0	0	0
8:00 AM	1		23	0				0	22	0	0	9	15		1	70	0	0	0	0
8:05 AM	5		16	0				0	25	0	0	5	12		0	63	0	1	0	0
8:10 AM	3		22	0				0	18	1	0	6	14		0	64	0	1	0	0
8:15 AM	1		21	0				0	32	0	0	7	25		0	86	0	4	0	0
8:20 AM	4		21	0				0	16	0	0	12	22		0	75	0	0	0	0
8:25 AM	5		24	0				0	27	0	0	6	18		0	80	0	1	0	0
8:30 AM	4		18	0				0	33	1	0	12	16		0	84	0	2	0	0
8:35 AM	3		19	0				0	24	0	0	5	22		0	73	0	1	0	0
8:40 AM	1		15	0				0	20	0	0	16	20		0	72	0	0	0	0
8:45 AM	3		19	0				0	25	2	0	12	21		0	82	0	1	0	0
8:50 AM	2		20	0				0	28	1	0	12	23		0	86	0	0	0	0
8:55 AM	1		19	0				0	33	1	0	10	26		0	90	0	0	0	0
Total Survey	76		523	0				0	650	12	0	202	425		1	1,888	0	14	0	2

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	8		76	0				0	81	3	0	22	32		0	222	0	0	0	0
7:15 AM	11		63	0				0	102	1	0	21	46		0	244	0	1	0	0
7:30 AM	13		80	0				0	69	0	0	26	54		0	242	0	1	0	0
7:45 AM	11		67	0				0	95	2	0	21	59		0	255	0	1	0	2
8:00 AM	9		61	0				0	65	1	0	20	41		1	197	0	2	0	0
8:15 AM	10		66	0				0	75	0	0	25	65		0	241	0	5	0	0
8:30 AM	8		52	0				0	77	1	0	33	58		0	229	0	3	0	0
8:45 AM	6		58	0				0	86	4	0	34	70		0	258	0	1	0	0
Total Survey	76		523	0				0	650	12	0	202	425		1	1,888	0	14	0	2

Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	329	96	425	0	0	0	0	0	353	234	587	0	281	633	914	0	963	0	3	0	2
%HV	0.9%				0.0%				2.3%				6.0%				2.9%				
PHF	0.82				0.00				0.86				0.82				0.94				

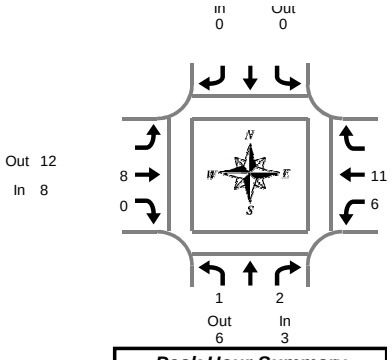
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	43		286	329				0		347	6	353	90	191		281	963
%HV	2.3%	NA	0.7%	0.9%	NA	NA	NA	0.0%	NA	2.3%	0.0%	2.3%	6.7%	5.8%	NA	6.0%	2.9%
PHF	0.63		0.86	0.82				0.00		0.85	0.50	0.86	0.83	0.81		0.82	0.94

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	43		286	0				0	347	6	0	90	191		0	963	0	3	0	2
7:15 AM	44		271	0				0	331	4	0	88	200		1	938	0	5	0	2
7:30 AM	43		274	0				0	304	3	0	92	219		1	935	0	9	0	2
7:45 AM	38		246	0				0	312	4	0	99	223		1	922	0	11	0	2
8:00 AM	33		237	0				0	303	6	0	112	234		1	925	0	11	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Warner Parrott Rd

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		1	1				0	0	0	0		0	0		0	1
7:05 AM	0		0	0				0	1	0	1		0	1		1	2
7:10 AM	0		0	0				0	1	0	1		0	0		0	1
7:15 AM	0		0	0				0	0	0	0		2	2		4	4
7:20 AM	0		1	1				0	0	0	0		0	0		0	1
7:25 AM	0		0	0				0	2	0	2		2	1		3	5
7:30 AM	0		0	0				0	1	0	1		1	1		2	3
7:35 AM	0		0	0				0	0	0	0		0	1		1	1
7:40 AM	1		0	1				0	1	0	1		0	1		1	3
7:45 AM	0		0	0				0	0	0	0		1	2		3	3
7:50 AM	0		0	0				0	1	0	1		0	1		1	2
7:55 AM	0		0	0				0	1	0	1		0	1		1	2
8:00 AM	0		0	0				0	0	0	0		2	2		4	4
8:05 AM	0		0	0				0	0	0	0		0	2		2	2
8:10 AM	0		1	1				0	2	0	2		0	0		0	3
8:15 AM	0		0	0				0	1	0	1		0	0		0	1
8:20 AM	0		2	2				0	1	0	1		2	1		3	6
8:25 AM	0		0	0				0	0	0	0		0	0		0	0
8:30 AM	0		2	2				0	1	0	1		2	0		2	5
8:35 AM	0		1	1				0	1	0	1		0	1		1	3
8:40 AM	0		0	0				0	1	0	1		0	0		0	1
8:45 AM	0		2	2				0	1	0	1		0	1		1	4
8:50 AM	0		0	0				0	2	0	2		0	1		1	3
8:55 AM	0		1	1				0	0	0	0		0	2		2	3
Total Survey	1		11	12				0	18	0	18		12	21		33	63

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		1	1				0	2	0	2		0	1		1	4
7:15 AM	0		1	1				0	2	0	2		4	3		7	10
7:30 AM	1		0	1				0	2	0	2		1	3		4	7
7:45 AM	0		0	0				0	2	0	2		1	4		5	7
8:00 AM	0		1	1				0	2	0	2		2	4		6	9
8:15 AM	0		2	2				0	2	0	2		2	1		3	7
8:30 AM	0		3	3				0	3	0	3		2	1		3	9
8:45 AM	0		3	3				0	3	0	3		0	4		4	10
Total Survey	1		11	12				0	18	0	18		12	21		33	63

Heavy Vehicle Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Warner Parrott Rd			Westbound Warner Parrott Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	6	9	0	0	0	8	12	20	17	10	27	28
PHF	0.75			0.00			0.67			0.61			0.70

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	1		2	3				0	8	0	8		6	11		17	28
PHF	0.25		0.50	0.75				0.00	0.67	0.00	0.67		0.38	0.69		0.61	0.70

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

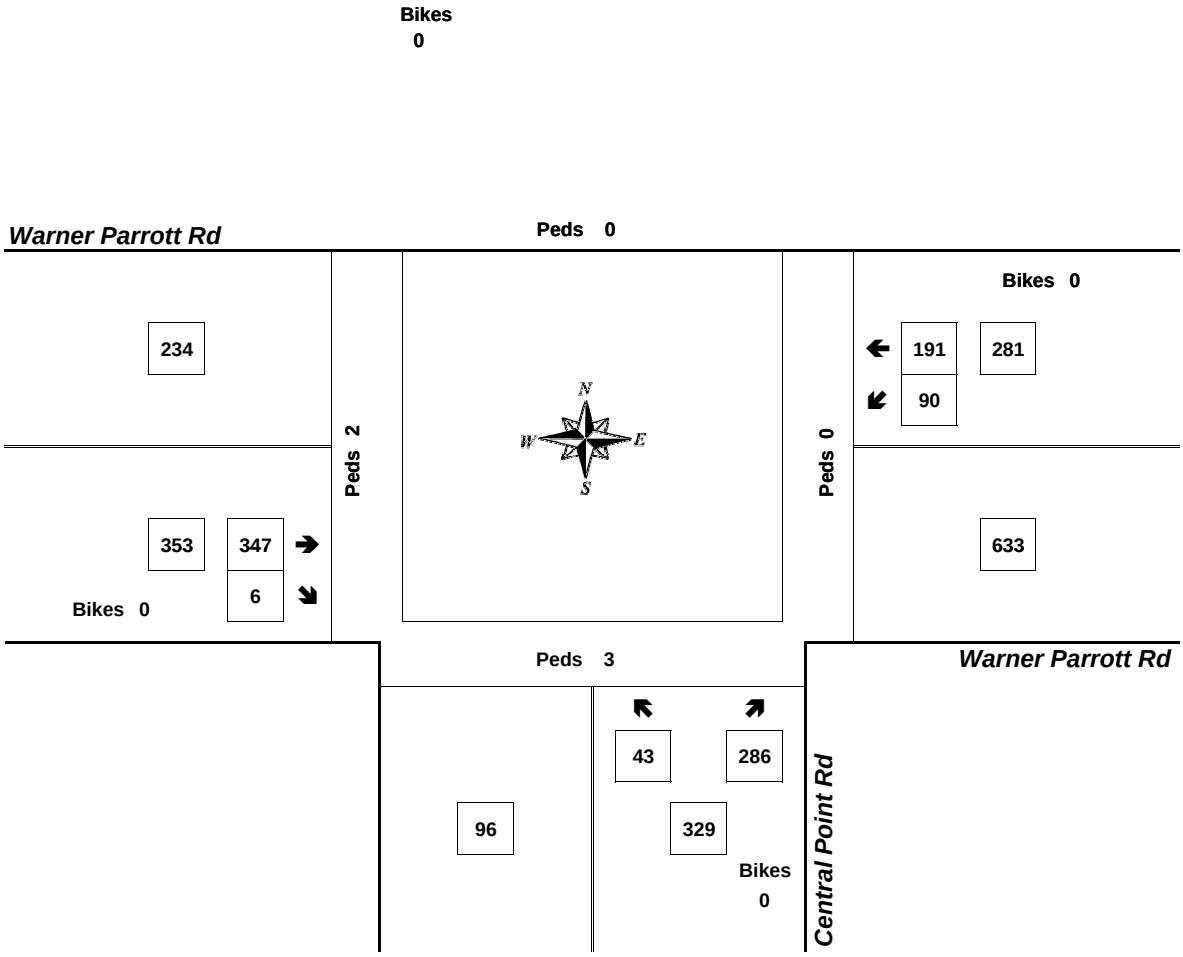
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	1		2	3				0	8	0	8		6	11		17	28
7:15 AM	1		2	3				0	8	0	8		8	14		22	33
7:30 AM	1		3	4				0	8	0	8		6	12		18	30
7:45 AM	0		6	6				0	9	0	9		7	10		17	32
8:00 AM	0		9	9				0	10	0	10		6	10		16	35

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Warner Parrott Rd

7:00 AM to 8:00 AM
Wednesday, April 05, 2017

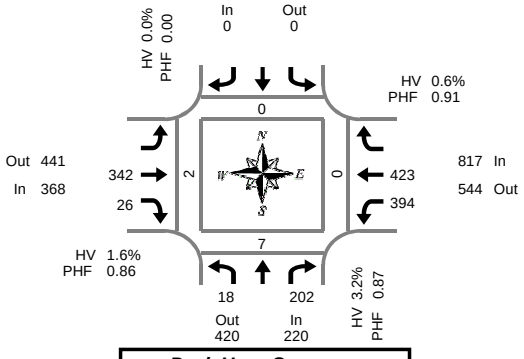


Approach	PHF	HV%	Volume
EB	0.86	2.3%	353
WB	0.82	6.0%	281
NB	0.82	0.9%	329
SB	0.00	0.0%	0
Intersection	0.94	2.9%	963

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Warner Parrott Rd

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:50 PM to 5:50 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	0		6	0				0	49	2	0	17	36		0	110		0	0	0	0
4:05 PM	0		9	0				0	37	0	0	31	29		0	106		0	1	0	0
4:10 PM	1		22	0				0	23	3	0	29	41		0	119		0	0	0	0
4:15 PM	1		16	1				0	35	4	0	34	38		0	128		0	0	0	0
4:20 PM	1		15	0				0	33	2	0	29	25		0	105		0	0	0	0
4:25 PM	2		11	0				0	28	3	0	21	22		0	87		0	0	0	0
4:30 PM	1		19	0				0	15	0	0	25	28		0	88		0	0	0	0
4:35 PM	1		15	0				0	26	2	0	25	36		0	105		0	1	0	0
4:40 PM	2		21	0				0	23	3	0	25	25		0	99		0	0	0	0
4:45 PM	1		19	0				0	32	4	0	23	43		0	122		0	0	0	0
4:50 PM	3		17	0				0	27	1	0	35	30		0	113		0	1	0	0
4:55 PM	2		24	0				0	24	5	0	40	26		0	121		0	1	0	0
5:00 PM	0		16	0				0	21	2	0	31	37		0	107		0	0	0	0
5:05 PM	1		10	0				0	33	0	0	38	50		1	132		0	2	0	0
5:10 PM	2		14	0				0	15	2	0	36	32		0	101		0	0	0	1
5:15 PM	2		13	0				0	36	4	0	28	39		0	122		0	0	0	1
5:20 PM	2		18	0				0	30	3	0	42	34		0	129		0	0	0	0
5:25 PM	0		19	0				0	33	1	0	26	28		0	107		0	0	0	0
5:30 PM	3		21	0				0	28	4	0	13	33		0	102		0	0	0	0
5:35 PM	1		12	0				0	36	1	0	27	48		0	125		0	0	0	0
5:40 PM	1		20	0				0	26	2	0	33	40		0	122		0	1	0	0
5:45 PM	1		18	0				0	33	1	0	45	26		0	124		0	2	0	0
5:50 PM	1		18	0				0	25	1	0	35	28		0	108		0	0	0	2
5:55 PM	1		13	0				0	30	6	0	21	40		0	111		0	0	0	0
Total Survey	30		386	1				0	698	56	0	709	814		1	2,693		0	9	0	4

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	1		37	0				0	109	5	0	77	106		0	335		0	1	0	0
4:15 PM	4		42	1				0	96	9	0	84	85		0	320		0	0	0	0
4:30 PM	4		55	0				0	64	5	0	75	89		0	292		0	1	0	0
4:45 PM	6		60	0				0	83	10	0	98	99		0	356		0	2	0	0
5:00 PM	3		40	0				0	69	4	0	105	119		1	340		0	2	0	1
5:15 PM	4		50	0				0	99	8	0	96	101		0	358		0	0	0	1
5:30 PM	5		53	0				0	90	7	0	73	121		0	349		0	1	0	0
5:45 PM	3		49	0				0	88	8	0	101	94		0	343		0	2	0	2
Total Survey	30		386	1				0	698	56	0	709	814		1	2,693		0	9	0	4

Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	220	420	640	0	0	0	0	0	368	441	809	0	817	544	1,361	1	1,405	0	7	0	2
%HV	3.2%				0.0%				1.6%				0.6%				1.3%				
PHF	0.87				0.00				0.86				0.91				0.95				

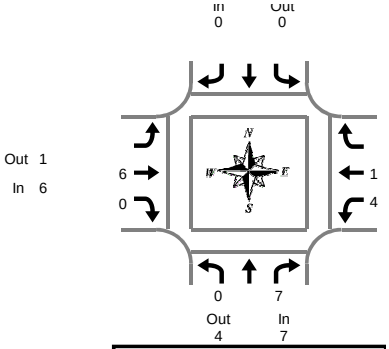
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	18		202	220				0		342	26	368	394	423		817	1,405
%HV	0.0%	NA	3.5%	3.2%	NA	NA	NA	0.0%	NA	1.8%	0.0%	1.6%	1.0%	0.2%	NA	0.6%	1.3%
PHF	0.75		0.87	0.87				0.00		0.86	0.72	0.86	0.90	0.87		0.91	0.95

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	15		194	1				0	352	29	0	334	379		0	1,303		0	4	0	0
4:15 PM	17		197	1				0	312	28	0	362	392		1	1,308		0	5	0	1
4:30 PM	17		205	0				0	315	27	0	374	408		1	1,346		0	5	0	2
4:45 PM	18		203	0				0	341	29	0	372	440		1	1,403		0	5	0	2
5:00 PM	15		192	0				0	346	27	0	375	435		1	1,390		0	5	0	4

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Warner Parrott Rd

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:50 PM to 5:50 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		1	1				0	2	0	2		0	0		0	3
4:05 PM	0		1	1				0	1	0	1		0	0		0	2
4:10 PM	0		0	0				0	2	0	2		0	1		1	3
4:15 PM	0		0	0				0	0	0	0		1	1		2	2
4:20 PM	0		0	0				0	0	0	0		1	1		2	2
4:25 PM	0		1	1				0	0	0	0		0	0		0	1
4:30 PM	0		3	3				0	0	0	0		0	0		0	3
4:35 PM	0		0	0				0	0	0	0		0	2		2	2
4:40 PM	0		0	0				0	1	0	1		1	0		1	2
4:45 PM	0		0	0				0	1	0	1		1	0		1	2
4:50 PM	0		0	0				0	0	0	0		0	0		0	0
4:55 PM	0		2	2				0	2	0	2		0	0		0	4
5:00 PM	0		1	1				0	0	0	0		0	0		0	1
5:05 PM	0		1	1				0	0	0	0		1	0		1	2
5:10 PM	0		0	0				0	0	0	0		1	0		1	1
5:15 PM	0		0	0				0	0	0	0		0	0		0	0
5:20 PM	0		0	0				0	1	0	1		1	1		2	3
5:25 PM	0		0	0				0	1	0	1		1	0		1	2
5:30 PM	0		2	2				0	1	0	1		0	0		0	3
5:35 PM	0		0	0				0	0	0	0		0	0		0	0
5:40 PM	0		1	1				0	0	0	0		0	0		0	1
5:45 PM	0		0	0				0	1	0	1		0	0		0	1
5:50 PM	0		0	0				0	1	0	1		0	0		0	1
5:55 PM	0		0	0				0	0	0	0		0	0		0	0
Total Survey	0		13	13				0	14	0	14		8	6		14	41

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		2	2				0	5	0	5		0	1		1	8
4:15 PM	0		1	1				0	0	0	0		2	2		4	5
4:30 PM	0		3	3				0	1	0	1		1	2		3	7
4:45 PM	0		2	2				0	3	0	3		1	0		1	6
5:00 PM	0		2	2				0	0	0	0		2	0		2	4
5:15 PM	0		0	0				0	2	0	2		2	1		3	5
5:30 PM	0		3	3				0	1	0	1		0	0		0	4
5:45 PM	0		0	0				0	2	0	2		0	0		0	2
Total Survey	0		13	13				0	14	0	14		8	6		14	41

Heavy Vehicle Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Warner Parrott Rd			Westbound Warner Parrott Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	4	11	0	0	0	6	1	7	5	13	18	18
PHF	0.44			0.00			0.50			0.42			0.56

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	0		7	7				0	6	0	6		4	1		5	18
PHF	0.00		0.44	0.44				0.00	0.50	0.00	0.50		0.50	0.25		0.42	0.56

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

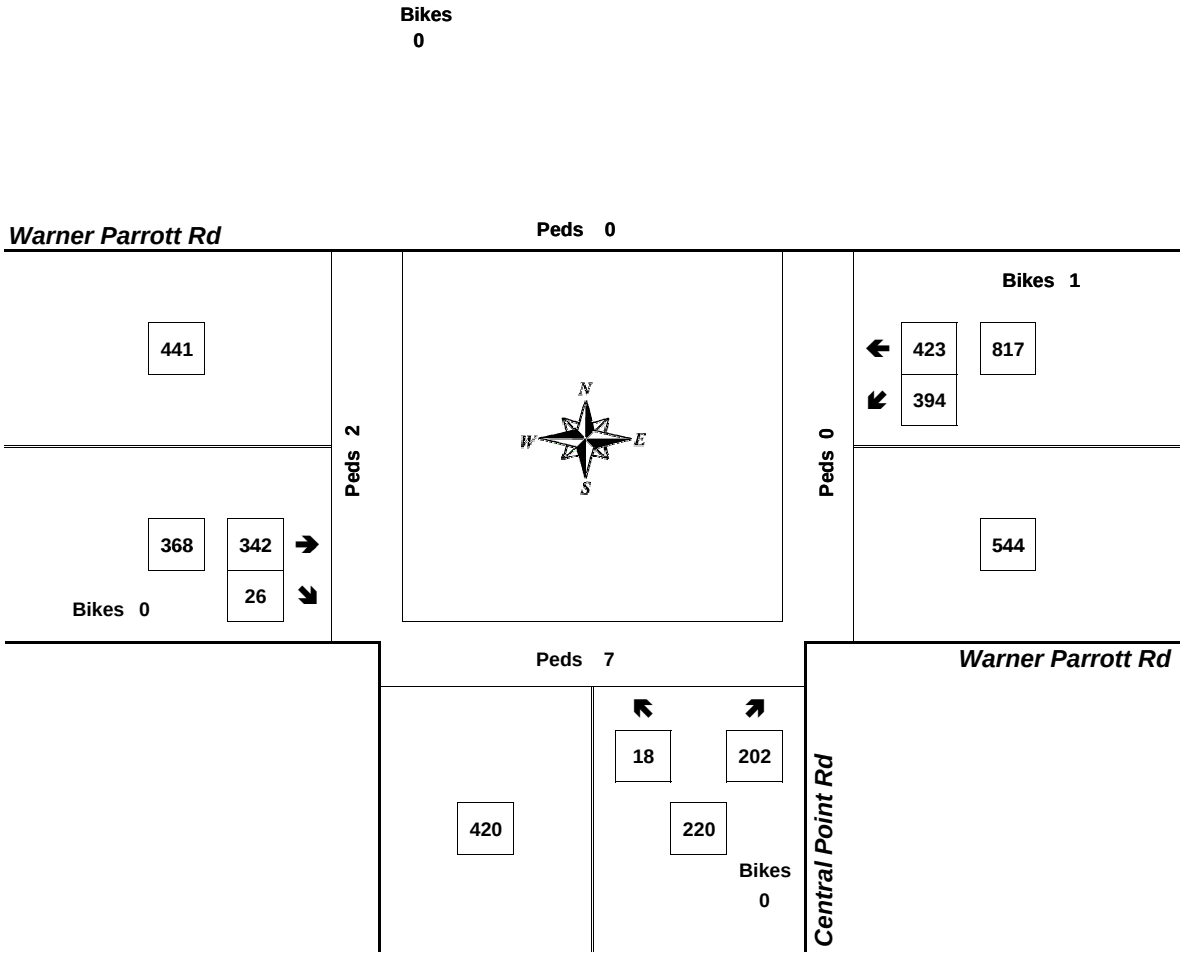
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		8	8				0	9	0	9		4	5		9	26
4:15 PM	0		8	8				0	4	0	4		6	4		10	22
4:30 PM	0		7	7				0	6	0	6		6	3		9	22
4:45 PM	0		7	7				0	6	0	6		5	1		6	19
5:00 PM	0		5	5				0	5	0	5		4	1		5	15

Peak Hour Summary

Clay Carney
(503) 833-2740

Central Point Rd & Warner Parrott Rd

4:50 PM to 5:50 PM
Tuesday, April 04, 2017

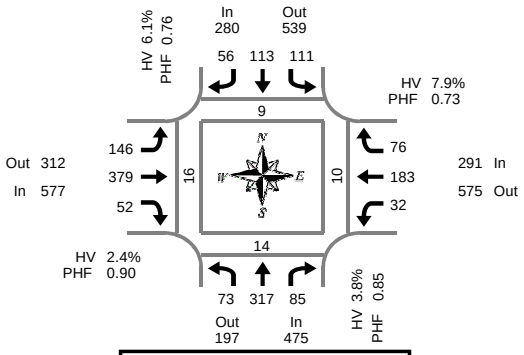


Approach	PHF	HV%	Volume
EB	0.86	1.6%	368
WB	0.91	0.6%	817
NB	0.87	3.2%	220
SB	0.00	0.0%	0
Intersection	0.95	1.3%	1,405

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:40 AM to 8:40 AM

Leland Rd & Warner Parrott Rd

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	3	25	12	0	6	3	3	0	5	46	3	1	4	15	5	0	130	0	0	0	0
7:05 AM	1	24	10	0	7	3	1	0	8	37	7	0	1	12	7	0	118	0	0	0	0
7:10 AM	6	20	3	0	10	4	2	0	7	42	5	0	0	10	6	0	115	0	0	0	0
7:15 AM	6	32	11	0	10	6	2	0	7	40	3	0	1	11	3	0	132	0	0	0	0
7:20 AM	4	38	6	0	10	5	2	0	9	40	7	0	3	15	5	0	144	0	0	0	0
7:25 AM	8	21	8	0	8	1	0	0	7	45	5	0	4	19	4	0	130	0	1	0	0
7:30 AM	9	23	2	0	9	5	3	0	6	38	3	0	3	19	4	0	124	1	0	0	0
7:35 AM	12	27	10	0	2	8	2	0	10	39	3	0	0	14	3	0	130	1	0	0	1
7:40 AM	2	34	10	0	12	10	5	0	11	33	6	0	2	14	4	0	143	0	0	0	0
7:45 AM	9	35	6	0	5	11	2	0	13	30	5	0	1	17	6	0	140	0	0	0	0
7:50 AM	8	23	13	0	7	10	2	0	10	48	4	0	3	19	4	0	151	0	2	0	0
7:55 AM	10	21	11	0	10	6	4	0	5	37	9	0	4	11	7	0	135	0	0	0	0
8:00 AM	6	24	9	0	13	10	4	0	9	35	3	0	5	12	5	0	135	1	1	0	2
8:05 AM	3	23	6	0	6	8	0	1	10	31	5	0	0	13	7	0	112	2	0	0	3
8:10 AM	7	14	7	0	8	10	5	0	12	22	4	0	2	8	6	0	105	0	3	2	0
8:15 AM	11	27	3	0	11	6	4	0	12	34	2	0	2	18	4	0	134	3	3	4	5
8:20 AM	3	33	6	0	6	7	6	0	14	26	0	0	2	24	7	0	134	1	0	0	3
8:25 AM	3	29	7	0	7	7	8	0	13	30	4	0	3	17	8	0	136	0	1	1	0
8:30 AM	6	29	5	0	8	13	7	0	20	33	4	0	6	18	14	0	163	2	3	3	3
8:35 AM	5	25	2	1	18	15	9	0	17	20	6	0	2	12	4	0	135	0	1	0	0
8:40 AM	6	25	5	0	14	15	10	0	5	25	3	0	4	22	8	0	142	1	0	2	0
8:45 AM	5	13	9	0	13	11	4	0	3	40	4	0	2	22	5	0	131	0	3	0	0
8:50 AM	7	15	4	0	10	5	6	0	4	36	3	0	3	22	6	0	121	1	0	0	1
8:55 AM	7	14	7	0	5	12	6	0	9	34	10	0	3	23	5	0	135	0	0	0	0
Total Survey	147	594	172	1	215	191	97	1	226	841	108	1	60	387	137	0	3,175	13	18	12	18

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	10	69	25	0	23	10	6	0	20	125	15	1	5	37	18	0	363	0	0	0	0
7:15 AM	18	91	25	0	28	12	4	0	23	125	15	0	8	45	12	0	406	0	1	0	0
7:30 AM	23	84	22	0	23	23	10	0	27	110	12	0	5	47	11	0	397	2	0	0	1
7:45 AM	27	79	30	0	22	27	8	0	28	115	18	0	8	47	17	0	426	0	2	0	0
8:00 AM	16	61	22	0	27	28	9	1	31	88	12	0	7	33	18	0	352	3	4	2	5
8:15 AM	17	89	16	0	24	20	18	0	39	90	6	0	7	59	19	0	404	4	4	5	8
8:30 AM	17	79	12	1	40	43	26	0	42	78	13	0	12	52	26	0	440	3	4	5	3
8:45 AM	19	42	20	0	28	28	16	0	16	110	17	0	8	67	16	0	387	1	3	0	1
Total Survey	147	594	172	1	215	191	97	1	226	841	108	1	60	387	137	0	3,175	13	18	12	18

Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	475	197	672	1	280	539	819	1	577	312	889	0	291	575	866	0	1,623	9	14	10	16
%HV	3.8%				6.1%				2.4%				7.9%				4.4%				
PHF	0.85				0.76				0.90				0.73				0.93				

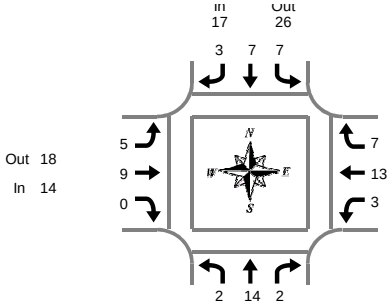
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	73	317	85	475	111	113	56	280	146	379	52	577	32	183	76	291	1,623
%HV	2.7%	4.4%	2.4%	3.8%	6.3%	6.2%	5.4%	6.1%	3.4%	2.4%	0.0%	2.4%	9.4%	7.1%	9.2%	7.9%	4.4%
PHF	0.68	0.86	0.64	0.85	0.84	0.81	0.58	0.76	0.73	0.79	0.72	0.90	0.67	0.78	0.66	0.73	0.93

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	78	323	102	0	96	72	28	0	98	475	60	1	26	176	58	0	1,592	2	3	0	1
7:15 AM	84	315	99	0	100	90	31	1	109	438	57	0	28	172	58	0	1,581	5	7	2	6
7:30 AM	83	313	90	0	96	98	45	1	125	403	48	0	27	186	65	0	1,579	9	10	7	14
7:45 AM	77	308	80	1	113	118	61	1	140	371	49	0	34	191	80	0	1,622	10	14	12	16
8:00 AM	69	271	70	1	119	119	69	1	128	366	48	0	34	211	79	0	1,583	11	15	12	17

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Warner Parrott Rd

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:40 AM to 8:40 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3
7:10 AM	0	0	0	0	2	0	0	2	0	1	0	1	0	0	1	1	4
7:15 AM	1	0	1	2	1	0	1	2	0	1	0	1	0	1	0	1	6
7:20 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	1	1	3
7:25 AM	2	0	0	2	1	0	0	1	1	1	0	2	1	1	0	2	7
7:30 AM	0	1	0	1	0	2	0	2	0	1	0	1	0	2	1	3	7
7:35 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
7:40 AM	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	2
7:45 AM	0	1	1	2	0	1	0	1	0	0	0	0	0	3	1	4	7
7:50 AM	1	1	0	2	1	0	0	1	0	2	0	2	0	0	1	1	6
7:55 AM	1	0	0	1	1	0	1	2	0	1	0	1	0	0	0	0	4
8:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	3	1	5	6
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
8:10 AM	0	0	0	0	1	0	0	1	1	1	0	2	0	0	1	1	4
8:15 AM	0	1	0	1	1	0	0	1	1	1	0	2	0	0	1	1	5
8:20 AM	0	1	0	1	0	0	0	0	1	1	0	2	0	3	0	3	6
8:25 AM	0	5	1	6	0	0	0	0	1	0	0	1	2	0	0	2	9
8:30 AM	0	3	0	3	0	1	1	2	0	2	0	2	0	1	1	2	9
8:35 AM	0	1	0	1	2	5	0	7	1	1	0	2	0	1	1	2	12
8:40 AM	0	0	0	0	1	0	1	2	0	0	1	1	0	0	0	0	3
8:45 AM	0	0	0	0	0	3	0	3	0	2	1	3	0	2	1	3	9
8:50 AM	1	1	0	2	0	0	0	0	0	0	2	2	0	0	0	0	4
8:55 AM	1	0	0	1	0	0	0	0	1	0	0	1	0	1	0	1	3
Total Survey	7	16	3	26	14	12	5	31	7	17	4	28	4	22	12	38	123

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	2	0	0	2	0	2	0	2	0	1	2	3	7
7:15 AM	3	0	1	4	3	0	1	4	1	3	0	4	1	2	1	4	16
7:30 AM	0	1	0	1	2	2	1	5	0	1	0	1	0	3	1	4	11
7:45 AM	2	2	1	5	2	1	1	4	0	3	0	3	0	3	2	5	17
8:00 AM	0	1	0	1	1	0	0	1	1	1	0	2	1	5	2	8	12
8:15 AM	0	7	1	8	1	0	0	1	3	2	0	5	2	3	1	6	20
8:30 AM	0	4	0	4	3	6	2	11	1	3	1	5	0	2	2	4	24
8:45 AM	2	1	0	3	0	3	0	3	1	2	3	6	0	3	1	4	16
Total Survey	7	16	3	26	14	12	5	31	7	17	4	28	4	22	12	38	123

Heavy Vehicle Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Warner Parrott Rd			Westbound Warner Parrott Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	18	10	28	17	26	43	14	18	32	23	18	41	72
PHF	0.45			0.47			0.58			0.72			0.60

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	14	2	18	7	7	3	17	5	9	0	14	3	13	7	23	72
PHF	0.25	0.39	0.50	0.45	0.88	0.29	0.75	0.47	0.42	0.75	0.00	0.58	0.38	0.65	0.88	0.72	0.60

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	5	3	2	10	9	3	3	15	1	9	0	10	1	9	6	16	51
7:15 AM	5	4	2	11	8	3	3	14	2	8	0	10	2	13	6	21	56
7:30 AM	2	11	2	15	6	3	2	11	4	7	0	11	3	14	6	23	60
7:45 AM	2	14	2	18	7	7	3	17	5	9	1	15	3	13	7	23	73
8:00 AM	2	13	1	16	5	9	2	16	6	8	4	18	3	13	6	22	72

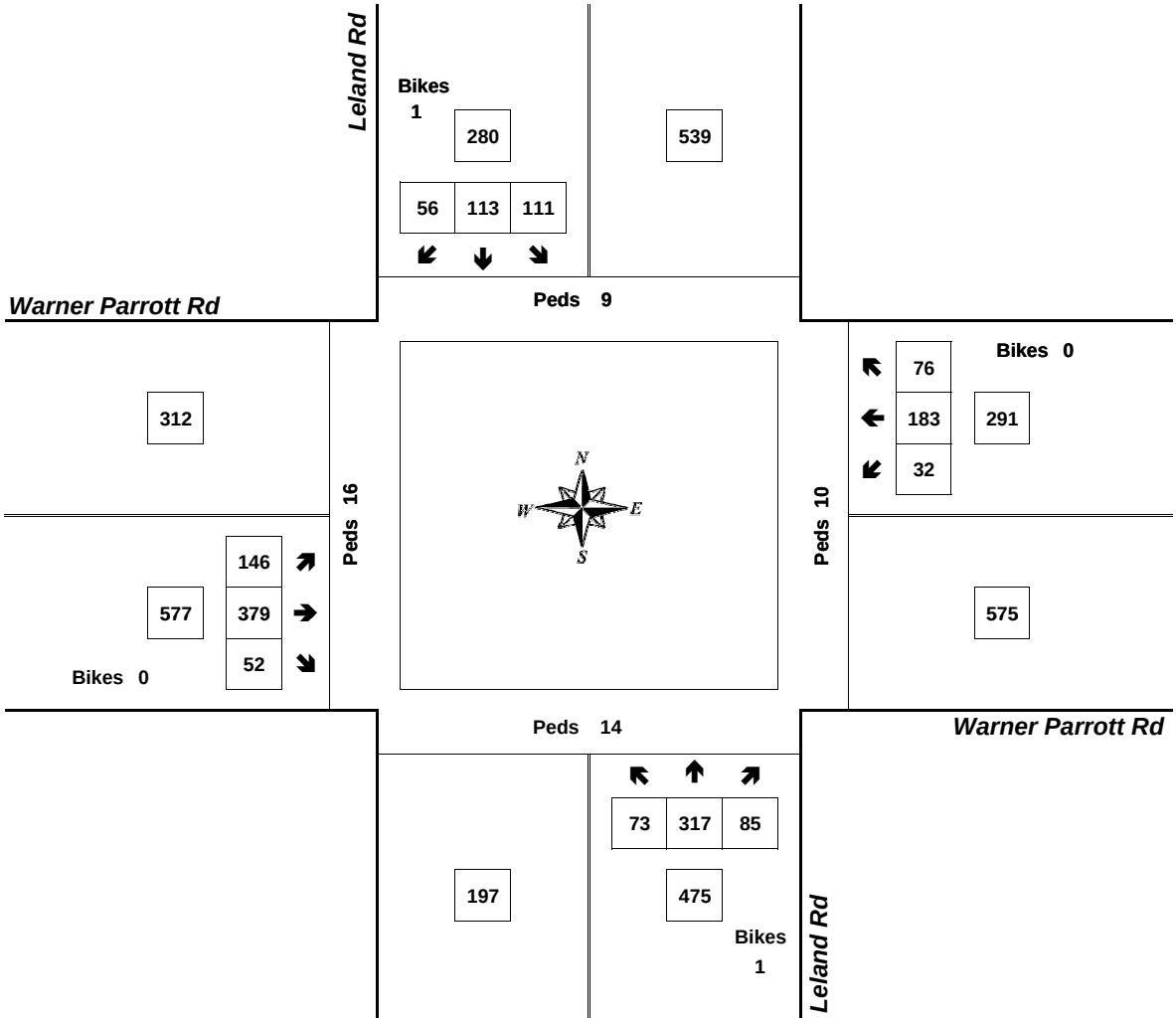
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Leland Rd & Warner Parrott Rd

7:40 AM to 8:40 AM
Wednesday, April 05, 2017

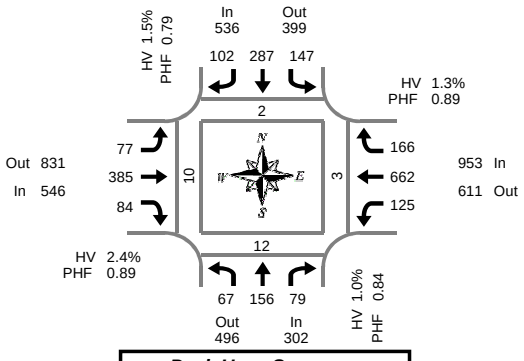


Approach	PHF	HV%	Volume
EB	0.90	2.4%	577
WB	0.73	7.9%	291
NB	0.85	3.8%	475
SB	0.76	6.1%	280
Intersection	0.93	4.4%	1,623

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:45 PM to 5:45 PM

Leland Rd & Warner Parrott Rd

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	7	9	8	0	17	17	8	0	4	38	10	0	4	39	9	0	170	0	0	1	3
4:05 PM	5	8	8	0	6	20	12	0	3	37	9	1	19	45	16	0	188	1	0	0	1
4:10 PM	8	13	5	0	16	24	16	0	6	29	8	0	12	39	10	0	186	0	2	0	0
4:15 PM	5	6	5	0	13	21	11	0	6	38	9	0	13	58	18	0	203	0	3	3	0
4:20 PM	4	10	7	0	11	22	12	0	2	39	3	0	7	38	5	0	160	0	0	1	0
4:25 PM	4	10	2	0	12	19	5	0	5	28	6	0	12	38	7	0	148	1	2	0	0
4:30 PM	9	11	6	0	12	19	5	0	7	25	4	0	12	38	7	0	155	0	0	0	0
4:35 PM	6	19	3	0	3	17	6	0	5	32	5	0	6	56	12	0	170	0	0	0	0
4:40 PM	6	14	4	0	11	31	8	0	5	29	7	0	11	28	11	2	165	0	0	1	0
4:45 PM	3	5	4	0	16	18	6	0	7	35	10	0	4	61	12	0	181	0	1	1	0
4:50 PM	1	21	12	0	11	24	8	0	8	34	5	0	9	60	14	0	207	0	1	0	1
4:55 PM	8	19	9	0	12	18	10	0	8	34	5	0	4	44	20	0	191	0	2	0	2
5:00 PM	7	11	2	0	12	33	12	0	11	19	3	0	13	45	6	0	174	0	0	0	3
5:05 PM	5	12	2	0	10	24	12	1	4	35	9	0	18	78	15	0	224	1	0	0	1
5:10 PM	12	12	6	0	12	37	13	0	2	21	2	0	14	43	20	0	194	1	1	0	1
5:15 PM	8	11	6	0	9	25	12	0	7	38	9	0	10	59	12	0	206	0	1	1	0
5:20 PM	4	17	11	0	20	28	13	0	8	22	11	0	6	52	16	0	208	0	0	0	0
5:25 PM	4	5	7	0	10	16	3	2	9	39	10	0	11	48	10	0	172	0	1	0	0
5:30 PM	4	13	9	0	13	24	2	0	5	35	6	0	13	41	8	0	173	0	1	1	2
5:35 PM	6	21	3	0	9	22	4	0	4	38	6	0	12	69	19	0	213	0	2	0	0
5:40 PM	5	9	8	0	13	18	7	0	4	35	8	0	11	62	14	0	194	0	2	0	0
5:45 PM	9	5	2	0	10	14	10	0	3	36	10	0	12	56	11	0	178	0	0	0	0
5:50 PM	6	17	5	0	6	21	11	0	4	32	10	0	9	44	17	0	182	0	0	0	0
5:55 PM	10	6	11	0	11	28	10	0	4	29	8	0	7	38	9	0	171	0	1	0	0
Total Survey	146	284	145	0	275	540	216	3	131	777	173	1	249	1,179	298	2	4,413	4	20	9	14

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	20	30	21	0	39	61	36	0	13	104	27	1	35	123	35	0	544	1	2	1	4
4:15 PM	13	26	14	0	36	62	28	0	13	105	18	0	32	134	30	0	511	1	5	4	0
4:30 PM	21	44	13	0	26	67	19	0	17	86	16	0	29	122	30	2	490	0	0	1	0
4:45 PM	12	45	25	0	39	60	24	0	23	103	20	0	17	165	46	0	579	0	4	1	3
5:00 PM	24	35	10	0	34	94	37	1	17	75	14	0	45	166	41	0	592	2	1	0	5
5:15 PM	16	33	24	0	39	69	28	2	24	99	30	0	27	159	38	0	586	0	2	1	0
5:30 PM	15	43	20	0	35	64	13	0	13	108	20	0	36	172	41	0	580	0	5	1	2
5:45 PM	25	28	18	0	27	63	31	0	11	97	28	0	28	138	37	0	531	0	1	0	0
Total Survey	146	284	145	0	275	540	216	3	131	777	173	1	249	1,179	298	2	4,413	4	20	9	14

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	302	496	798	0	536	399	935	3	546	831	1,377	0	953	611	1,564	0	2,337	2	12	3	10
%HV	1.0%				1.5%				2.4%				1.3%				1.5%				
PHF	0.84				0.79				0.89				0.89				0.94				

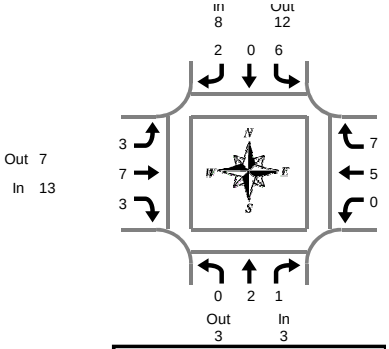
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	67	156	79	302	147	287	102	536	77	385	84	546	125	662	166	953	2,337
%HV	0.0%	1.3%	1.3%	1.0%	4.1%	0.0%	2.0%	1.5%	3.9%	1.8%	3.6%	2.4%	0.0%	0.8%	4.2%	1.3%	1.5%
PHF	0.67	0.76	0.73	0.84	0.85	0.76	0.67	0.79	0.71	0.86	0.70	0.89	0.69	0.92	0.86	0.89	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	66	145	73	0	140	250	107	0	66	398	81	1	113	544	141	2	2,124	2	11	7	7
4:15 PM	70	150	62	0	135	283	108	1	70	369	68	0	123	587	147	2	2,172	3	10	6	8
4:30 PM	73	157	72	0	138	290	108	3	81	363	80	0	118	612	155	2	2,247	2	7	3	8
4:45 PM	67	156	79	0	147	287	102	3	77	385	84	0	125	662	166	0	2,337	2	12	3	10
5:00 PM	80	139	72	0	135	290	109	3	65	379	92	0	136	635	157	0	2,289	2	9	2	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Warner Parrott Rd

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:45 PM to 5:45 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	1	2	3	0	0	1	1	4
4:05 PM	0	1	0	1	1	1	0	2	0	1	1	2	1	0	0	1	6
4:10 PM	0	0	0	0	0	1	1	2	0	1	0	1	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	2	3	4
4:20 PM	0	1	0	1	1	1	0	2	0	0	0	0	0	2	0	2	5
4:25 PM	0	0	0	0	1	1	0	2	0	0	1	1	0	0	0	0	3
4:30 PM	0	1	2	3	1	0	0	1	1	1	1	3	0	0	0	0	7
4:35 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
4:40 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	1	1	2	4
4:45 PM	0	0	1	1	0	0	1	1	0	0	1	1	0	0	0	0	3
4:50 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:55 PM	0	1	0	1	1	0	0	1	0	3	0	3	0	0	4	4	9
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	2
5:05 PM	0	0	0	0	1	0	0	1	1	1	0	2	0	1	0	1	4
5:10 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	1	0	1	3
5:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
5:20 PM	0	0	0	0	0	0	1	1	0	0	1	1	0	2	0	2	4
5:25 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	1	2	0	3	0	0	1	1	4
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	1	1	3
5:50 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:55 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Survey	0	6	3	9	12	4	3	19	4	15	9	28	1	10	12	23	79

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	1	2	1	4	0	3	3	6	1	0	1	2	13
4:15 PM	0	1	0	1	2	2	0	4	0	1	1	2	0	3	2	5	12
4:30 PM	0	2	2	4	2	0	0	2	1	2	1	4	0	2	1	3	13
4:45 PM	0	2	1	3	1	0	1	2	0	3	1	4	0	0	4	4	13
5:00 PM	0	0	0	0	3	0	0	3	2	1	0	3	0	2	1	3	9
5:15 PM	0	0	0	0	2	0	1	3	0	0	2	2	0	2	1	3	8
5:30 PM	0	0	0	0	0	0	0	0	1	3	0	4	0	1	1	2	6
5:45 PM	0	0	0	0	1	0	0	1	0	2	1	3	0	0	1	1	5
Total Survey	0	6	3	9	12	4	3	19	4	15	9	28	1	10	12	23	79

Heavy Vehicle Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Warner Parrott Rd			Westbound Warner Parrott Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	3	6	8	12	20	13	7	20	12	14	26	36
PHF	0.25			0.50			0.54			0.50			0.60

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	2	1	3	6	0	2	8	3	7	3	13	0	5	7	12	36
PHF	0.00	0.25	0.25	0.25	0.38	0.00	0.50	0.50	0.38	0.44	0.38	0.54	0.00	0.42	0.35	0.50	0.60

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	6	3	9	6	4	2	12	1	9	6	16	1	5	8	14	51
4:15 PM	0	5	3	8	8	2	1	11	3	7	3	13	0	7	8	15	47
4:30 PM	0	4	3	7	8	0	2	10	3	6	4	13	0	6	7	13	43
4:45 PM	0	2	1	3	6	0	2	8	3	7	3	13	0	5	7	12	36
5:00 PM	0	0	0	0	6	0	1	7	3	6	3	12	0	5	4	9	28

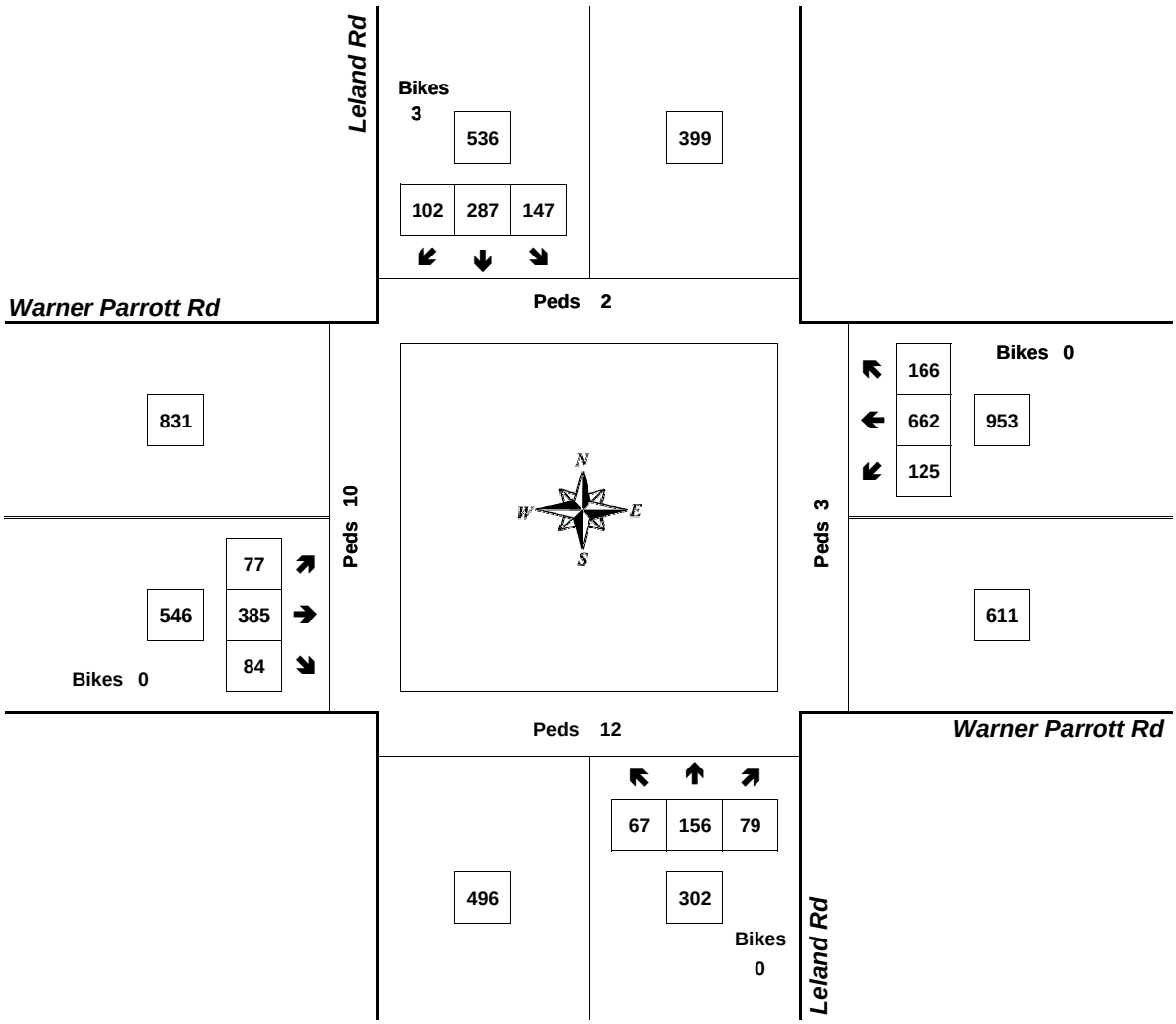
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Leland Rd & Warner Parrott Rd

4:45 PM to 5:45 PM
Tuesday, April 04, 2017



Approach	PHF	HV%	Volume
EB	0.89	2.4%	546
WB	0.89	1.3%	953
NB	0.84	1.0%	302
SB	0.79	1.5%	536
Intersection	0.94	1.5%	2,337

Count Period: 4:00 PM to 6:00 PM

TRIP GENERATION CALCULATIONS

Land Use:	**Single-Family Detached Housing**
Land Use Code:	210
Variable:	Dwelling Units
Variable Value:	77

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**15**	**43**	**58**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**49**	**28**	**77**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**367**	**367**	**734**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**382**	**382**	**764**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 84

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**16**	**47**	**63**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**53**	**31**	**84**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**400**	**400**	**800**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**416**	**416**	**832**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 73

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**14**	**41**	**55**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**46**	**27**	**73**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**347**	**347**	**694**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**362**	**362**	**724**

Source: TRIP GENERATION, Ninth Edition

LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.

LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

Intersection	
Int Delay, s/veh	1.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	19	21	132	2	7	81
Future Vol, veh/h	19	21	132	2	7	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	2	2	5	5
Mvmt Flow	24	26	165	3	9	101

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	285	166	0	0	168	0
Stage 1	166	-	-	-	-	-
Stage 2	119	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	710	884	-	-	1392	-
Stage 1	868	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	705	884	-	-	1392	-
Mov Cap-2 Maneuver	705	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	905	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.9	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	789	1392	-
HCM Lane V/C Ratio	-	-	0.063	0.006	-
HCM Control Delay (s)	-	-	9.9	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	0	5	0	0	2	2	155	0	4	85	43
Future Vol, veh/h	31	0	5	0	0	2	2	155	0	4	85	43
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	40	0	6	0	0	3	3	199	0	5	109	55

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	353	353	138	355	380	200	165	0	0	200	0	0
Stage 1	148	148	-	205	205	-	-	-	-	-	-	-
Stage 2	205	205	-	150	175	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	606	575	916	604	556	846	1419	-	-	1366	-	-
Stage 1	859	779	-	802	736	-	-	-	-	-	-	-
Stage 2	802	736	-	857	758	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	601	570	915	596	552	845	1419	-	-	1366	-	-
Mov Cap-2 Maneuver	601	570	-	596	552	-	-	-	-	-	-	-
Stage 1	856	775	-	800	734	-	-	-	-	-	-	-
Stage 2	798	734	-	848	754	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.2	9.3	0.1	0.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1419	-	-	845	631	1366	-	-
HCM Lane V/C Ratio	0.002	-	-	0.003	0.073	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9.3	11.2	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	9	3	10	1	20	0	187	2	8	122	3
Future Vol, veh/h	6	9	3	10	1	20	0	187	2	8	122	3
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	8	11	4	13	1	25	0	237	3	10	154	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	434	417	157	422	417	243	159	0	0	239	0	0
Stage 1	178	178	-	238	238	-	-	-	-	-	-	-
Stage 2	256	239	-	184	179	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	536	530	894	540	525	793	1427	-	-	1310	-	-
Stage 1	828	756	-	763	706	-	-	-	-	-	-	-
Stage 2	753	711	-	815	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	512	525	893	526	520	789	1427	-	-	1304	-	-
Mov Cap-2 Maneuver	512	525	-	526	520	-	-	-	-	-	-	-
Stage 1	827	749	-	763	706	-	-	-	-	-	-	-
Stage 2	724	711	-	793	742	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.7	10.7	0	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1427	-	-	670	559	1304	-	-
HCM Lane V/C Ratio	-	-	-	0.059	0.041	0.008	-	-
HCM Control Delay (s)	0	-	-	10.7	11.7	7.8	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

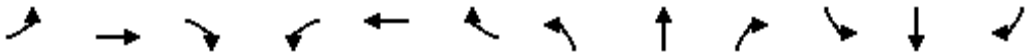
Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	358	6	90	191	43	297
Future Vol, veh/h	358	6	90	191	43	297
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	381	6	96	203	46	316

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	390	0	784	197
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	397	-
Critical Hdwy	-	-	4.19	-	7.315	6.915
Critical Hdwy Stg 1	-	-	-	-	6.515	-
Critical Hdwy Stg 2	-	-	-	-	6.115	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1142	-	298	815
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	630	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1142	-	278	813
Mov Cap-2 Maneuver	-	-	-	-	278	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	576	-

Approach	EB	WB	NE
HCM Control Delay, s	0	2.7	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	278	813	-	-	1142	-
HCM Lane V/C Ratio	0.165	0.389	-	-	0.084	-
HCM Control Delay (s)	20.5	12.2	-	-	8.4	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	1.9	-	-	0.3	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	388	54	32	183	76	73	317	85	111	113	56
Future Volume (vph)	147	388	54	32	183	76	73	317	85	111	113	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1815		1671	3151		1736	1750		1703	1681	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1815		1671	3151		1736	1750		1703	1681	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	158	417	58	34	197	82	78	341	91	119	122	60
RTOR Reduction (vph)	0	4	0	0	39	0	0	7	0	0	13	0
Lane Group Flow (vph)	158	471	0	34	240	0	78	425	0	119	169	0
Confl. Peds. (#/hr)	9		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.4	32.7		3.0	21.3		8.3	44.5		11.5	47.7	
Effective Green, g (s)	14.4	32.7		3.0	21.3		8.3	44.5		11.5	47.7	
Actuated g/C Ratio	0.13	0.30		0.03	0.19		0.08	0.41		0.10	0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	232	541		45	611		131	709		178	730	
v/s Ratio Prot	c0.09	c0.26		0.02	0.08		0.04	c0.24		c0.07	c0.10	
v/s Ratio Perm												
v/c Ratio	0.68	0.87		0.76	0.39		0.60	0.60		0.67	0.23	
Uniform Delay, d1	45.5	36.5		53.0	38.6		49.1	25.6		47.3	19.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.0	14.2		51.4	0.4		7.1	3.7		9.1	0.7	
Delay (s)	53.4	50.7		104.4	39.0		56.2	29.3		56.4	20.2	
Level of Service	D	D		F	D		E	C		E	C	
Approach Delay (s)		51.4			46.1			33.4			34.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	7	103	1	19	144
Future Vol, veh/h	1	7	103	1	19	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	8	123	1	23	171

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	340	123	0	0	124	0
Stage 1	123	-	-	-	-	-
Stage 2	217	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	660	933	-	-	1469	-
Stage 1	907	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	649	933	-	-	1469	-
Mov Cap-2 Maneuver	649	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.1	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	885	1469	-
HCM Lane V/C Ratio	-	-	0.011	0.015	-
HCM Control Delay (s)	-	-	9.1	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	0	2	0	1	0	2	115	0	0	174	25
Future Vol, veh/h	17	0	2	0	1	0	2	115	0	0	174	25
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	21	0	2	0	1	0	2	140	0	0	212	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	374	373	228	374	389	140	244	0	0	140	0	0
Stage 1	228	228	-	145	145	-	-	-	-	-	-	-
Stage 2	146	145	-	229	244	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	587	561	816	587	549	913	1328	-	-	1437	-	-
Stage 1	779	719	-	863	781	-	-	-	-	-	-	-
Stage 2	861	781	-	778	708	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	585	559	815	584	547	913	1328	-	-	1437	-	-
Mov Cap-2 Maneuver	585	559	-	584	547	-	-	-	-	-	-	-
Stage 1	777	718	-	861	779	-	-	-	-	-	-	-
Stage 2	858	779	-	776	707	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.2	11.6	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1328	-	-	547	603	1437	-	-
HCM Lane V/C Ratio	0.002	-	-	0.002	0.038	-	-	-
HCM Control Delay (s)	7.7	0	-	11.6	11.2	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	9	2	3	1	9	0	129	3	24	197	9
Future Vol, veh/h	5	9	2	3	1	9	0	129	3	24	197	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	6	11	2	4	1	11	0	152	4	28	232	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	453	450	237	455	454	155	242	0	0	156	0	0
Stage 1	294	294	-	155	155	-	-	-	-	-	-	-
Stage 2	159	156	-	300	299	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	520	508	807	519	505	896	1313	-	-	1430	-	-
Stage 1	719	673	-	852	773	-	-	-	-	-	-	-
Stage 2	848	772	-	713	670	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	504	496	807	500	493	895	1313	-	-	1430	-	-
Mov Cap-2 Maneuver	504	496	-	500	493	-	-	-	-	-	-	-
Stage 1	719	658	-	851	772	-	-	-	-	-	-	-
Stage 2	837	771	-	683	655	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.1	10.1	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1313	-	-	719	524	1430	-	-
HCM Lane V/C Ratio	-	-	-	0.021	0.036	0.02	-	-
HCM Control Delay (s)	0	-	-	10.1	12.1	7.6	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

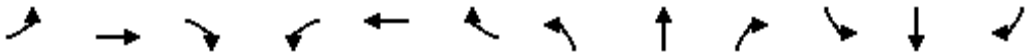
Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	342	26	399	430	18	202
Future Vol, veh/h	342	26	399	430	18	202
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	360	27	420	453	19	213

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	394	0	1676	201
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	1295	-
Critical Hdwy	-	-	4.115	-	7.345	6.945
Critical Hdwy Stg 1	-	-	-	-	6.545	-
Critical Hdwy Stg 2	-	-	-	-	6.145	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1169	-	68	804
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	197	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1169	-	49	799
Mov Cap-2 Maneuver	-	-	-	-	49	-
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	126	-

Approach	EB	WB	NE
HCM Control Delay, s	0	4.7	19.9
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	799	-	-	1169	-
HCM Lane V/C Ratio	0.387	0.266	-	-	0.359	-
HCM Control Delay (s)	118.9	11.1	-	-	9.8	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	1.4	1.1	-	-	1.7	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	394	86	125	662	166	67	156	79	147	287	102
Future Volume (vph)	78	394	86	125	662	166	67	156	79	147	287	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1798		1787	3450		1787	1770		1770	1776	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1798		1787	3450		1787	1770		1770	1776	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	419	91	133	704	177	71	166	84	156	305	109
RTOR Reduction (vph)	0	10	0	0	27	0	0	22	0	0	15	0
Lane Group Flow (vph)	83	500	0	133	854	0	71	228	0	156	399	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.3	24.6		7.5	26.8		4.4	22.5		8.5	26.6	
Effective Green, g (s)	5.3	24.6		7.5	26.8		4.4	22.5		8.5	26.6	
Actuated g/C Ratio	0.07	0.30		0.09	0.33		0.05	0.28		0.10	0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	545		165	1140		96	491		185	582	
v/s Ratio Prot	0.05	c0.28		c0.07	0.25		0.04	0.13		c0.09	c0.22	
v/s Ratio Perm												
v/c Ratio	0.72	0.92		0.81	0.75		0.74	0.46		0.84	0.68	
Uniform Delay, d1	37.2	27.3		36.1	24.2		37.8	24.3		35.6	23.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.9	20.4		24.1	2.7		25.5	3.1		27.9	6.4	
Delay (s)	57.1	47.6		60.2	26.9		63.2	27.4		63.5	30.0	
Level of Service	E	D		E	C		E	C		E	C	
Approach Delay (s)		49.0			31.3			35.3			39.2	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	81.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	22	137	2	7	84
Future Vol, veh/h	1	22	137	2	7	84
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	2	2	5	5
Mvmt Flow	1	28	171	3	9	105

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	296	174	0	0	174	0
Stage 1	173	-	-	-	-	-
Stage 2	123	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	699	875	-	-	1385	-
Stage 1	862	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	694	874	-	-	1384	-
Mov Cap-2 Maneuver	694	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.3	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	864	1384	-
HCM Lane V/C Ratio	-	-	0.033	0.006	-
HCM Control Delay (s)	-	-	9.3	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	0	5	2	2	20	2	161	0	7	88	45
Future Vol, veh/h	31	0	5	2	2	20	2	161	0	7	88	45
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	40	0	6	3	3	26	3	206	0	9	113	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	387	374	143	376	402	207	172	0	0	207	0	0
Stage 1	161	161	-	213	213	-	-	-	-	-	-	-
Stage 2	226	213	-	163	189	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	575	560	910	585	540	839	1411	-	-	1358	-	-
Stage 1	846	769	-	794	730	-	-	-	-	-	-	-
Stage 2	781	730	-	844	748	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	551	554	909	576	534	838	1411	-	-	1358	-	-
Mov Cap-2 Maneuver	551	554	-	576	534	-	-	-	-	-	-	-
Stage 1	844	763	-	792	728	-	-	-	-	-	-	-
Stage 2	753	728	-	832	742	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.7	9.9	0.1	0.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1411	-	-	772	583	1358	-	-
HCM Lane V/C Ratio	0.002	-	-	0.04	0.079	0.007	-	-
HCM Control Delay (s)	7.6	0	-	9.9	11.7	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	1	10	1	21	0	195	2	8	127	3
Future Vol, veh/h	5	0	1	10	1	21	0	195	2	8	127	3
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	6	0	1	13	1	27	0	247	3	10	161	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	451	433	164	432	434	253	166	0	0	249	0	0
Stage 1	184	184	-	248	248	-	-	-	-	-	-	-
Stage 2	267	249	-	184	186	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	522	519	886	532	514	783	1418	-	-	1299	-	-
Stage 1	822	751	-	754	699	-	-	-	-	-	-	-
Stage 2	743	704	-	815	744	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	497	514	885	528	509	779	1418	-	-	1293	-	-
Mov Cap-2 Maneuver	497	514	-	528	509	-	-	-	-	-	-	-
Stage 1	821	744	-	754	699	-	-	-	-	-	-	-
Stage 2	713	704	-	807	737	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.8	10.7	0	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1418	-	-	669	536	1293	-	-
HCM Lane V/C Ratio	-	-	-	0.061	0.014	0.008	-	-
HCM Control Delay (s)	0	-	-	10.7	11.8	7.8	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

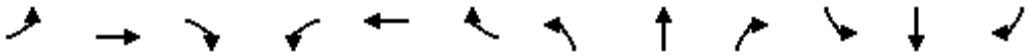
Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	361	10	120	199	45	298
Future Vol, veh/h	361	10	120	199	45	298
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	384	11	128	212	48	317

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	398	0	861	200
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	469	-
Critical Hdwy	-	-	4.19	-	6.615	6.915
Critical Hdwy Stg 1	-	-	-	-	5.815	-
Critical Hdwy Stg 2	-	-	-	-	5.415	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1134	-	312	811
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	631	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1134	-	275	809
Mov Cap-2 Maneuver	-	-	-	-	275	-
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	559	-

Approach	EB	WB	NE
HCM Control Delay, s	0	3.2	13.4
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	275	809	-	-	1134	-
HCM Lane V/C Ratio	0.174	0.392	-	-	0.113	-
HCM Control Delay (s)	20.8	12.3	-	-	8.6	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	1.9	-	-	0.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	394	54	35	190	79	76	330	88	115	118	58
Future Volume (vph)	152	394	54	35	190	79	76	330	88	115	118	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1818		1671	3158		1736	1753		1703	1686	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1818		1671	3158		1736	1753		1703	1686	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	163	424	58	38	204	85	82	355	95	124	127	62
RTOR Reduction (vph)	0	6	0	0	60	0	0	11	0	0	20	0
Lane Group Flow (vph)	163	476	0	38	229	0	82	439	0	124	169	0
Confl. Peds. (#/hr)	9		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.1	23.2		2.9	16.0		6.8	26.1		7.6	26.9	
Effective Green, g (s)	10.1	23.2		2.9	16.0		6.8	26.1		7.6	26.9	
Actuated g/C Ratio	0.13	0.30		0.04	0.21		0.09	0.34		0.10	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	542		62	649		151	588		166	582	
v/s Ratio Prot	c0.09	c0.26		0.02	0.07		0.05	c0.25		c0.07	0.10	
v/s Ratio Perm												
v/c Ratio	0.71	0.88		0.61	0.35		0.54	0.75		0.75	0.29	
Uniform Delay, d1	32.5	26.0		36.9	26.5		34.0	22.9		34.2	18.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.0	14.9		16.6	0.3		3.9	8.4		16.6	1.3	
Delay (s)	42.4	40.8		53.5	26.8		38.0	31.3		50.8	19.8	
Level of Service	D	D		D	C		D	C		D	B	
Approach Delay (s)		41.2			29.9			32.3			32.1	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	77.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	7	107	1	20	150
Future Vol, veh/h	1	7	107	1	20	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	9	134	1	25	188

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	372	134	0	0	135	0
Stage 1	134	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	633	920	-	-	1456	-
Stage 1	897	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	621	920	-	-	1456	-
Mov Cap-2 Maneuver	621	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	791	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.2	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	868	1456	-
HCM Lane V/C Ratio	-	-	0.012	0.017	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	1.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	1	2	1	1	12	2	120	1	23	181	26
Future Vol, veh/h	18	1	2	1	1	12	2	120	1	23	181	26
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	22	1	2	1	1	15	2	146	1	28	221	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	454	446	238	447	462	147	253	0	0	148	0	0
Stage 1	294	294	-	152	152	-	-	-	-	-	-	-
Stage 2	160	152	-	295	310	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	520	510	806	525	500	905	1318	-	-	1427	-	-
Stage 1	719	673	-	855	775	-	-	-	-	-	-	-
Stage 2	847	775	-	718	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	500	497	805	512	487	905	1318	-	-	1427	-	-
Mov Cap-2 Maneuver	500	497	-	512	487	-	-	-	-	-	-	-
Stage 1	717	657	-	853	773	-	-	-	-	-	-	-
Stage 2	830	773	-	698	647	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.3	9.5	0.1	0.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1318	-	-	811	519	1427	-	-
HCM Lane V/C Ratio	0.002	-	-	0.021	0.049	0.02	-	-
HCM Control Delay (s)	7.7	0	-	9.5	12.3	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	0	3	1	9	0	134	3	25	205	9
Future Vol, veh/h	4	0	0	3	1	9	0	134	3	25	205	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	5	0	0	4	1	11	0	158	4	29	241	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	470	467	246	465	471	160	252	0	0	162	0	0
Stage 1	305	305	-	160	160	-	-	-	-	-	-	-
Stage 2	165	162	-	305	311	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	507	496	798	511	494	890	1302	-	-	1423	-	-
Stage 1	709	666	-	847	769	-	-	-	-	-	-	-
Stage 2	842	768	-	709	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	491	484	798	501	482	889	1302	-	-	1423	-	-
Mov Cap-2 Maneuver	491	484	-	501	482	-	-	-	-	-	-	-
Stage 1	709	650	-	846	768	-	-	-	-	-	-	-
Stage 2	831	767	-	692	646	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.4	10.1	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1302	-	-	715	491	1423	-	-
HCM Lane V/C Ratio	-	-	-	0.021	0.01	0.021	-	-
HCM Control Delay (s)	0	-	-	10.1	12.4	7.6	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	-	-

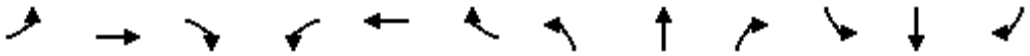
Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	356	32	410	440	19	215
Future Vol, veh/h	356	32	410	440	19	215
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	375	34	432	463	20	226

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	415	0	1727	211
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	1328	-
Critical Hdwy	-	-	4.115	-	6.645	6.945
Critical Hdwy Stg 1	-	-	-	-	5.845	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1148	-	87	792
Stage 1	-	-	-	-	645	-
Stage 2	-	-	-	-	245	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1148	-	54	787
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	153	-

Approach	EB	WB	NE
HCM Control Delay, s	0	4.8	19.1
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	54	787	-	-	1148	-
HCM Lane V/C Ratio	0.37	0.288	-	-	0.376	-
HCM Control Delay (s)	106.6	11.4	-	-	10	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	1.3	1.2	-	-	1.8	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	401	90	130	689	173	76	162	86	153	299	106
Future Volume (vph)	80	401	90	130	689	173	76	162	86	153	299	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1795		1787	3449		1787	1767		1770	1776	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1795		1787	3449		1787	1767		1770	1776	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	427	96	138	733	184	81	172	91	163	318	113
RTOR Reduction (vph)	0	9	0	0	24	0	0	21	0	0	13	0
Lane Group Flow (vph)	85	514	0	138	893	0	81	242	0	163	418	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.7	28.1		9.2	31.6		5.1	23.3		11.1	29.3	
Effective Green, g (s)	5.7	28.1		9.2	31.6		5.1	23.3		11.1	29.3	
Actuated g/C Ratio	0.06	0.31		0.10	0.35		0.06	0.26		0.12	0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	112	562		183	1215		101	458		219	580	
v/s Ratio Prot	0.05	c0.29		c0.08	c0.26		0.05	0.14		c0.09	c0.24	
v/s Ratio Perm												
v/c Ratio	0.76	0.91		0.75	0.74		0.80	0.53		0.74	0.72	
Uniform Delay, d1	41.3	29.6		39.1	25.4		41.8	28.5		37.9	26.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.1	19.5		16.1	2.3		35.2	4.3		12.8	7.5	
Delay (s)	66.4	49.1		55.2	27.7		77.0	32.8		50.8	34.1	
Level of Service	E	D		E	C		E	C		D	C	
Approach Delay (s)		51.6			31.3			43.2			38.7	
Approach LOS		D			C			D			D	

Intersection Summary					
HCM 2000 Control Delay	39.3	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.82				
Actuated Cycle Length (s)	89.7	Sum of lost time (s)	18.0		
Intersection Capacity Utilization	75.7%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Intersection	
Int Delay, s/veh	1.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	23	137	2	9	84
Future Vol, veh/h	1	23	137	2	9	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	25	149	2	10	91

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	261	150	0	0	151	0
Stage 1	150	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	728	896	-	-	1430	-
Stage 1	878	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	723	896	-	-	1430	-
Mov Cap-2 Maneuver	723	-	-	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.2	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	887	1430	-
HCM Lane V/C Ratio	-	-	0.029	0.007	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	3	5	2	4	40	2	162	0	11	95	45
Future Vol, veh/h	31	3	5	2	4	40	2	162	0	11	95	45
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	40	4	6	3	5	51	3	208	0	14	122	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	421	394	152	398	423	209	180	0	0	209	0	0
Stage 1	180	180	-	214	214	-	-	-	-	-	-	-
Stage 2	241	214	-	184	209	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	546	546	900	566	526	836	1402	-	-	1356	-	-
Stage 1	826	754	-	793	729	-	-	-	-	-	-	-
Stage 2	767	729	-	822	733	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	503	537	899	552	518	835	1402	-	-	1356	-	-
Mov Cap-2 Maneuver	503	537	-	552	518	-	-	-	-	-	-	-
Stage 1	824	744	-	791	727	-	-	-	-	-	-	-
Stage 2	713	727	-	802	724	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.4	10	0.1	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1402	-	-	776	536	1356	-	-
HCM Lane V/C Ratio	0.002	-	-	0.076	0.093	0.01	-	-
HCM Control Delay (s)	7.6	0	-	10	12.4	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	1	10	1	39	0	216	2	13	136	3
Future Vol, veh/h	5	0	1	10	1	39	0	216	2	13	136	3
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	6	0	1	13	1	49	0	273	3	16	172	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	513	484	175	483	485	280	177	0	0	276	0	0
Stage 1	208	208	-	275	275	-	-	-	-	-	-	-
Stage 2	305	276	-	208	210	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	475	486	874	492	481	756	1405	-	-	1270	-	-
Stage 1	799	734	-	729	681	-	-	-	-	-	-	-
Stage 2	709	685	-	792	727	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	436	479	873	486	474	752	1405	-	-	1264	-	-
Mov Cap-2 Maneuver	436	479	-	486	474	-	-	-	-	-	-	-
Stage 1	798	723	-	729	681	-	-	-	-	-	-	-
Stage 2	658	685	-	780	716	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.7	10.9	0	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1405	-	-	671	476	1264	-	-
HCM Lane V/C Ratio	-	-	-	0.094	0.016	0.013	-	-
HCM Control Delay (s)	0	-	-	10.9	12.7	7.9	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-

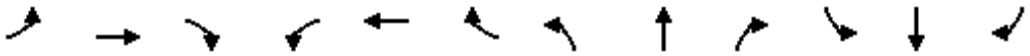
Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	361	11	127	199	47	316
Future Vol, veh/h	361	11	127	199	47	316
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	384	12	135	212	50	336

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	399	0	877	201
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	484	-
Critical Hdwy	-	-	4.19	-	6.615	6.915
Critical Hdwy Stg 1	-	-	-	-	5.815	-
Critical Hdwy Stg 2	-	-	-	-	5.415	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1133	-	305	810
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	621	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1133	-	267	808
Mov Cap-2 Maneuver	-	-	-	-	267	-
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	546	-

Approach	EB	WB	NE
HCM Control Delay, s	0	3.4	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	267	808	-	-	1133	-
HCM Lane V/C Ratio	0.187	0.416	-	-	0.119	-
HCM Control Delay (s)	21.6	12.6	-	-	8.6	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	2.1	-	-	0.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	404	54	35	194	79	76	330	88	115	118	61
Future Volume (vph)	160	404	54	35	194	79	76	330	88	115	118	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1819		1671	3161		1736	1753		1703	1681	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1819		1671	3161		1736	1753		1703	1681	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	172	434	58	38	209	85	82	355	95	124	127	66
RTOR Reduction (vph)	0	6	0	0	57	0	0	11	0	0	22	0
Lane Group Flow (vph)	172	486	0	38	237	0	82	439	0	124	171	0
Confl. Peds. (#/hr)	3		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.5	23.4		2.9	15.8		6.8	26.0		7.6	26.8	
Effective Green, g (s)	10.5	23.4		2.9	15.8		6.8	26.0		7.6	26.8	
Actuated g/C Ratio	0.13	0.30		0.04	0.20		0.09	0.33		0.10	0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	238	546		62	641		151	585		166	578	
v/s Ratio Prot	c0.10	c0.27		0.02	0.08		0.05	c0.25		c0.07	0.10	
v/s Ratio Perm												
v/c Ratio	0.72	0.89		0.61	0.37		0.54	0.75		0.75	0.30	
Uniform Delay, d1	32.3	26.0		36.9	26.8		34.1	23.1		34.2	18.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.3	16.2		16.6	0.4		3.9	8.6		16.6	1.3	
Delay (s)	42.6	42.2		53.6	27.1		38.0	31.6		50.9	20.0	
Level of Service	D	D		D	C		D	C		D	B	
Approach Delay (s)		42.3			30.2			32.6			32.1	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.9

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	9	107	1	22	150
Future Vol, veh/h	1	9	107	1	22	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	11	127	1	26	179

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	359	128	0	0	129	0
Stage 1	128	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Critical Hdwy	7.1	6.2	-	-	4.11	-
Critical Hdwy Stg 1	6.1	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	600	927	-	-	1463	-
Stage 1	881	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	591	927	-	-	1463	-
Mov Cap-2 Maneuver	591	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	760	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.2	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	877	1463	-
HCM Lane V/C Ratio	-	-	0.014	0.018	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	2.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	4	2	1	2	30	2	122	1	49	183	26
Future Vol, veh/h	18	4	2	1	2	30	2	122	1	49	183	26
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	22	5	2	1	2	37	2	149	1	60	223	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	534	515	240	516	529	149	256	0	0	150	0	0
Stage 1	360	360	-	154	154	-	-	-	-	-	-	-
Stage 2	174	155	-	362	375	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	460	466	804	473	458	903	1315	-	-	1425	-	-
Stage 1	662	630	-	853	774	-	-	-	-	-	-	-
Stage 2	833	773	-	661	621	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	422	442	803	449	434	903	1315	-	-	1425	-	-
Mov Cap-2 Maneuver	422	442	-	449	434	-	-	-	-	-	-	-
Stage 1	660	599	-	851	772	-	-	-	-	-	-	-
Stage 2	795	771	-	622	590	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.7	9.6	0.1	1.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1315	-	-	824	443	1425	-	-
HCM Lane V/C Ratio	0.002	-	-	0.049	0.066	0.042	-	-
HCM Control Delay (s)	7.7	0	-	9.6	13.7	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	0	3	1	14	1	159	10	40	233	9
Future Vol, veh/h	4	0	0	3	1	14	1	159	10	40	233	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	5	0	0	4	1	16	1	187	12	47	274	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	578	576	279	570	575	194	285	0	0	200	0	0
Stage 1	374	374	-	196	196	-	-	-	-	-	-	-
Stage 2	204	202	-	374	379	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	430	431	765	435	431	853	1266	-	-	1378	-	-
Stage 1	651	621	-	810	742	-	-	-	-	-	-	-
Stage 2	803	738	-	651	618	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	407	413	765	421	413	852	1266	-	-	1378	-	-
Mov Cap-2 Maneuver	407	413	-	421	413	-	-	-	-	-	-	-
Stage 1	650	596	-	808	741	-	-	-	-	-	-	-
Stage 2	785	737	-	624	593	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.9	10.4	0	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1266	-	-	693	407	1378	-	-
HCM Lane V/C Ratio	0.001	-	-	0.031	0.012	0.034	-	-
HCM Control Delay (s)	7.8	0	-	10.4	13.9	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	-	-

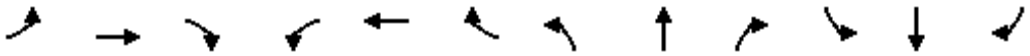
Intersection	
Int Delay, s/veh	6.4

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	356	35	430	440	21	226
Future Vol, veh/h	356	35	430	440	21	226
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	375	37	453	463	22	238

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	419	0	1770	213
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	1370	-
Critical Hdwy	-	-	4.115	-	6.645	6.945
Critical Hdwy Stg 1	-	-	-	-	5.845	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1145	-	82	790
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	233	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1145	-	49	785
Mov Cap-2 Maneuver	-	-	-	-	49	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	141	-

Approach	EB	WB	NE
HCM Control Delay, s	0	5	21.6
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	785	-	-	1145	-
HCM Lane V/C Ratio	0.451	0.303	-	-	0.395	-
HCM Control Delay (s)	128.7	11.6	-	-	10.2	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	1.7	1.3	-	-	1.9	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	407	90	130	700	173	76	162	86	153	299	115
Future Volume (vph)	85	407	90	130	700	173	76	162	86	153	299	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1796		1787	3451		1787	1767		1770	1771	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1796		1787	3451		1787	1767		1770	1771	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	433	96	138	745	184	81	172	91	163	318	122
RTOR Reduction (vph)	0	9	0	0	23	0	0	21	0	0	15	0
Lane Group Flow (vph)	90	520	0	138	906	0	81	242	0	163	425	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.9	27.9		8.5	30.5		4.3	25.0		11.2	31.9	
Effective Green, g (s)	5.9	27.9		8.5	30.5		4.3	25.0		11.2	31.9	
Actuated g/C Ratio	0.07	0.31		0.09	0.34		0.05	0.28		0.12	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	553		167	1161		84	487		218	623	
v/s Ratio Prot	0.05	c0.29		c0.08	c0.26		0.05	0.14		c0.09	c0.24	
v/s Ratio Perm												
v/c Ratio	0.78	0.94		0.83	0.78		0.96	0.50		0.75	0.68	
Uniform Delay, d1	41.7	30.5		40.3	27.0		43.1	27.5		38.3	25.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	28.5	24.3		27.1	3.5		85.6	3.6		13.1	6.0	
Delay (s)	70.2	54.9		67.4	30.5		128.7	31.1		51.4	31.0	
Level of Service	E	D		E	C		F	C		D	C	
Approach Delay (s)		57.1			35.3			54.1			36.5	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	30	189	3	10	116
Future Vol, veh/h	1	30	189	3	10	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	38	236	4	13	145

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	408	238	0	0	240	0
Stage 1	238	-	-	-	-	-
Stage 2	170	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	599	801	-	-	1327	-
Stage 1	802	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	592	801	-	-	1327	-
Mov Cap-2 Maneuver	592	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	851	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.8	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	792	1327	-
HCM Lane V/C Ratio	-	-	0.049	0.009	-
HCM Control Delay (s)	-	-	9.8	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	43	0	7	3	3	29	3	222	0	6	122	62
Future Vol, veh/h	43	0	7	3	3	29	3	222	0	6	122	62
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	55	0	9	4	4	37	4	285	0	8	156	79

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	526	506	197	509	545	286	237	0	0	286	0	0
Stage 1	213	213	-	293	293	-	-	-	-	-	-	-
Stage 2	313	293	-	216	252	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	466	472	849	478	449	758	1336	-	-	1270	-	-
Stage 1	794	730	-	719	674	-	-	-	-	-	-	-
Stage 2	702	674	-	791	702	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	436	466	848	469	443	757	1336	-	-	1270	-	-
Mov Cap-2 Maneuver	436	466	-	469	443	-	-	-	-	-	-	-
Stage 1	790	724	-	715	671	-	-	-	-	-	-	-
Stage 2	661	671	-	777	696	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.9	10.7	0.1	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1336	-	-	680	468	1270	-	-
HCM Lane V/C Ratio	0.003	-	-	0.066	0.137	0.006	-	-
HCM Control Delay (s)	7.7	0	-	10.7	13.9	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.5	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	1	14	1	29	0	268	3	11	175	4
Future Vol, veh/h	7	0	1	14	1	29	0	268	3	11	175	4
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	9	0	1	18	1	37	0	339	4	14	222	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	618	596	225	594	596	346	228	0	0	343	0	0
Stage 1	253	253	-	341	341	-	-	-	-	-	-	-
Stage 2	365	343	-	253	255	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	404	420	819	415	416	695	1346	-	-	1199	-	-
Stage 1	756	701	-	672	637	-	-	-	-	-	-	-
Stage 2	658	641	-	749	695	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	376	414	818	410	410	692	1346	-	-	1193	-	-
Mov Cap-2 Maneuver	376	414	-	410	410	-	-	-	-	-	-	-
Stage 1	755	691	-	672	637	-	-	-	-	-	-	-
Stage 2	619	641	-	738	685	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	14.2	12.1	0	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1346	-	-	561	403	1193	-	-
HCM Lane V/C Ratio	-	-	-	0.099	0.025	0.012	-	-
HCM Control Delay (s)	0	-	-	12.1	14.2	8.1	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

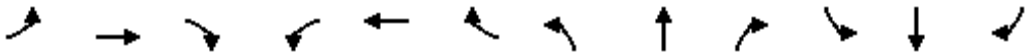
Intersection	
Int Delay, s/veh	7.4

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	497	9	129	274	62	410
Future Vol, veh/h	497	9	129	274	62	410
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	529	10	137	291	66	436

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	541	0	1105	272
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	568	-
Critical Hdwy	-	-	4.19	-	6.615	6.915
Critical Hdwy Stg 1	-	-	-	-	5.815	-
Critical Hdwy Stg 2	-	-	-	-	5.415	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1002	-	220	729
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1002	-	189	727
Mov Cap-2 Maneuver	-	-	-	-	189	-
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	489	-

Approach	EB	WB	NE
HCM Control Delay, s	0	2.9	19.3
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	189	727	-	-	1002	-
HCM Lane V/C Ratio	0.349	0.6	-	-	0.137	-
HCM Control Delay (s)	33.9	17.1	-	-	9.2	-
HCM Lane LOS	D	C	-	-	A	-
HCM 95th %tile Q(veh)	1.5	4	-	-	0.5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	543	75	46	262	109	105	454	122	159	162	80
Future Volume (vph)	209	543	75	46	262	109	105	454	122	159	162	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1814		1671	3150		1736	1749		1703	1679	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1814		1671	3150		1736	1749		1703	1679	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	225	584	81	49	282	117	113	488	131	171	174	86
RTOR Reduction (vph)	0	4	0	0	36	0	0	8	0	0	14	0
Lane Group Flow (vph)	225	661	0	49	363	0	113	611	0	171	246	0
Confl. Peds. (#/hr)	9		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	19.8	42.1		4.2	26.5		12.5	41.8		12.9	42.2	
Effective Green, g (s)	19.8	42.1		4.2	26.5		12.5	41.8		12.9	42.2	
Actuated g/C Ratio	0.17	0.35		0.04	0.22		0.11	0.35		0.11	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	294	641		58	701		182	614		184	595	
v/s Ratio Prot	c0.13	c0.36		0.03	0.12		0.07	c0.35		c0.10	0.15	
v/s Ratio Perm												
v/c Ratio	0.77	1.03		0.84	0.52		0.62	1.00		0.93	0.41	
Uniform Delay, d1	47.4	38.5		57.1	40.6		51.0	38.5		52.6	29.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.3	43.8		65.1	0.6		6.4	35.2		45.9	2.1	
Delay (s)	58.6	82.3		122.1	41.3		57.4	73.7		98.5	31.1	
Level of Service	E	F		F	D		E	E		F	C	
Approach Delay (s)		76.3			50.1			71.2			57.9	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	67.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	10	148	1	27	206
Future Vol, veh/h	1	10	148	1	27	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	12	176	1	32	245

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	487	177	0	0	177	0
Stage 1	177	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	543	871	-	-	1405	-
Stage 1	859	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	529	871	-	-	1405	-
Mov Cap-2 Maneuver	529	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	729	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.4	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	823	1405	-
HCM Lane V/C Ratio	-	-	0.016	0.023	-
HCM Control Delay (s)	-	-	9.4	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	0	3	0	1	0	3	165	0	0	249	36
Future Vol, veh/h	24	0	3	0	1	0	3	165	0	0	249	36
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	29	0	4	0	1	0	4	201	0	0	304	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	536	536	327	536	558	201	349	0	0	201	0	0
Stage 1	327	327	-	209	209	-	-	-	-	-	-	-
Stage 2	209	209	-	327	349	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	459	454	719	459	441	845	1215	-	-	1365	-	-
Stage 1	690	651	-	798	733	-	-	-	-	-	-	-
Stage 2	798	733	-	690	637	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	456	452	718	455	439	845	1215	-	-	1365	-	-
Mov Cap-2 Maneuver	456	452	-	455	439	-	-	-	-	-	-	-
Stage 1	687	650	-	795	730	-	-	-	-	-	-	-
Stage 2	793	730	-	686	636	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.1	13.2	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1215	-	-	439	475	1365	-	-
HCM Lane V/C Ratio	0.003	-	-	0.003	0.069	-	-	-
HCM Control Delay (s)	8	0	-	13.2	13.1	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	6	0	0	4	1	13	0	185	4	34	282	13
Future Vol, veh/h	6	0	0	4	1	13	0	185	4	34	282	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	7	0	0	5	1	15	0	218	5	40	332	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	647	642	339	640	648	221	347	0	0	223	0	0
Stage 1	419	419	-	221	221	-	-	-	-	-	-	-
Stage 2	228	223	-	419	427	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	387	395	708	391	392	824	1201	-	-	1352	-	-
Stage 1	616	593	-	786	724	-	-	-	-	-	-	-
Stage 2	779	723	-	616	589	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	368	380	708	380	377	823	1201	-	-	1352	-	-
Mov Cap-2 Maneuver	368	380	-	380	377	-	-	-	-	-	-	-
Stage 1	616	571	-	785	723	-	-	-	-	-	-	-
Stage 2	763	722	-	593	567	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	15	11	0	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1201	-	-	621	368	1352	-	-
HCM Lane V/C Ratio	-	-	-	0.034	0.019	0.03	-	-
HCM Control Delay (s)	0	-	-	11	15	7.7	0	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	18.7

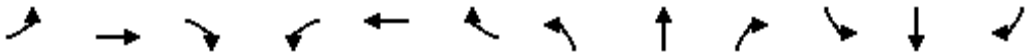
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	490	37	565	606	26	290
Future Vol, veh/h	490	37	565	606	26	290
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	516	39	595	638	27	305

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	562	0	2371	284
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	1829	-
Critical Hdwy	-	-	4.115	-	6.645	6.945
Critical Hdwy Stg 1	-	-	-	-	5.845	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1013	-	33	711
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	138	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1013	-	~ 14	706
Mov Cap-2 Maneuver	-	-	-	-	~ 14	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	57	-

Approach	EB	WB	NE
HCM Control Delay, s	0	6.5	94.9
HCM LOS			F

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	14	706	-	-	1013	-
HCM Lane V/C Ratio	1.955	0.432	-	-	0.587	-
HCM Control Delay (s)	$ 998.9	13.9	-	-	13.5	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	4.1	2.2	-	-	4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	552	120	179	949	238	96	224	113	211	411	146
Future Volume (vph)	110	552	120	179	949	238	96	224	113	211	411	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1794		1787	3448		1787	1769		1770	1774	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1794		1787	3448		1787	1769		1770	1774	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	112	563	122	183	968	243	98	229	115	215	419	149
RTOR Reduction (vph)	0	6	0	0	18	0	0	15	0	0	11	0
Lane Group Flow (vph)	112	679	0	183	1193	0	98	329	0	215	557	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.3	43.5		13.0	47.2		7.5	29.2		16.3	38.0	
Effective Green, g (s)	9.3	43.5		13.0	47.2		7.5	29.2		16.3	38.0	
Actuated g/C Ratio	0.08	0.36		0.11	0.39		0.06	0.24		0.14	0.32	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	137	650		193	1356		111	430		240	561	
v/s Ratio Prot	0.06	c0.38		c0.10	c0.35		0.05	0.19		c0.12	c0.31	
v/s Ratio Perm												
v/c Ratio	0.82	1.04		0.95	0.88		0.88	0.76		0.90	0.99	
Uniform Delay, d1	54.5	38.2		53.2	33.8		55.8	42.2		51.0	40.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	30.0	47.3		49.4	6.8		50.5	12.2		31.7	36.3	
Delay (s)	84.5	85.6		102.6	40.6		106.3	54.4		82.7	77.2	
Level of Service	F	F		F	D		F	D		F	E	
Approach Delay (s)		85.4			48.7			65.9			78.7	
Approach LOS		F			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	66.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	30	189	3	10	116
Future Vol, veh/h	1	30	189	3	10	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	33	205	3	11	126

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	355	207	0	0	209	0
Stage 1	207	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	643	833	-	-	1362	-
Stage 1	828	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	637	833	-	-	1362	-
Mov Cap-2 Maneuver	637	-	-	-	-	-
Stage 1	828	-	-	-	-	-
Stage 2	872	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.5	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	825	1362	-
HCM Lane V/C Ratio	-	-	0.041	0.008	-
HCM Control Delay (s)	-	-	9.5	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	43	0	7	3	4	34	3	222	0	8	122	62
Future Vol, veh/h	43	0	7	3	4	34	3	222	0	8	122	62
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	55	0	9	4	5	44	4	285	0	10	156	79

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	535	511	197	514	550	286	237	0	0	286	0	0
Stage 1	218	218	-	293	293	-	-	-	-	-	-	-
Stage 2	317	293	-	221	257	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	459	469	849	474	446	758	1336	-	-	1270	-	-
Stage 1	789	726	-	719	674	-	-	-	-	-	-	-
Stage 2	698	674	-	786	699	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	424	462	848	464	439	757	1336	-	-	1270	-	-
Mov Cap-2 Maneuver	424	462	-	464	439	-	-	-	-	-	-	-
Stage 1	785	719	-	715	671	-	-	-	-	-	-	-
Stage 2	650	671	-	771	692	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	14.2	10.8	0.1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1336	-	-	678	456	1270	-	-
HCM Lane V/C Ratio	0.003	-	-	0.078	0.141	0.008	-	-
HCM Control Delay (s)	7.7	0	-	10.8	14.2	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.5	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	1	14	1	31	0	273	3	11	177	4
Future Vol, veh/h	7	0	1	14	1	31	0	273	3	11	177	4
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	9	0	1	18	1	39	0	346	4	14	224	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	628	604	228	602	605	352	230	0	0	349	0	0
Stage 1	255	255	-	347	347	-	-	-	-	-	-	-
Stage 2	373	349	-	255	258	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	398	415	816	410	411	689	1344	-	-	1193	-	-
Stage 1	754	700	-	667	633	-	-	-	-	-	-	-
Stage 2	652	637	-	747	692	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	368	409	815	405	405	686	1344	-	-	1187	-	-
Mov Cap-2 Maneuver	368	409	-	405	405	-	-	-	-	-	-	-
Stage 1	753	690	-	667	633	-	-	-	-	-	-	-
Stage 2	611	637	-	735	682	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	14.4	12.2	0	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1344	-	-	559	395	1187	-	-
HCM Lane V/C Ratio	-	-	-	0.104	0.026	0.012	-	-
HCM Control Delay (s)	0	-	-	12.2	14.4	8.1	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

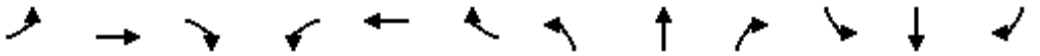
Intersection	
Int Delay, s/veh	7.5

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	497	9	130	274	62	414
Future Vol, veh/h	497	9	130	274	62	414
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	529	10	138	291	66	440

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	541	0	1107	272
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	570	-
Critical Hdwy	-	-	4.19	-	6.615	6.915
Critical Hdwy Stg 1	-	-	-	-	5.815	-
Critical Hdwy Stg 2	-	-	-	-	5.415	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1002	-	219	729
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	567	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1002	-	188	727
Mov Cap-2 Maneuver	-	-	-	-	188	-
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	488	-

Approach	EB	WB	NE
HCM Control Delay, s	0	2.9	19.5
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	188	727	-	-	1002	-
HCM Lane V/C Ratio	0.351	0.606	-	-	0.138	-
HCM Control Delay (s)	34.2	17.3	-	-	9.2	-
HCM Lane LOS	D	C	-	-	A	-
HCM 95th %tile Q(veh)	1.5	4.1	-	-	0.5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	545	75	46	263	109	105	454	122	159	162	80
Future Volume (vph)	211	545	75	46	263	109	105	454	122	159	162	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1814		1671	3150		1736	1749		1703	1679	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1814		1671	3150		1736	1749		1703	1679	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	227	586	81	49	283	117	113	488	131	171	174	86
RTOR Reduction (vph)	0	4	0	0	36	0	0	8	0	0	14	0
Lane Group Flow (vph)	227	663	0	49	364	0	113	611	0	171	246	0
Confl. Peds. (#/hr)	9		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	19.9	42.1		4.2	26.4		12.5	41.8		12.9	42.2	
Effective Green, g (s)	19.9	42.1		4.2	26.4		12.5	41.8		12.9	42.2	
Actuated g/C Ratio	0.17	0.35		0.04	0.22		0.11	0.35		0.11	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	641		58	698		182	614		184	595	
v/s Ratio Prot	c0.13	c0.37		0.03	0.12		0.07	c0.35		c0.10	0.15	
v/s Ratio Perm												
v/c Ratio	0.77	1.03		0.84	0.52		0.62	1.00		0.93	0.41	
Uniform Delay, d1	47.4	38.5		57.1	40.7		51.0	38.5		52.6	29.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.4	44.7		65.1	0.7		6.4	35.2		45.9	2.1	
Delay (s)	58.8	83.2		122.1	41.5		57.4	73.7		98.5	31.1	
Level of Service	E	F		F	D		E	E		F	C	
Approach Delay (s)		77.0			50.3			71.2			57.9	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	67.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	10	148	1	27	206
Future Vol, veh/h	1	10	148	1	27	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	12	176	1	32	245

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	487	177	0	0	177	0
Stage 1	177	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	543	871	-	-	1405	-
Stage 1	859	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	529	871	-	-	1405	-
Mov Cap-2 Maneuver	529	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	729	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.4	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	823	1405	-
HCM Lane V/C Ratio	-	-	0.016	0.023	-
HCM Control Delay (s)	-	-	9.4	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	1	3	0	1	3	3	165	0	4	249	36
Future Vol, veh/h	24	1	3	0	1	3	3	165	0	4	249	36
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	29	1	4	0	1	4	4	201	0	5	304	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	547	545	327	547	567	201	349	0	0	201	0	0
Stage 1	336	336	-	209	209	-	-	-	-	-	-	-
Stage 2	211	209	-	338	358	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	451	449	719	451	436	845	1215	-	-	1365	-	-
Stage 1	682	645	-	798	733	-	-	-	-	-	-	-
Stage 2	796	733	-	681	631	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	445	445	718	445	432	845	1215	-	-	1365	-	-
Mov Cap-2 Maneuver	445	445	-	445	432	-	-	-	-	-	-	-
Stage 1	679	641	-	795	730	-	-	-	-	-	-	-
Stage 2	788	730	-	673	627	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.4	10.3	0.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1215	-	-	682	464	1365	-	-
HCM Lane V/C Ratio	0.003	-	-	0.007	0.074	0.004	-	-
HCM Control Delay (s)	8	0	-	10.3	13.4	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	0	4	1	14	1	188	4	38	286	13
Future Vol, veh/h	6	0	0	4	1	14	1	188	4	38	286	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	7	0	0	5	1	16	1	221	5	45	336	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	669	663	344	661	668	225	352	0	0	227	0	0
Stage 1	434	434	-	227	227	-	-	-	-	-	-	-
Stage 2	235	229	-	434	441	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	374	384	703	379	382	819	1196	-	-	1347	-	-
Stage 1	604	585	-	780	720	-	-	-	-	-	-	-
Stage 2	773	718	-	604	580	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	354	367	703	366	365	818	1196	-	-	1347	-	-
Mov Cap-2 Maneuver	354	367	-	366	365	-	-	-	-	-	-	-
Stage 1	603	560	-	778	719	-	-	-	-	-	-	-
Stage 2	755	717	-	579	556	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	15.4	11.1	0	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1196	-	-	617	354	1347	-	-
HCM Lane V/C Ratio	0.001	-	-	0.036	0.02	0.033	-	-
HCM Control Delay (s)	8	0	-	11.1	15.4	7.8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	20

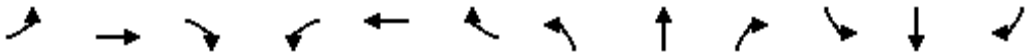
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	490	37	568	606	26	292
Future Vol, veh/h	490	37	568	606	26	292
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	516	39	598	638	27	307

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	562	0	2378	284
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	1836	-
Critical Hdwy	-	-	4.115	-	6.645	6.945
Critical Hdwy Stg 1	-	-	-	-	5.845	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1013	-	33	711
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	137	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1013	-	~ 13	706
Mov Cap-2 Maneuver	-	-	-	-	~ 13	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	56	-

Approach	EB	WB	NE
HCM Control Delay, s	0	6.5	102.8
HCM LOS			F

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	13	706	-	-	1013	-
HCM Lane V/C Ratio	2.105	0.435	-	-	0.59	-
HCM Control Delay (s)	$ 1100	14	-	-	13.5	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	4.2	2.2	-	-	4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	554	120	190	951	238	96	224	113	211	411	148
Future Volume (vph)	112	554	120	190	951	238	96	224	113	211	411	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1794		1787	3448		1787	1769		1770	1773	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1794		1787	3448		1787	1769		1770	1773	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	114	565	122	194	970	243	98	229	115	215	419	151
RTOR Reduction (vph)	0	6	0	0	18	0	0	15	0	0	11	0
Lane Group Flow (vph)	114	681	0	194	1195	0	98	329	0	215	559	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.6	43.5		12.5	46.4		6.5	29.7		16.3	39.5	
Effective Green, g (s)	9.6	43.5		12.5	46.4		6.5	29.7		16.3	39.5	
Actuated g/C Ratio	0.08	0.36		0.10	0.39		0.05	0.25		0.14	0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	141	650		186	1333		96	437		240	583	
v/s Ratio Prot	0.06	c0.38		c0.11	c0.35		0.05	0.19		c0.12	c0.32	
v/s Ratio Perm												
v/c Ratio	0.81	1.05		1.04	0.90		1.02	0.75		0.90	0.96	
Uniform Delay, d1	54.3	38.2		53.8	34.5		56.8	41.8		51.0	39.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	27.7	48.2		77.8	8.2		97.6	11.4		31.7	28.5	
Delay (s)	82.0	86.5		131.5	42.7		154.4	53.1		82.7	67.9	
Level of Service	F	F		F	D		F	D		F	E	
Approach Delay (s)		85.9			55.0			75.6			72.0	
Approach LOS		F			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	68.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CENTRAL POINT RD at SKELLENGER WY, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

No Rows to Display

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CENTRAL POINT RD at SKELLENGER WY, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

No Rows to Display

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CENTRAL POINT RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 7

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01895	N	N	N	N	N	05/17/2014	16	CENTRAL POINT RD	INTER	3-LEG	N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										040	03,32
CITY						SA	0	WARNER-PARROTT RD	NE		STOP SIGN	N	DRY	FIX		PRVTE	SW-NE									000	040	00
						3A			05	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y		021,052,081	000		03,32
																							OR<25					
02233	N	N	N			06/11/2014	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						WE	0	WARNER-PARROTT RD	SE		L-GRN-SIG	N	DRY	REAR		PRVTE	SE-NW									000		00
						4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	53	M	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	SE-NW									012		00
																PSNGR CAR		01	DRVR	INJC	45	F	OR-Y		000	000		00
																							OR<25					
03639	N	N	N	N	N	10/01/2012	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLR	BIKE			-										110	02
CITY						MO	0	WARNER-PARROTT RD	SW		UNKNOWN	N	DRY	TURN														
						3P			05	0		N	DAY	INJ			STRGHT	01	BIKE	INJB	47	M		I XWK?	000	034		00
																	NW SE											
															01	NONE 0	TURN-L											
																PRVTE	SE-SW									000	110	00
																PSNGR CAR		01	DRVR	NONE	28	M	OR-Y		027,008	000		02
																							OR<25					
05468	N	N	N			12/18/2015	16	CENTRAL POINT RD	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR	0	WARNER-PARROTT RD	SW		STOP SIGN	N	WET	REAR		PRVTE	SW-NE									000		00
						4P			06	0		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK		000	000		00
																							OR<25					
00149	N	N	N			01/12/2015	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLR	O-1STOP	01	NONE 0	BACK											10
NO RPT						MO	0	WARNER-PARROTT RD	NW		UNKNOWN	N	DRY	BACK		PRVTE	SE-NW									000		00
						11A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		011	000		10
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	NONE	38	M	OR-Y		000	000		00
																							OR<25					
03616	N	N	N			09/25/2013	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLD	ANGL-OTH	01	NONE 0	TURN-L											02
NONE						WE	0	WARNER-PARROTT RD	CN		STOP SIGN	N	DRY	TURN		PRVTE	SW-NW									015		00
						4P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		028	000		02
																							UNK					
															02	NONE 0	STRGHT											
																PRVTE	NW-SE									000		00
																PSNGR CAR		01	DRVR	NONE	58	F	OR-Y		000	000		00
																							OR<25					
00842	N	N	N			03/07/2015	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L											02
NO RPT						SA	0	WARNER-PARROTT RD	CN		STOP SIGN	N	DRY	TURN		PRVTE	SW-NW									015		00
						11A			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	41	M	OR-Y		028	000		02
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NW-SE									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CENTRAL POINT RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 7

SER# / INVEST	S P E D	A L C	D R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PSNGR CAR		01	DRVR	INJC	21	M	OR-Y OR<25		000	000		00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CENTRAL POINT RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
BACKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	0	1	1	0	0	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2014														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	1
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**2**	**0**	**1**	**1**	**2**	**0**	**1**
YEAR: 2013														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2012														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**3**	**4**	**7**	**0**	**3**	**0**	**6**	**1**	**5**	**2**	**7**	**0**	**1**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

LELAND RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 2

SER# / INVEST	S P E D	A L C	D R S G	S W U H	C O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / INJ / SVRTY	A G E	S E X	LICNS / RES / LOC	PED / ERROR	ACT	EVENT	CAUSE
00720	N	N	N			03/02/2013	16	LELAND RD	INTER	CROSS	N	N	RAIN	PED	01	NONE 0	TURN-R									02
CITY						SA	0	WARNER-PARROTT RD	SW		TRF SIGNAL	N	WET	PED		PRVTE	W -S							000		00
						8P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	42	M	OR-Y OR<25	029	000		02
																	- STRGHT W E	01	PED	INJB	14	M		I XWLK 000	035		00
04120	N	N	N			10/26/2013	16	LELAND RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NONE						SA	0	WARNER-PARROTT RD	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	S -N							000		00
						5P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	55	M	OR-Y OR<25	000	000		00
															02	NONE 0	STRGHT										
																PRVTE	E -W								000		00
																PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25	020	000		04

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LELAND RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2013														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
PEDESTRIAN	0	1	0	1	0	1	0	0	1	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**1**	**1**	**2**	**0**	**0**
FINAL TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**1**	**1**	**2**	**0**	**0**

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Exhibit I: Geotechnical Engineering Report

Real-World Geotechnical Solutions
Investigation • Design • Construction Support

June 16, 2017
Project No. 17-4521

Rian Park Development, Inc.
Attn: Bruce Ament
PO Box 2559
Oregon City, OR 97045

CC: Vu Nguyen, AKS Engineering & Forestry via email: VuN@aks-eng.com

SUBJECT: GEOTECHNICAL ENGINEERING REPORT
WHEELER FARMS SUBDIVISION
TAX LOTS 31E12D (01700/1790); 32E07C (1291/1180/1100/1001)
OREGON CITY, OREGON

This report presents the results of a geotechnical exploration conducted by GeoPacific Engineering, Inc. (GeoPacific) for the above-referenced project. The purpose of our work was to evaluate subsurface conditions at the site and provide recommendations for site development. This geotechnical exploration was performed in accordance with GeoPacific Proposal No. P-6025 dated March 16, 2017 and your subsequent authorization of our proposals and *General Conditions for Geotechnical Services*.

SITE AND PROJECT DESCRIPTION

The subject site is located at the eastern terminus of South White Lane in Oregon City, Clackamas County, Oregon. The property consists of six parcels that total approximately 22.5 acres. Topography is flat to gently sloping to the southeast with grades of 5 to 20 percent. Grades steepen to approximately 50 percent grade to the east. A large, prehistoric or ancient (greater than 150 years old) landslide is located along the eastern property line and beyond. One home and auxiliary structure currently occupies the site. Vegetation consists primarily of short grasses and dense to sparse trees. Two parcels are occupied by orchard and Christmas trees are present elsewhere. A 125 foot electric transmission line easement bisects the central portion of the property.

It is our understanding that the proposed development will consist of a 77 lot subdivision for single family homes, new streets, water quality facility, open space, and associated underground utilities. The grading plan provided for our review indicates maximum cuts will be on the order of 13 feet and fills will be on the order of about 10 feet.

REGIONAL GEOLOGIC SETTING

Regionally, the subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins.

The subject site lies on a broad volcanic plateau underlain by the Boring Lava Formation which formed during a period of Plio-Pleistocene (5 to 0.2 million years ago) volcanism and faulting (Schlicker and Finlayson, 1979). The Boring Lava consists mainly of basaltic lava flows, but locally contains tuff breccia, ash, tuff, cinders, and scoriaceous volcanic debris flows deposited on the flanks of volcanic cones. The flows are commonly light gray to nearly black, with lighter tones predominating, and are characterized by columnar jointing and flow structures. The upper surface of the Boring Lava is typically weathered to depths of 25 feet or more with the upper 5 to 15 feet consisting of red-brown, clayey silt to silty clay soil.

Underlying the Boring Lava is the late Miocene to late Pliocene age (6 to 1.6 million years old) Troutdale Formation (Madin, 2009; Schlicker and Finlayson, 1979). In the site vicinity, the Troutdale Formation consists primarily of massive mudstone, claystone, and siltstone with minor sandstone and water-laid tuff. Ripples, channels and cross bedding structures are common, indicating a fluvial origin of deposition. Locally, the Troutdale Formation may contains organic material including wood and logs.

REGIONAL SEISMIC SETTING

At least three major source zones capable of generating damaging earthquakes are thought to exist in the vicinity of the subject site.

Portland Hills Fault Zone

The Portland Hills Fault Zone is a series of NW-trending faults that include the central Portland Hills Fault, the western Oatfield Fault, and the eastern East Bank Fault. These faults occur in a northwest-trending zone that varies in width between 3.5 and 5.0 miles. The combined three faults vertically displace the Columbia River Basalt by 1,130 feet and appear to control thickness changes in late Pleistocene (approx. 780,000 years) sediment (Madin, 1990). The Portland Hills Fault occurs along the Willamette River at the base of the Portland Hills, and is about 5 miles northeast of the site. The Oatfield Fault occurs along the western side of the Portland Hills, and is about 4.5 miles northeast of the site. The accuracy of the fault mapping is stated to be within 500 meters (Wong, et al., 2000). No historical seismicity is correlated with the mapped portion of the Portland Hills Fault Zone, but in 1991 a M3.5 earthquake occurred on a NW-trending shear plane located 1.3 miles east of the fault (Yelin, 1992). Although there is no definitive evidence of recent activity, the Portland Hills Fault Zone is assumed to be potentially active (Geomatrix Consultants, 1995).

Gales Creek-Newberg-Mt. Angel Structural Zone

The Gales Creek-Newberg-Mt. Angel Structural Zone is a 50-mile-long zone of discontinuous, NW-trending faults that lies about 16 miles southwest of the subject site. These faults are recognized in the subsurface by vertical separation of the Columbia River Basalt and offset seismic reflectors in the overlying basin sediment (Yeats et al., 1996; Werner et al., 1992). A recent geologic reconnaissance and photogeologic analysis study conducted for the Scoggins Dam site in the

Tualatin Basin revealed no evidence of deformed geomorphic surfaces along the structural zone (Unruh et al., 1994). No seismicity has been recorded on the Gales Creek or Newberg Faults (the faults closest to the subject site); however, these faults are considered to be potentially active because they may connect with the seismically active Mount Angel Fault and the rupture plane of the 1993 M5.6 Scotts Mills earthquake (Werner et al. 1992; Geomatrix Consultants, 1995).

Cascadia Subduction Zone

The Cascadia Subduction Zone is a 680-mile-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continent at a rate of 4 cm per year (Goldfinger et al., 1996). A growing body of geologic evidence suggests that prehistoric subduction zone earthquakes have occurred (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). This evidence includes: (1) buried tidal marshes recording episodic, sudden subsidence along the coast of northern California, Oregon, and Washington, (2) burial of subsided tidal marshes by tsunami wave deposits, (3) paleoliquefaction features, and (4) geodetic uplift patterns on the Oregon coast. Radiocarbon dates on buried tidal marshes indicate a recurrence interval for major subduction zone earthquakes of 250 to 650 years with the last event occurring 300 years ago (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). The inferred seismogenic portion of the plate interface lies roughly along the Oregon Coast at depths of 20 and 40 kilometers below the ocean surface.

FIELD EXPLORATION

Our site-specific exploration for this report was conducted on April 20, May 9, and May 10, 2017. Ten exploratory test pits were excavated with a medium sized trackhoe to depths ranging between 10 and 12 feet at the approximate locations shown on Figure 2. Two exploratory borings (designated B-1 and B-2) were drilled with a track mounted drill rig to depths of 35 to 101.5 feet at the approximate locations indicated on Figure 2. It should be noted that exploration locations were located in the field by pacing or taping distances from apparent property corners and other site features shown on the plans provided. As such, the locations of the explorations should be considered approximate.

The boreholes were drilled using a track mounted drill rig and mud rotary methods operated by Western States Soil Conservation, Inc. of Hubbard, Oregon. At each boring location, SPT (Standard Penetration Test) sampling was performed in general accordance with ASTM D1586 using a 2-inch outside diameter split-spoon sampler and a 140-pound hammer equipped with a rope and cathead mechanism. During the test, a sample is obtained by driving the sampler 18 inches into the soil with the hammer free-falling 30 inches. The number of blows for each 6 inches of penetration is recorded. The Standard Penetration Resistance ("N-value") of the soil is calculated as the number of blows required for the final 12 inches of penetration. If 50 or more blows are recorded within a single 6-inch interval, the test is terminated, and the blow count is recorded as 50 blows for the number of inches driven. This resistance, or N-value, provides a measure of the relative density of granular soils and the relative consistency of cohesive soils. At the completion of the borings, the holes were backfilled with bentonite.

A GeoPacific geologist continuously monitored the field exploration program and logged the explorations. Soils observed in the explorations were classified in general accordance with the Unified Soil Classification System. Rock hardness was classified in accordance with Table 1, modified from the ODOT Rock Hardness Classification Chart. During exploration, our geologist also noted geotechnical conditions such as soil consistency, moisture and groundwater conditions.

Logs of the test pits and borings are attached to this report. The following report sections are based on the exploration program and summarize subsurface conditions encountered at the site.

Table 1. Rock Hardness Classification Chart

ODOT Rock Hardness Rating	Field Criteria	Unconfined Compressive Strength	Typical Equipment Needed For Excavation
Extremely Soft (R0)	Indented by thumbnail	<100 psi	Small excavator
Very Soft (R1)	Scratched by thumbnail, crumbled by rock hammer	100-1,000 psi	Small excavator
Soft (R2)	Not scratched by thumbnail, indented by rock hammer	1,000-4,000 psi	Medium excavator (slow digging with small excavator)
Medium Hard (R3)	Scratched or fractured by rock hammer	4,000-8,000 psi	Medium to large excavator (slow to very slow digging), typically requires chipping with hydraulic hammer or mass excavation)
Hard (R4)	Scratched or fractured w/ difficulty	8,000-16,000 psi	Slow chipping with hydraulic hammer and/or blasting
Very Hard (R5)	Not scratched or fractured after many blows, hammer rebounds	>16,000 psi	Blasting

SUBSURFACE CONDITIONS

Results of the field exploration program indicate the site is underlain by a topsoil horizon, residual soil and weathered rock belonging to the Boring Lava Formation, and residual soil and weathered rock belonging to the Troutdale Formation. The observed soil and groundwater conditions are summarized below.

Topsoil – The ground surface in test pits TP-1 through TP-10 and borings B-1 and B-2 was directly underlain by a moderately organic topsoil horizon. The topsoil horizon was composed of light brown clayey silt (OL-ML) that contained fine roots throughout. The topsoil generally extended to a depth of 8 to 12 inches and had a medium stiff consistency.

Residual Soil of Boring Lava Formation – Underlying the topsoil horizon in test pits TP-1 through TP-10 and borings B-1 and B-2 was clayey silt (ML) to silty clay (CL) residual soil resulting from in-place weathering of the underlying Boring Lava Formation. The light reddish brown silty clay to clayey silt contained weathered basalt fragments and was generally characterized by a stiff to very stiff consistency. In explorations, the residual soil extended to a depth of 2.5 to 8 feet.

Boring Lava Formation – Highly weathered basalt belonging to the Boring Lava Formation was encountered beneath the residual soil in test pits TP-1 through TP-10 and borings B-1 and B-2. The basalt was weathered to extremely soft (R0) to very soft (R1) and contained trace silty clay to clayey silt matrix. In test pits TP-1 through TP10, the extremely soft (R0) to very soft (R1) basalt extended beyond the maximum depth of exploration (10 to 12 feet). The extremely soft (R0) to

very soft (R1) basalt transitioned to soft (R2) to medium hard (R3) basalt in borings B-1 and B-2 at depths of 9 and 18 feet, respectively. The soft (R2) to medium hard (R3) basalt extended beyond the maximum depth of exploration in boring B-2 (35 feet). The medium-size trackhoe used for our explorations was able to excavate the R0 and R1 basalt with relative ease and practical refusal was not met in any test pit explorations to a maximum depth of 12 feet.

Residual Soil of Troutdale Formation – Underlying the basalt belonging to the Boring Lava Formation in boring B-1 was clayey silt (ML) with trace sand residual soil resulting from in-place weathering of the underlying Troutdale Formation. The light brown clayey silt exhibited dark red mottling and was generally characterized by a very stiff consistency. In boring B-1, the residual soil of the Troutdale Formation extended to a depth of 31 feet.

Troutdale Formation – The residual soil of the Troutdale Formation in boring B-1 was underlain by mudstone belonging to the Troutdale Formation. The mudstone was weathered and classified as extremely soft (R0) to very soft (R1) according to the ODOT Rock Hardness Chart (Table 1). The mudstone was brown to brownish gray in color and trace laminar bedding could be observed. The mudstone extended to a depth of approximately 57 feet and standard penetration testing indicate a hard consistency with N values on the order of N=41 to N=50 for 5.5 inches. The weathered mudstone was underlain by extremely soft (R0) sandstone that contained trace silt. Standard penetration testing indicates the sandstone is very dense with N-values ranging from N=64 to N=50 for 5.75 inches. The highly weathered sandstone extended beyond the maximum depth of exploration in boring B-1 (101.5 feet).

Groundwater

On April 20 and May 9-10, 2017, soils encountered in explorations were damp to moist. Static groundwater was not encountered in test pits to a depth of 12 feet. Groundwater could not be determined in the borings due to mud rotary techniques. Perched groundwater seepage was encountered in test pit TP-9 at a depth of 6 feet. Discharge was visually estimated at less than ¼ gallon per minute. Regional groundwater mapping by Snyder (2008) indicates groundwater levels are approximately 40 to 60 feet below the existing ground surface. Experience has shown that temporary perched storm-related groundwater conditions often occur within the surface soils over fine-grained native deposits such as those beneath the site, particularly during the wet season. It is anticipated that groundwater conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors.

The 1979 Geology and Geologic Hazards Study by Schlicker and Finlayson identifies the area has having wet soils and/or a high water table; this is the study that primarily helped modify Oregon City's development code to require that groundwater concerns be addressed. This regionally mapped wet soils condition is predominantly created by storm runoff during the wet season due to the impermeable clay soils derived from the Boring Lava Formation and slow draining topography of the Oregon City plain. Such shallow, perched groundwater is a lesser geotechnical issue than seeps or springs created from groundwater emanating from below due to geologic structural control of groundwater flow. The effects of shallow perched groundwater are most pronounced in low-lying areas which are currently mapped as wetlands and stay wet for longer periods, perhaps year round. At the time of the 1979 report, areas of severe concern such as low-lying wetlands and drainages could still be developed. This report served as a warning for those attempting to develop in low-lying areas that localized development sites may have more severe problems than the average site in the region and that specific types of constructed systems may experience water related difficulties. The report specifically addresses concerns relating to hydrostatic pressures on basement walls, underground storage tanks, and poor performance of septic systems. We do not

believe that any of these constructed systems are currently proposed at the Wheeler Farms Subdivision.

INFILTRATION TESTING

Soil infiltration testing was performed using the open hole infiltration method in test pits TP-1 through TP-10 at depths of 5 and 12 feet, as indicated on Table 2. The soil was pre-saturated for a period of over 3 hours. The water level was measured to the nearest tenth of an inch every half hour with reference to the ground surface. Table 2 presents the results of our falling head infiltration testing and do not incorporate a factor of safety.

Table 2. Summary of Infiltration Test Results

Test Pit	Depth (feet)	Soil Type	Infiltration Rate (in/hr)	Hydraulic Head Range (inches)
TP-1	5	Highly Weathered Basalt	***0.9***	7-11
TP-2	5	Highly Weathered Basalt	***1.3***	8-14
TP-3	12	Highly Weathered Basalt	***2.8***	6-20
TP-4	12	Highly Weathered Basalt	0.2	23-24
TP-5	12	Highly Weathered Basalt	0.06	23-24
TP-6	5	Silty Clay (CL) to Clayey Silt (ML) (Residual Soil)	***4.0***	2-13
TP-7	5	Silty Clay (CL) to Clayey Silt (ML) with Basalt (Residual Soil)	***3.5***	11-19
TP-8	5	Highly Weathered Basalt	0.1	25-26
TP-9	5	Highly Weathered Basalt	***1.4***	14-20
TP-10	5	Highly Weathered Basalt	0.3	24-26

***Note*:** Test results considered too high for materials observed.

Slope Stability

For the purpose of evaluating slope stability, we: (1) reviewed of published geologic mapping, (2) performed a field reconnaissance of the property, and (3) performed a program of subsurface exploration including test pits and borings.

Landslide inventory mapping of the Oregon City Quadrangle and the statewide landslide database indicates the headscarp of a prehistoric or ancient landslide (greater than 150 years old) is present along the southeastern property line, as indicated on Figure 1B (Burns and Madin, 2009, Dogami SLIDO, 2017). The landslide is classified as a rock slide-rotational with an earthflow component. The Dogami SLIDO database indicates the landslide is deep seated with a failure depth of approximately 70 to 75 feet. Our reconnaissance and review of Lidar based high resolution digital

elevation maps (Dogami, 2017) indicate slope geomorphology adjacent to the ancient landslide is smooth and uniform. No evidence of recent movement (ground cracks, scarps, or hummocky topography) was observed during our reconnaissance.

The Troutdale Formation, which underlies the site vicinity at depth, includes a thick sequence of weak sedimentary strata that are prone to instability on moderate to steep slopes. Regionally, many large landslides are mapped within the Troutdale Formation primarily on the side slopes of drainages where stream erosion has deeply incised the formation and created oversteepened slopes (Schlicker and Finlayson, 1979; Madin, 1994; Madin and Burns, 2006). In areas where the Troutdale Formation is capped by Boring Lava, these landslides are known to propagate upslope by undermining large blocks of Boring Lava Formation.

Subsurface exploration indicates that the ground surface is underlain by residual soil and weathered rock belonging to the Boring Lava Formation underlain by residual soil and weathered mudstone and sandstone belonging to the Troutdale Formation. Pocket penetrometer measurements of the residual soil of the Boring Lava Formation indicate an approximate unconfined compressive strength of 1.0 to 4.5 tons/ft^2 which correlates to a stiff to very stiff consistency. The residual soil extended to a depth of 2.5 to 8 feet and was underlain by weathered Boring Lava basalt. Standard penetration tests in borings B-1 and B-2 indicate that the basalt has a generally stiff to hard consistency with N-values ranging between N=4 and N=50 for less than 1 inch. In boring B-1, the basalt was underlain by residual soil of the Troutdale Formation that had a very stiff consistency with N-values ranging between N=14 and N=18. The residual soil extended to a depth of 31 feet and was underlain by weathered mudstone belonging to the Troutdale Formation. The mudstone had a hard consistency with N-values of N=41 to N=50 for 4.5 inches. In boring B-1, the mudstone was underlain by weathered sandstone that was very dense with N-values of N=56 to N=50 for 5 inches. No weak zones such as volcanic ash layers were observed in explorations and contacts between the layers appeared to be gradational. Our explorations indicate that native soils underlying the slope are characterized by moderate shear strength and a moderate to high resistance to slope instability.

In our opinion, prior slope instability southeast of and along the southeastern property line of the site likely resulted from failure of steeply sloping exposures of the Troutdale Formation and undermining of the Boring Lava. Since the failure occurred greater than 150 years ago, slopes adjacent to the landslide are less steep and existing landslide debris support the toe of the slope. Existing Boring Lava and Troutdale Formation materials are very stiff to hard and no evidence of recent landslide movement was observed. In order to prevent damage caused by reactivation of the headscarp of the existing slide, a 50 foot horizontal building to top of steep slope setback is recommended for lots adjacent to the headscarp (Lots 51 through 53, Lot 63, and Lot 64.

CONCLUSIONS AND RECOMMENDATIONS

Our investigation indicates that the proposed development is geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. In our opinion, the greatest geotechnical constraint for this project is the potential for encountering hard rock boulders and the steep slope in the southeastern portion of the site. Due to the presence of the headscarp and prehistoric/ancient landslide along the southeast property line and to the southeast of the property, a 50 foot horizontal building to top of steep slope setback is recommended for structures on Lots 51 through 53, Lot 63, and Lot 64.

The Boring Lava Formation, which underlies the site, is known for hard, rounded basalt boulders which could hamper excavations (such as for utility trenching). The rock encountered in test pits

was highly weathered and excavatable to depths of 10 to 12 feet and practical refusal was not achieved. Large, hard boulders should be expected throughout the site that could make deep excavations difficult. Contractors should be prepared to manage difficult excavation conditions and budget accordingly.

Stormwater Disposal

The results of our infiltration testing indicate that soils have a limited infiltration capacity at depths of 5 and 12 feet below the ground surface in clayey silt to silty clay residual soils and weathered basalt, as shown on Table 2. Testing conducted in test pits TP-1 through TP-3, TP-6, TP-7, and TP-9 yielded higher infiltration rates than testing conducted elsewhere at the site under similar geologic conditions. These higher rates may be due to fractures in the weathered basalt or rooted zones within the residual soil that would likely silt up over time or become saturated quickly in a storm event.

Infiltration test methods and procedures attempt to simulate the as-built conditions of the planned subsurface disposal system. However, due to natural variations in soil properties, actual infiltration rates may vary from the measured and/or recommended design rates. All systems should be constructed such that potential overflow is discharged in a controlled manner away from structures, and all systems should include an adequate factor of safety. Infiltration rates presented in this report should not be applied to inappropriate or complex hydrological models such as a closed basin without extensive further studies. This report presents infiltration test results only, and should not be construed as an approval of a system design.

Site Preparation

Areas of proposed buildings, new streets, and areas to receive fill should be cleared of vegetation and any organic and inorganic debris. Existing buried structures, should be demolished and any cavities structurally backfilled. Inorganic debris and organic materials from clearing should be removed from the site.

Existing fill and any organic-rich topsoil should then be stripped from construction areas of the site or where engineered fill is to be placed. Fill was not encountered in our explorations; however, areas of fill may be present elsewhere at the site, especially in the vicinity of the exiting structures. The estimated depth range necessary for removal of topsoil in cut and fill areas is approximately 6 to 9 inches, respectively. Deeper stripping may be necessary to remove large tree roots in orchard and Christmas tree areas. The final depth of soil removal will be determined on the basis of a site inspection after the stripping/ excavation has been performed. Stripped topsoil should preferably be removed from the site. Any remaining topsoil should be stockpiled only in designated areas and stripping operations should be observed and documented by the geotechnical engineer or his representative. Any remaining undocumented fills and subsurface structures (tile drains, basements, driveway and landscaping fill, old utility lines, septic leach fields, etc.) should be removed and the excavations backfilled with engineered fill.

Once stripping of a particular area is approved, the area must be ripped or tilled to a depth of 12 inches, moisture conditioned, root-picked, and compacted in-place prior to the placement of engineered fill or crushed aggregate base for pavement. Exposed subgrade soils should be evaluated by the geotechnical engineer. For large areas, this evaluation is normally performed by proof-rolling the exposed subgrade with a fully loaded scraper or dump truck. For smaller areas where access is restricted, the subgrade should be evaluated by probing the soil with a steel probe. Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition, over-excavated and replaced with engineered fill (as described below), or

stabilized with rock prior to placement of engineered fill. The depth of overexcavation, if required, should be evaluated by the geotechnical engineer at the time of construction.

Excavating Conditions and Utility Trenches

We anticipate that on-site soils can be excavated using conventional heavy equipment such as scrapers and trackhoes. Highly weathered basalt bedrock was encountered in explorations throughout the site at depths of 2.5 to 8 feet. Practical refusal on soft (R2) to medium hard (R3) basalt boulders was not achieved in explorations. Our test pit explorations indicate the basalt bedrock is moderately weathered and excavation depths of 12 feet should be obtainable with conventional heavy equipment. Deeper excavations may encounter harder rock and based on our experience with soils in this area, large, hard boulders can be commonly encountered during construction activities. The selected contractor for site development should be prepared for encountering boulders.

All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926), or be shored. The existing native soils classify as Type B Soil and temporary excavation side slope inclinations as steep as 1H:1V may be assumed for planning purposes. This cut slope inclination is applicable to excavations above the water table only. Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions.

Saturated soils and groundwater may be encountered in utility trenches, particularly during the wet season. We anticipate that dewatering systems consisting of ditches, sumps and pumps would be adequate for control of perched groundwater. Regardless of the dewatering system used, it should be installed and operated such that in-place soils are prevented from being removed along with the groundwater.

Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

PVC pipe should be installed in accordance with the procedures specified in ASTM D2321. We recommend that trench backfill be compacted to at least 95% of the maximum dry density obtained by Modified Proctor ASTM D1557 or equivalent. Initial backfill lift thickness for a ¾"-0 crushed aggregate base may need to be as great as 4 feet to reduce the risk of flattening underlying flexible pipe. Subsequent lift thickness should not exceed 1 foot. If imported granular fill material is used, then the lifts for large vibrating plate-compaction equipment (e.g. hoe compactor attachments) may be up to 2 feet, provided that proper compaction is being achieved and each lift is tested. Use of large vibrating compaction equipment should be carefully monitored near existing structures and improvements due to the potential for vibration-induced damage.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, one density test is taken for every 4 vertical feet of backfill on each 200-lineal-foot section of trench.

Engineered Fill

All grading for the proposed development should be performed as engineered grading in accordance with the applicable building code at time of construction with the exceptions and additions noted herein. Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Imported fill material must be approved by the geotechnical engineer prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

Engineered fill should be compacted in horizontal lifts not exceeding 8 inches using standard compaction equipment. We recommend that engineered fill be compacted to at least 95% of the maximum dry density determined by ASTM D698 (Standard Proctor) or equivalent. Field density testing should conform to ASTM D2922 and D3017, or D1556. All engineered fill should be observed and tested by the project geotechnical engineer or his representative. Rocky fill may need to be evaluated by proofrolling and should be placed wet of optimum moisture content. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 yd^3, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency. Site earthwork will be impacted by soil moisture and shallow groundwater conditions. Earthwork in wet weather would likely require extensive use of cement or lime treatment, or other special measures, at considerable additional cost compared to earthwork performed under dry-weather conditions.

Wet Weather Earthwork

Soils underlying the site are likely to be moisture sensitive and may be difficult to handle or traverse with construction equipment during periods of wet weather. Earthwork is typically most economical when performed under dry weather conditions. Earthwork performed during the wet-weather season will probably require expensive measures such as cement treatment or imported granular material to compact fill to the recommended engineering specifications. If earthwork is to be performed or fill is to be placed in wet weather or under wet conditions when soil moisture content is difficult to control, the following recommendations should be incorporated into the contract specifications.

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soils should be followed promptly by the placement and compaction of clean engineered fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance. Under some circumstances, it may be necessary to excavate soils with a backhoe to minimize subgrade disturbance caused by equipment traffic;
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water;
- Material used as engineered fill should consist of clean, granular soil containing less than 5 percent fines. The fines should be non-plastic. Alternatively, cement treatment of on-site soils may be performed to facilitate wet weather placement;
- The ground surface within the construction area should be sealed by a smooth drum vibratory roller, or equivalent, and under no circumstances should be left uncompacted and exposed to moisture. Soils which become too wet for compaction should be removed and replaced with clean granular materials;

- Excavation and placement of fill should be observed by the geotechnical engineer to verify that all unsuitable materials are removed and suitable compaction and site drainage is achieved; and
- Geotextile silt fences, straw wattles, and fiber rolls should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, GeoPacific should be contacted to provide additional recommendations and field monitoring.

Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion except in areas of moderately to steeply sloping topography. In our opinion, the primary concern regarding erosion potential will occur during construction, in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw bales and silt fences. If used, these erosion control devices should be in place and remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

Pavement Design

For design purposes, we used an estimated resilient modulus of 9,000 for compacted native soil. Table 3 presents our recommended minimum pavement section for dry weather construction.

Table 3. Recommended Minimum Dry-Weather Pavement Section

Material Layer	Light-duty Public Streets	Compaction Standard
Asphaltic Concrete (AC)	3 in.	92% of Rice Density AASHTO T-209
Crushed Aggregate Base ¾"-0 (leveling course)	2 in.	95% of Modified Proctor AASHTO T-180
Crushed Aggregate Base 1½"-0	8 in.	95% of Modified Proctor AASHTO T-180
Subgrade	12 in.	95% of Standard Proctor AASHTO T-99 or equivalent

Any pockets of organic debris or loose fill encountered during ripping or tilling should be removed and replaced with engineered fill (see *Site Preparation* Section). In order to verify subgrade strength, we recommend proof-rolling directly on subgrade with a loaded dump truck during dry weather and on top of base course in wet weather. Soft areas that pump, rut, or weave should be stabilized prior to paving. If pavement areas are to be constructed during wet weather, the subgrade and construction plan should be reviewed by the project geotechnical engineer at the

time of construction so that condition specific recommendations can be provided. The moisture sensitive subgrade soils make the site a difficult wet weather construction project.

During placement of pavement section materials, density testing should be performed to verify compliance with project specifications. Generally, one subgrade, one base course, and one asphalt compaction test is performed for every 100 to 200 linear feet of paving.

Spread Foundations

The proposed residential structures may be supported on shallow foundations bearing on competent undisturbed, native soils and/or engineered fill, appropriately designed and constructed as recommended in this report. Foundation design, construction, and setback requirements should conform to the applicable building code at the time of construction. For maximization of bearing strength and protection against frost heave, spread footings should be embedded at a minimum depth of 18 inches below exterior grade. The recommended minimum widths for continuous footings supporting wood-framed walls without masonry are 12 inches for single-story, 15 inches for two-story, and 18 inches for three-story structures. Minimum foundation reinforcement should consist of a No. 4 bar at the top of stem walls, and a No. 4 bar at the bottom of the footings.

The anticipated allowable soil bearing pressure is 1,500 lbs/ft^2 for footings bearing on competent, native soil and/or engineered fill. A maximum chimney and column load of 30 kips is recommended for the site. The recommended maximum allowable bearing pressure may be increased by 1/3 for short-term transient conditions such as wind and seismic loading. For heavier loads, the geotechnical engineer should be consulted. The coefficient of friction between on-site soil and poured-in-place concrete may be taken as 0.45, which includes no factor of safety. The maximum anticipated total and differential footing movements (generally from soil expansion and/or settlement) are 1 inch and ¾ inch over a span of 20 feet, respectively. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied. Excavations near structural footings should not extend within a 1H:1V plane projected downward from the bottom edge of footings.

Footing excavations should penetrate through topsoil and any loose soil to competent subgrade that is suitable for bearing support. All footing excavations should be trimmed neat, and all loose or softened soil should be removed from the excavation bottom prior to placing reinforcing steel bars. Due to the moisture sensitivity of on-site native soils, foundations constructed during the wet weather season may require overexcavation of footings and backfill with compacted, crushed aggregate.

Our recommendations are for house construction incorporating raised wood floors and conventional spread footing foundations. If living space of the structures will incorporate basements, a geotechnical engineer should be consulted to make additional recommendations for retaining walls, water-proofing, underslab drainage and wall subdrains. After site development, a Final Soil Engineer's Report should either confirm or modify the above recommendations.

Seismic Design

The Oregon Department of Geology and Mineral Industries (Dogami), Oregon HazVu: 2017 Statewide GeoHazards Viewer indicates that the site is in an area where *very strong* ground shaking is anticipated during an earthquake (Dogami HazVu, 2017). Structures should be designed to resist earthquake loading in accordance with the methodology described in the 2015 International Building Code (IBC) with applicable Oregon Structural Specialty Code (OSSC) revisions (current 2014). We recommend Site Class D be used for design per the OSSC, Table

1613.5.2 and as defined in ASCE 7, Chapter 20, Table 20.3-1. Design values determined for the site using the USGS (United States Geological Survey) 2017 Seismic Design Maps Summary Report are summarized in Table 4, and are based upon existing soil conditions.

Table 4. Recommended Earthquake Ground Motion Parameters (2010 ASCE-7)

Parameter	Value
Location (Lat, Long), degrees	45.321, -122.619
Mapped Spectral Acceleration Values (MCE):	
Peak Ground Acceleration PGA_M	0.439
Short Period, S_s	0.914 g
1.0 Sec Period, S_1	0.397 g
Soil Factors for Site Class D:	
F_a	1.134
F_v	1.606
Residential Site Value = 2/3 x F_a x S_s	0.691 g
Residential Seismic Design Category	D

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Soil liquefaction is generally limited to loose, granular soils located below the water table. According to the Oregon HazVu: Statewide Geohazards Viewer, the subject site is regionally characterized as having a low risk of soil liquefaction (DOGAMI:HazVu, 2017).

Footing and Roof Drains

Construction should include typical measures for controlling subsurface water beneath the homes, including positive crawlspace drainage to an adequate low-point drain exiting the foundation, visqueen covering the expose ground in the crawlspace, and crawlspace ventilation (foundation vents). The homebuyers should be informed and educated that some slow flowing water in the crawlspaces is considered normal and not necessarily detrimental to the home given these other design elements incorporated into its construction. Appropriate design professionals should be consulted regarding crawlspace ventilation, building material selection and mold prevention issues, which are outside GeoPacific's area of expertise.

Down spouts and roof drains should collect roof water in a system separate from the footing drains to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point and storm system well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

If the proposed structures will have a raised floor, and no concrete slab-on-grade floors in living spaces are used, perimeter footing drains would not be required based on soil conditions encountered at the site and experience with standard local construction practices. Where it is desired to reduce the potential for moist crawl spaces, footing drains may be installed. If concrete slab-on-grade floors are used, perimeter footing drains should be installed as recommended below.

Where necessary, perimeter footing drains should consist of 3 or 4-inch diameter, perforated plastic pipe embedded in a minimum of 1 ft^3 per lineal foot of clean, free-draining drain rock. The drain pipe and surrounding drain rock should be wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. A

minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. In our opinion, footing drains may outlet at the curb, or on the back sides of lots where sufficient fall is not available to allow drainage to meet the street.

UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, GeoPacific should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. The checklist attached to this report outlines recommended geotechnical observations and testing for the project. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, GeoPacific executed these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.

We appreciate this opportunity to be of service.

Sincerely,

GEOPACIFIC ENGINEERING, INC.

CERTIFIED OREGON ELIZABETH K. RAPP No. E2180 ENGINEERING GEOLOGIST

REGISTERED PROFESSIONAL ENGINEER 14743PE OREGON JAN. 23, 1990 JAMES D. IMBRIE

EXPIRES: 06/30/2019

Beth K. Rapp, C.E.G.
Senior Engineering Geologist

James D. Imbrie, P.E.
Principal Engineer

Attachments: References
Figure 1A – Vicinity Map
Figure 1B – Lidar Based Vicinity Map with Mapped Landslides
Figure 2 – Site Plan and Exploration Locations
Test Pit Logs (TP-1 through TP-10)
Boring Logs (B-1 & B-2)

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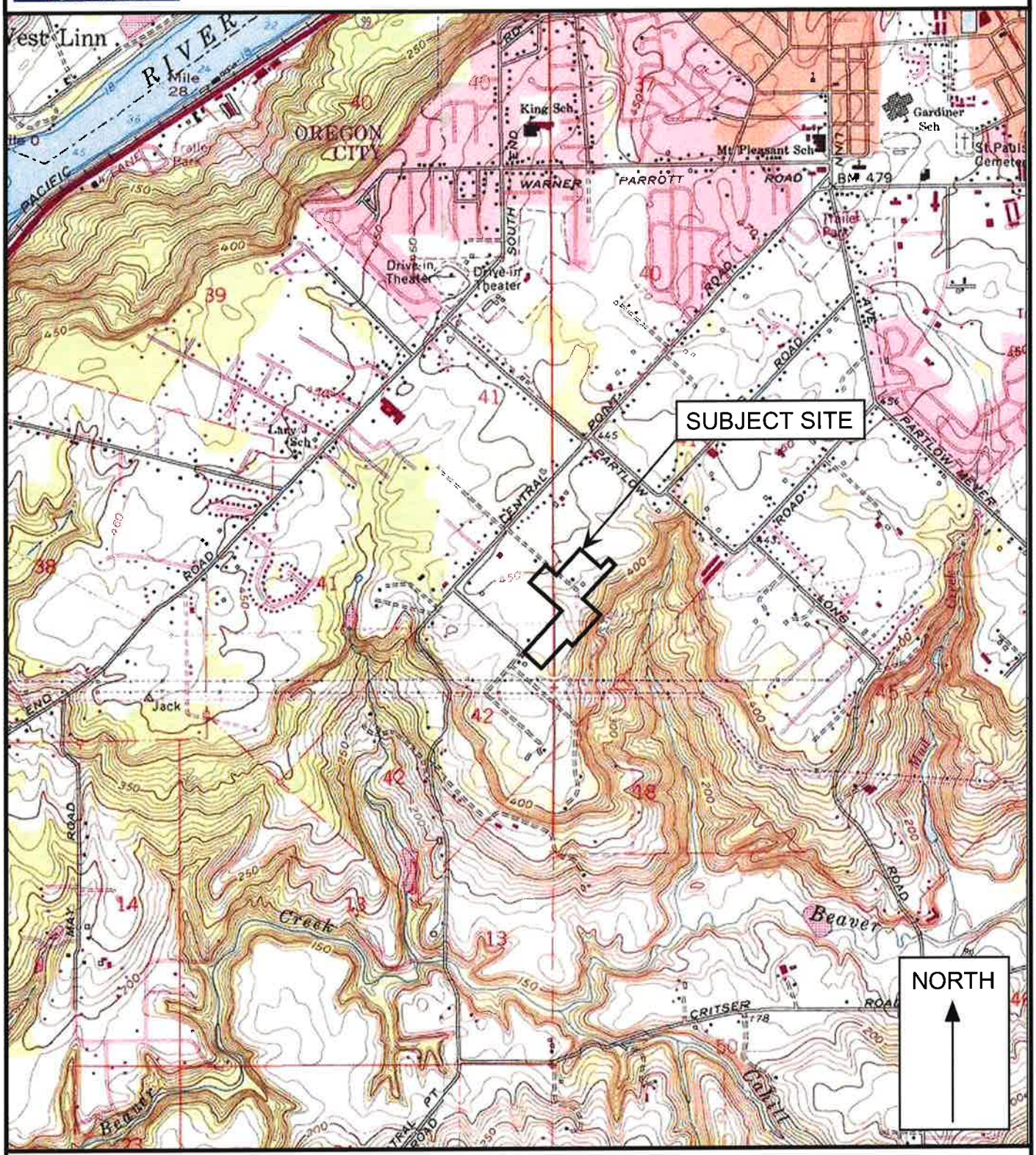
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VICINITY MAP



Legend

Approximate Scale 1 in = 2,000 ft

Date: 6/16/2017

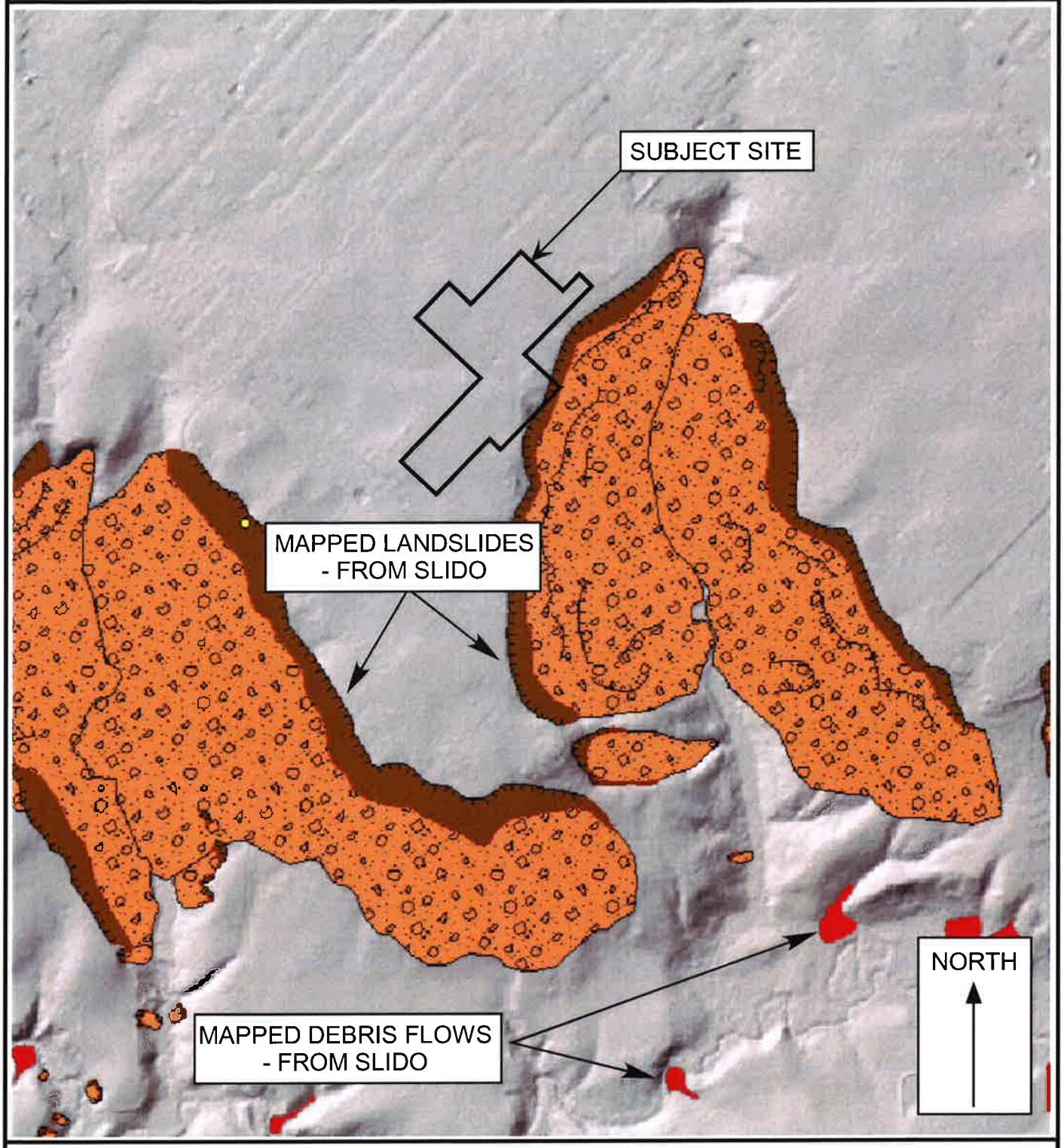
Drawn by: SRS

Base maps: U.S. Geological Survey 7.5 minute Topographic Map Series, Canby, Oregon Quadrangle, 1961 (Photorevised 1985) and Oregon City, Oregon Quadrangle, 1961 (Photorevised 1985).

Project: Wheeler Farms Oregon City, Oregon	Project No. 17-4521	FIGURE 1A

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LIDAR BASED VICINITY MAP - WITH MAPPED LANDSLIDES



Legend

Approximate Scale 1 in = 1000 ft

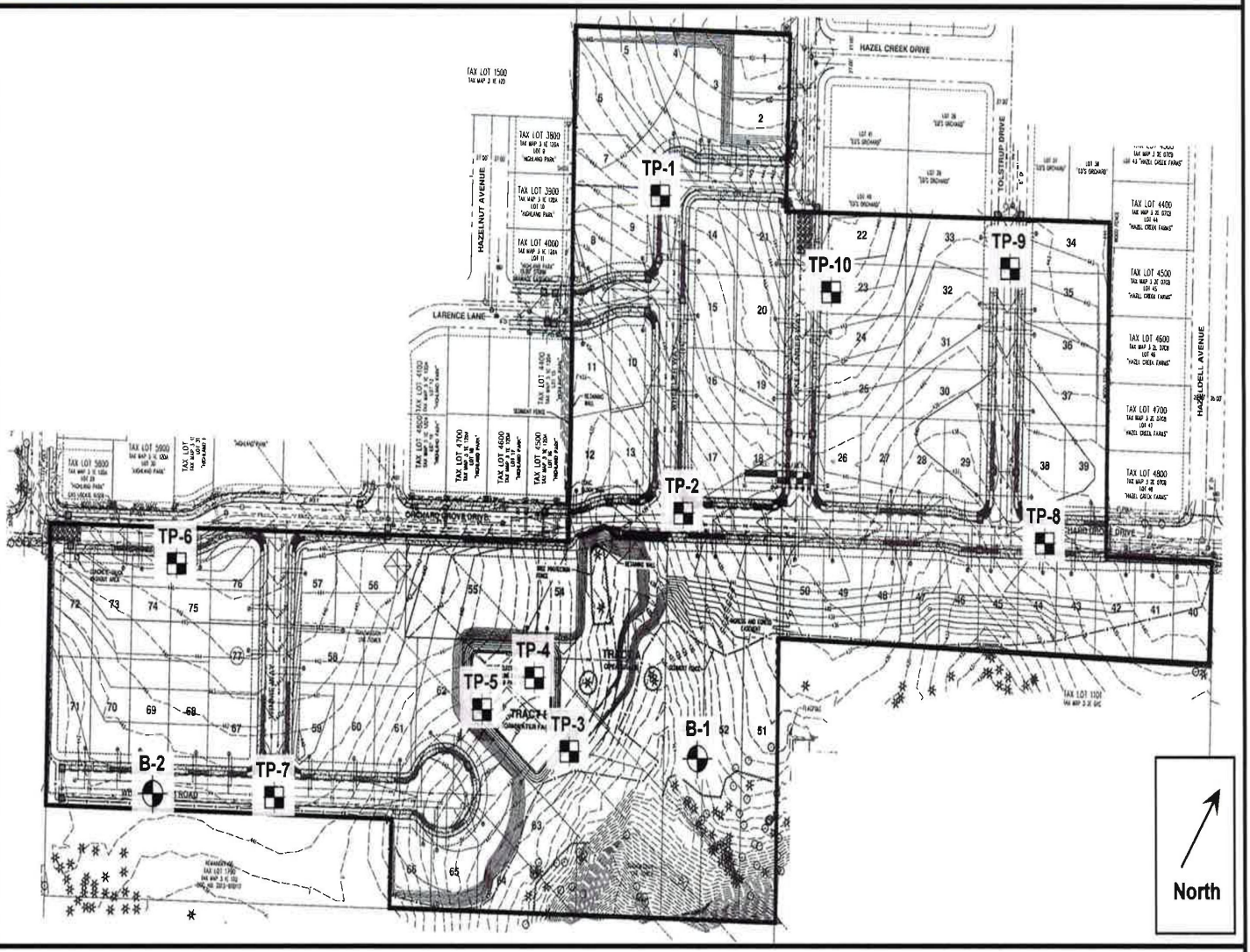
Date: 6/16/2017
Drawn by: SRS

Base map: Oregon Department of Geology and Mineral Industries, 2017, Statewide Landslide Information Database for Oregon (SLIDO): http://www.oregongeology.org/slido/index.html

Project: Wheeler Farms Oregon City, Oregon	Project No. 17-4521	FIGURE 1B

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SITE PLAN AND EXPLORATION LOCATIONS



Legend

TP-1 Test Pit Designation and Approximate Location

B-1 Boring Designation and Approximate Location

Date: 6/16/2017
Drawn by: EKR

0 200'

APPROXIMATE SCALE 1"=200'

Project: Wheeler Farms Oregon City, Oregon	Project No. 17-4521	FIGURE 2

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-1**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.5					Moderately organic SILT (OL-ML), trace clay, brown, loose, 2 inch thick root mat, moist (Topsoil)
2	2.0					Stiff, clayey SILT (ML) to silty CLAY (CL), light brown, moist, (Residual Soil)
3	4.0					
4	3.0					Extremely soft to very soft (R0-R1), highly weathered BASALT, trace light reddish brown silty clay matrix, gray to brown, trace black staining, trace fine roots, moist (Boring Lava Formation)
5						
6						Trace subrounded soft (R2) boulders up to 2 feet in diameter below 5½ feet below ground surface
7						
8						
9						
10						
11						Test Pit Terminated at 10½ Feet.
12						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-2**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.5					Moderately organic SILT (OL-ML), brown, loose, 3 inch thick root mat, trace roots throughout, moist (Topsoil)
2	2.0					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), trace subrounded gray weathered basalt, light brown, trace roots, trace charcoal, moist, (Residual Soil)
3	3.0					
4	3.0					Extremely soft to very soft (R0-R1), highly weathered BASALT, trace light reddish brown silty clay matrix, gray to brown, trace black staining, trace roots to 4 feet below ground surface, moist (Boring Lava Formation)
5						Some soft (R2) zones and boulders below 5 feet below ground surface
6						
7						
8						
9						
10						
11						Test Pit Terminated at 10½ Feet.
12						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-3**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.5					Moderately organic SILT (OL-ML), dark brown, loose, roots throughout, moist (Topsoil)
2	1.5					Stiff to very stiff, silty CLAY (CL), trace highly weathered gray basalt, light reddish brown, trace black staining, trace roots to 2½ feet below ground surface, moist (Residual Soil)
3	2.5					
4	2.5					Extremely soft to very soft (R0-R1), weathered BASALT, light reddish brown silty clay matrix, gray to brown, moist (Boring Lava Formation)
5						
6						
7						
8						
9						
10						Becomes very soft to soft (R1-R2) below 10 feet below ground surface
11						
12						Test Pit Terminated at 12 Feet. Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-4**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.5					Moderately organic SILT (OL-ML), brown, loose, roots throughout, moist (Topsoil)
2	2.0					Stiff to very stiff, silty CLAY (CL), trace weathered gray basalt, light reddish brown, moist (Residual Soil)
3	3.0					
4	4.0					
5						
6						
7						
8						
9						Extremely soft to very soft (R0-R1), highly weathered BASALT, trace light reddish brown silty clay matrix, gray to brown, moist (Boring Lava Formation)
10						
11						
12						Test Pit Terminated at 12 Feet. Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-5**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic SILT (OL-ML), dark brown, loose, roots throughout, moist (Topsoil)
1	2.0					Stiff to very stiff, silty CLAY (CL), trace weathered gray basalt, light reddish brown, trace black staining, trace roots to 4 feet below ground surface, moist (Residual Soil)
2	2.0					
3	3.5					
4	4.5					
5						
6						Extremely soft to very soft (R0-R1), highly weathered BASALT, light reddish brown silty clay matrix, gray to brown, trace black staining, trace soft (R2) boulders, trace white secondary mineralization, moist (Boring Lava Formation)
7						
8						
9						
10						
11						
12						Test Pit Terminated at 12 Feet.
						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-6**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic SILT (OL-ML), dark brown, loose, 3 inch thick root mat, moist (Topsoil)
1	1.5					Stiff to very stiff, silty CLAY (CL), light reddish brown, trace black staining, trace roots, moist (Residual Soil)
2	2.5					
3	3.5					
4	4.0					
5						
6						
7						Extremely soft (R0), highly weathered BASALT, trace light reddish brown silty clay matrix, gray to brown, moist (Boring Lava Formation)
8						
9						
10						Test Pit Terminated at 10 Feet.
11						Note: No seepage or groundwater encountered.
12						

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision Oregon City, Oregon	Project No. 17-4521	Test Pit No. **TP-7**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	2.0					Moderately organic SILT (OL-ML), brown, loose, fine roots throughout, moist (Topsoil)
2	2.0					Very stiff, clayey SILT (ML) to silty CLAY (CL), subrounded gray basalt below 4 feet below ground surface, trace light reddish brown, mottled, trace black staining, moist (Residual Soil)
3	4.5					
4	4.5					
5						
6						
7						
8						Extremely soft (R0), highly weathered BASALT, trace clayey silt to silty clay matrix, brown to gray, moist (Boring Lava Formation)
9						
10						
11						Test Pit Terminated at 11 Feet. Note: No seepage or groundwater encountered.
12						

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-8**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
0						Moderately organic SILT (OL-ML), dark brown, loose, 3 inch thick root mat, fine roots throughout, moist (Topsoil)
1	1.5					Very stiff, clayey SILT (ML) to silty CLAY (CL), trace gray basalt, light reddish brown, trace black staining, trace roots to 4 feet below ground surface, moist (Residual Soil)
	3.5					
2	1.0					
	2.0					
3	3.0					
4	4.5					Extremely soft to very soft (R0-R1), highly weathered BASALT, trace light reddish brown silty clay matrix, trace soft (R2) boulders at 5 feet below ground surface, moist (Boring Lava Formation)
5						
6						
7						
8						
9						
10						
11						Test Pit Terminated at 11 Feet.
12						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-9**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic SILT (OL-ML), dark brown, loose, 5 inch thick root mat, trace fine roots, moist (Topsoil)
1	1.0					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), trace gray basalt, light brown, moist (Residual Soil)
	2.0					
2	2.5					
3	4.5					
4	4.5					Extremely soft to very soft (R0-R1), highly weathered, BASALT, trace silty clay matrix, brown to gray, secondary mineralization, moist (Boring Lava Formation)
5						
6						
7						
8						
9						
10						
11						Test Pit Terminated at 10½ Feet.
12						Note: Groundwater seepage encountered at 6 feet. Discharge visually estimated at less than ¼ gallon per minute.

LEGEND

Bag Sample (100 to 1,000 g) | Bucket Sample (5 Gal. Bucket) | Shelby Tube Sample | Seepage | Water Bearing Zone | Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-10**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic SILT (OL-ML), dark brown, loose, 5 inch thick root mat, trace fine roots, moist (Topsoil)
1	1.0					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), trace weathered basalt, light brown, roots to 2½ feet below ground surface, moist (Residual Soil)
	2.0					
2	2.0					
3	2.5					
4	4.5					Extremely soft (R0), highly weathered, BASALT, trace light reddish brown clayey silt to silty clay matrix, gray brown, secondary mineralization, moist (Boring Lava Formation)
5						
6						
7						
8						
9						
10						Test Pit Terminated at 10 Feet.
11						Note: No seepage or groundwater encountered.
12						

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

GeoPacific Engineering, Inc.
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Tel: (503) 598-8445 Fax: (503) 941-9281

BORING LOG

Project: Wheeler Farms Subdivision Oregon City, Oregon	Project No. 17-4521	Boring No. **B-1**

Depth (ft)	Sample Type	N-Value	Installation	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic, SILT (OL-ML), brown, trace fine roots, moist (Topsoil)
						Stiff, clayey SILT (ML) to silty CLAY (CL), trace basalt, brown, moist (Residual Soil)
		4				Medium stiff, extremely soft (R0), BASALT, trace light reddish brown silty clay to clayey silt matrix, gray, trace red staining, moist (Boring Lava Formation)
5		8				
		11				Stiff, extremely soft (R0) to very soft (R1), BASALT, trace light reddish brown silty clay to clayey silt matrix, gray, trace red staining, moist (Boring Lava Formation)
10		50 for 1"				Hard, soft (R2) to medium hard (R3), BASALT, trace light reddish brown silty clay to clayey silt matrix, gray, trace red staining, moist (Boring Lava Formation)
15		50 for <1"				
20		18				Very stiff, clayey SILT (ML), trace fine grained sand, light brown, strong dark red mottling, trace waxy texture, dark brown staining, micaceous, uniform, no bedding planes, moist (Residual Soil of Troutdale Formation)
25		14				
30		50 for 4½"				Hard, extremely soft (R0) to very soft (R1) MUDSTONE, brown to brownish gray, trace yellow and green secondary mineralization, micaceous, trace laminar bedding, moist (Troutdale Formation)
35						

LEGEND

Bag Sample (100 to 1,000 g) | Split-Spoon | Shelby Tube Sample | Static Water Table at Drilling | Static Water Table (10-20-99) | Water Bearing Zone

Date Excavated: 5/9/2017 to 5/10-2017

Logged By: B. Rapp

Surface Elevation:

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Tel: (503) 598-8445 Fax: (503) 941-9281

BORING LOG

Project: Wheeler Farms Subdivision Oregon City, Oregon	Project No. 17-4521	Boring No. **B-1**

Depth (ft)	Sample Type	N-Value	Installation	Moisture Content (%)	Water Bearing Zone	Material Description
		41				
40		50 for 5½"				
45		53				Hard, extremely soft (R0) to very soft (R1) MUDSTONE, brown to brownish gray, trace yellow and green secondary mineralization, micaceous, trace laminar bedding, moist (Troutdale Formation)
50		65				
55		62				
60		70				Very dense, extremely soft (R0), weathered SANDSTONE, trace silt, gray and brown, weathered to fine to medium grained sand, trace yellow secondary mineralization, micaceous, preserved bedding planes, sugary texture, some zones of extremely soft (R0) mudstone, damp to moist (Troutdale Formation)
65		64				
70						

LEGEND

Bag Sample (100 to 1,000 g) | Split-Spoon | Shelby Tube Sample | Static Water Table at Drilling | Static Water Table (10-20-09) | Water Bearing Zone

Date Excavated: 5/9/2017 to 5/10-2017

Logged By: B. Rapp

Surface Elevation:

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Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

BORING LOG

Project: Wheeler Farms Subdivision Oregon City, Oregon	Project No. 17-4521	Boring No. **B-1**

Depth (ft)	Sample Type	N-Value	Installation	Moisture Content (%)	Water Bearing Zone	Material Description
75		56				
		50 for 5¾"				
80		50 for 5"				Very dense, extremely soft (R0), weathered SANDSTONE, trace silt, gray and brown, weathered to fine to medium grained sand, trace yellow secondary mineralization, micaceous, preserved bedding planes, sugary texture, some zones of extremely soft (R0) mudstone, damp to moist (Troutdale Formation)
85		80				
90		58				
95		75				
100		67				
105						Boring Terminated at 101½ Feet. Groundwater could not be determined due to mud rotary techniques.

LEGEND

Bag Sample (100 to 1,000 g) | Split-Spoon | Shelby Tube Sample | Static Water Table at Drilling | Static Water Table (10-20-99) | Water Bearing Zone

Date Excavated: 5/9/2017 to 5/10-2017
Logged By: B. Rapp
Surface Elevation:

GeoPacific Engineering, Inc.
14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

BORING LOG

Project: Wheeler Farms Subdivision Oregon City, Oregon	Project No. 17-4521	Boring No. **B-2**

Depth (ft)	Sample Type	N-Value	Installation	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic, SILT (OL-ML), brown, trace fine roots, moist (Topsoil)
						Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), trace weathered basalt, light brown, moist (Residual Soil)
5		17				Stiff to very stiff, extremely soft (R0), highly weathered, BASALT, trace light reddish brown silty clay to clayey silt matrix, gray to brown, strong mottling, trace black staining, moist to very moist (Boring Lava Formation)
10		13				
15		18				Very stiff, extremely soft to very soft (R0-R1), highly weathered, BASALT, trace silty clay to clayey silt matrix, gray, trace black staining, red staining, moist to very moist (Boring Lava Formation)
20		50 for 1"				
25						Hard, soft to medium hard (R2-R3), BASALT, gray, trace silty clay to clayey silt matrix, gray, trace black staining, red staining, moist to very moist (Boring Lava Formation)
30						
35		50 for ½"				Boring Terminated at 35 Feet. Groundwater could not be determined due to mud rotary techniques.

LEGEND



Bag Sample | Split-Spoon | Shelby Tube Sample | Static Water Table at Drilling | Static Water Table | Water Bearing Zone

Date Excavated: 5/10/2017
Logged By: B. Rapp
Surface Elevation:

Exhibit J: Type I Natural Resource Overlay District Verification (NR 17-03)

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE I NATURAL RESOURCE OVERLAY DISTRICT VERIFICATION
May 19, 2017

FILE NUMBER:	NR 17-03: Type I Natural Resource Overlay District Verification
APPLICANT:	Rian Park Development, Inc. P.O. Box 2559 Oregon City, OR 97045
OWNERS:	32E07C Tax Lot 1001 (Wheeler Family Enterprises, LLC) 32E07C Tax Lots 1100, 1180 (David H. Wheeler Sr. Trust) 32E07C Tax Lot 1291 (Donald W. & Roxanne O. Wheeler) 31E12D Tax Lots 1700, 1790 (Wheeler Family Enterprises, LLC)
CONSULTANT:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062
REQUEST:	The applicant submitted a request for a Type I Natural Resource Overlay District Verification with a professionally prepared assessment to demonstrate that the subject site is not within the Natural Resource Overlay District.
LOCATION:	NO SITUS ADDRESS: Clackamas County Tax Map: 32E07C, Tax Lots: 1001, 1180, & 1291 / 31E12D, Tax Lots: 1700 & 1790; and 19566 Central Point Rd, Oregon City, OR 97045, Clackamas County Tax Map: 32E07C, Tax Lot 1100
ZONING:	"R-10", Single Family Residential District
DECISION:	Approval
REVIEWER:	Pete Walter, AICP, Planner
CRITERIA:	OCMC Chapter 17.49 – Natural Resource Overlay District OCMC Chapter 17.50 – Administration and Procedures

Type I decisions do not require interpretation or the exercise of policy or legal judgment in evaluating approval criteria and include lot line adjustments, zone changes upon annexation as provided in Section 17.06.050 for which there is no discretion provided, final plats, and final planned unit development plans where there are no material deviations from the approved preliminary plans. Because no discretion is involved, Type I decisions do not qualify as a land use, or limited land use, decision. The decision-making process requires no notice to any party other than the applicant. One representative from each of the city-recognized neighborhood associations, who has been identified by the neighborhood coordinator, will be distributed a monthly compilation of all Type I activities. The Community Development Director's decision is final and not appealable by any party through the normal city land use process. IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722.3789.

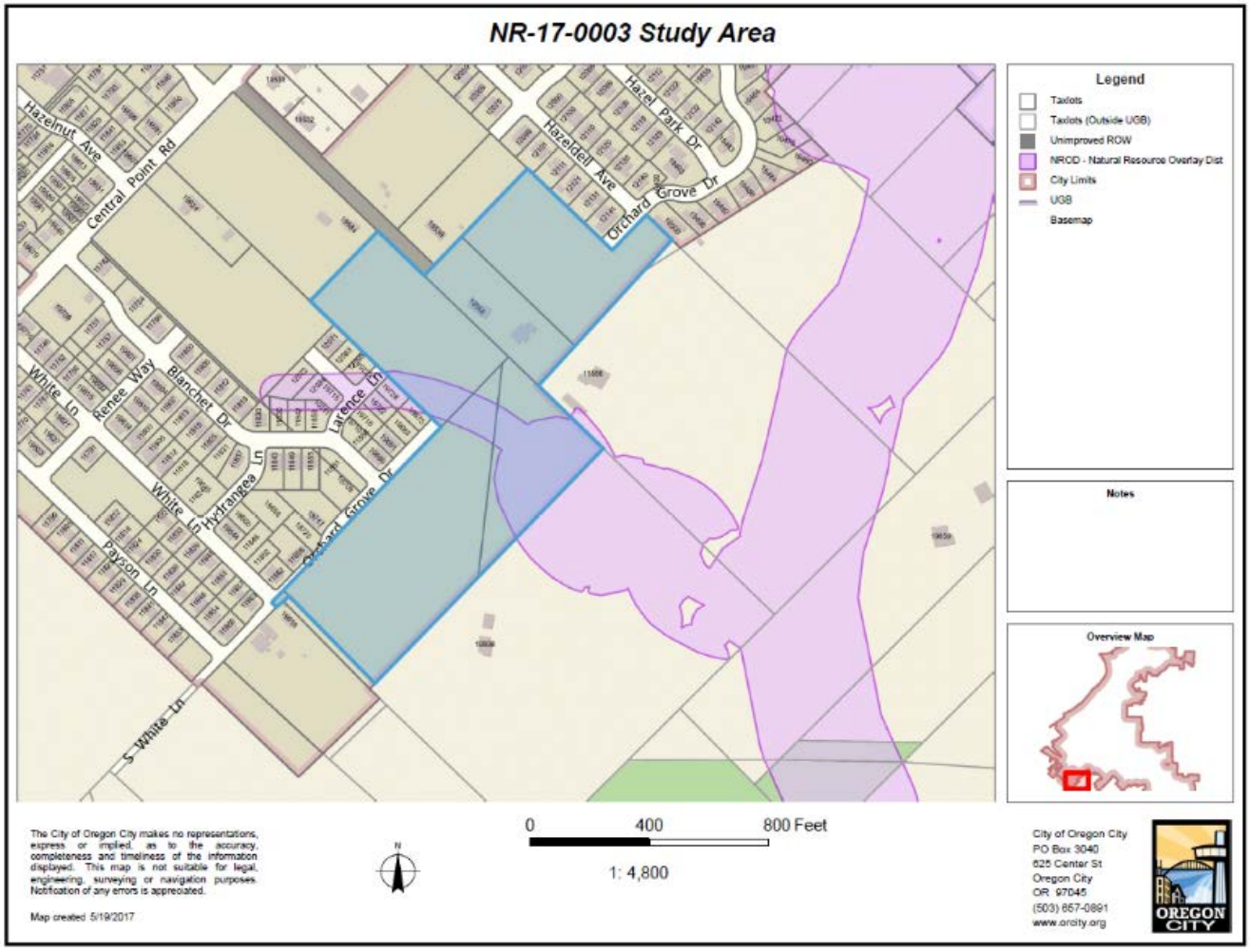
I. BACKGROUND

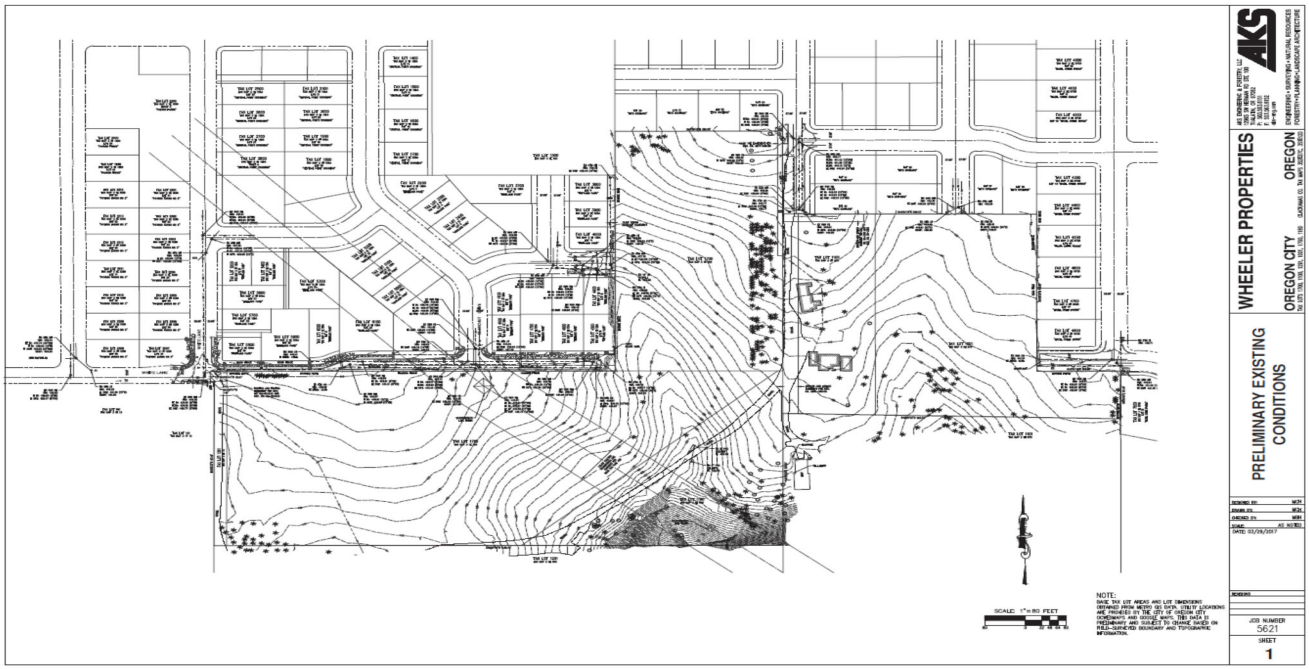
The subject properties are located southeast of Central Point Road on the southern boundary of the City. The area was historically pastureland, Christmas trees and orchard land that was brought into the Metro Urban Growth Boundary in 2001 or earlier in 1979. The lands in question were annexed to Oregon City in 2006 (File AN 16-02) and have a zoning designation of R-10 Single Family Residential. There has been a lot of recent subdivision and home construction in the area over the last 10 years abutting the site to the northwest, and it is anticipated that this land will be used in the same manner.

As shown in Figure 1, the subject site is partially located within the mapped Natural Resource Overlay District (NROD), and is thus subject to review by the City of Oregon City to ensure adequate protection of nearby water features and associated vegetated corridors.

The Oregon City Municipal Code protects degradation of water features enforcing a vegetated corridor consisting of native plantings adjacent to the identified feature (e.g. stream or wetland) to improve water quality and functions. The applicant has requested an exemption from the Natural Resource Overlay District. Approval of this verification application would exempt the property from further NROD review pursuant with Chapter 17.49 of the Oregon City Municipal Code.

Figure 1: Subject Site and Mapped NROD





II. ANALYSIS AND FINDINGS

CHAPTER 17.49 NATURAL RESOURCE OVERLAY DISTRICT

17.49.250 Verification of NROD Boundary

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

Finding: Applicable. The City of Oregon City's maps show a perennial stream that originates off-site to the west and flows into the center of the subject site. A Natural Resource Assessment dated April 3, 2017 has been prepared concluding that no potentially jurisdictional Title 3 wetlands or waters, or associated vegetated corridors were documented on-site and that the stream identified in the City's mapping is not present on the subject property. No development is associated with this application and it has been determined that a Type I NROD Verification application can accomplish the requested concurrence that the subject property is not in an NROD area.

17.49.255 - Type I verification.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.

Finding: Complies as Proposed. The applicant submitted a Natural Resource Assessment prepared by Lindsey Obermiller, Natural Resource Specialist, including site plans in accordance with Section 17.49.220, as applicable. The Natural Resource Assessment included in the application materials includes site plans and conclusions that no evidence of the characteristics found in criteria B.1. – B.6. exist on the subject site.

B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:
1. No soil, vegetation, hydrologic features have been disturbed;
2. No hydrologic features have been changed;
Finding: Complies as proposed. The applicant has not requested that the Community Development Director make this determination. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant provides the necessary evidence that the criteria for exemption are met.

3 There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.
Finding: Complies as Proposed. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant identify that the site did not have any observable water marks, swash lines, drift lines on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation in the vicinity of the steel building onsite.

4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.
Finding: Complies as Proposed. The City's local wetland inventory and NROD map do not identify a wetland at the property. The Natural Resources Assessment and Wetland Delineation Data Forms submitted by the applicant also conclude that the site and adjacent locations do not possess any jurisdictional Title 3 wetlands or waters, or associated vegetated corridors.

5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.
Finding: Complies as Proposed. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant identify that the site did not contain evidence of perennial or intermittent stream or other protected water features.

6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.
There is an existing physical barrier between the site and a protected water feature, including:
a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.
b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.
Finding: Complies as proposed. The Highland Park subdivision uphill and abutting the property received land use approval which included a prior NROD exemption regarding the subject mapped resource (Planning File TP 15-01, NR 14-08).

C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.6. above are met the verification application shall be denied. An applicant may then opt to apply for a verification through the Type II process defined below.
Finding: Not Applicable. The applicant's submittal adequately demonstrates that a protected feature and associated vegetated buffer are not present onsite, and that the criteria in subsections B.1-B.6 are met. A Type II verification is not required.

17.49.260. Type II Verification
Finding: Not Applicable. The application does not include a Type II Verification request.

17.49.265 - Corrections to violations.
For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met then the applicant's remediation plan shall demonstrate that there will be:
A. No permanent loss of any type of resource or functional value listed in Section 17.49.10, as determined by a qualified environmental professional;
B. A significant improvement of at least one functional value listed in section 17.49.10, as determined by a qualified environmental professional; and
C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.
Finding: Not Applicable. No violations have been reported. Therefore, a remediation plan for the violation is not required.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES
17.50.030 Summary of the City's Decision-Making Processes.
Finding: Complies as Proposed. The Natural Resource Overlay District verification application is being reviewed pursuant to the Type I process.

III. CONCLUSION AND DECISION

Based on the analysis and findings presented in this report, and the substantial evidence in the application materials, the properties identified are exempt from further review under Chapter 17.49 of the Oregon City Municipal Code. Though the site is exempt from further NROD review, portions of the property also fall within the Geologic Hazards Overlay District and development is subject to compliance with OCMC Chapter 17.44, *Geologic Hazards* at the time of land division application.

EXHIBITS

1. Vicinity Map (On File)
2. Map of the Site and Natural Resources Overlay District (On File)
2. Applicant's Submittal (On File)

TUALATIN · VANCOUVER · SALEM-KEIZER
12965 SW HERMAN RD., SUITE 100 · TUALATIN, OR 97062
AKS ENGINEERING & FORESTRY
WWW.AKS-ENG.COM
P: (503) 563-6151 F: (503) 563-6152

Natural Resource Assessment

DATE: April 3, 2017

TO: Oregon City Planning Department, Oregon

FROM: Kayla Katkin, Natural Resource Specialist – AKS Engineering & Forestry, LLC

SUBJECT: Type 1 Verification - Natural Resource Assessment

PROJECT: Wheeler Farms

Introduction and Background

Rian Park Development contracted AKS Engineering and Forestry, LLC (AKS) to conduct a map verification at 19566 South Central Point Road in Oregon City, Clackamas County, Oregon (Tax Lots 1001, 1291, 1180, and 1100 of Tax Map 3 2E 7C and Tax Lots 1700 and 1790 of Tax Map 3 1E 12D) as seen on the attached Figures 1 and 2A and 2B. The Oregon City Natural Resource Overlay District (NROD) Map shows a perennial stream that originates off site to the west and flows through the project area (Figure 5). Our site visit determined this resource is not present on the site or immediately off-site to the west.

This memo has been prepared to meet the Oregon City Code of Ordinances application requirements listed under Chapter 17.49.250 Type 1 Verification, to request a determination that the project area does not include an NROD area and is therefore not subject to the NROD standards.

Existing Conditions

The methodology used to determine the presence of wetlands followed the U.S. Army Corps of Engineers (Corps) *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Corps 2010), used by both the Corps and the Oregon Department of State Lands (DSL). Kayla Katkin and Lindsey Obermiller documented the site conditions on March 15, 2017. They recorded soils, vegetation, and indicators of hydrology at two sample plot locations to document representative site conditions.

A single-family home, detached shop, and outbuildings are on Tax Lot 1100 on Tax Map 3 2E 7C. Tax Lots 1700 and half of Tax Lot 1001 are used as a filbert orchard. Tax Lot 1790 is primarily used as a Christmas tree farm, and Tax Lot 1291 contains a driveway. The southern portion of Tax Lot 1180 is dominated by big-leaf maple (*Acer macrophyllum*), Douglas-fir (*Pseudotsuga menziesii*), red alder (*Alnus rubra*), beaked hazelnut (*Corylus cornuta*), and pineland sword fern (*Polystichum munitum*), and slopes steeply (>25%) to the south toward an off-site drainage. Topography on remaining portions of the site have a gentle (less than 3 percent) southeasterly slope.

According to the Natural Resources Conservation Service (NRCS) Clackamas County, Oregon Area soil survey map and the Clackamas County hydric soils list, non-hydric Bornstedt silt loam with 0 to 8% slopes (Unit 8B) is mapped in the northern portion of the site and non-hydric soils Jory stony silt loam with 3-8% slopes (Unit 46B) and Xerochrepts and Haploxerolls, very steep slopes (Unit 92F) are mapped in the southern portion of

the site (Figure 3). There are no wetlands or waters mapped on the site according to the DSL approved 1999 Oregon City Local Wetland Inventory (LWI) map (Figure 4A and 4B).

Plots 1 and 2 document the conditions within the on-site mapped NROD. Plot 1 is at the lowest point within the planted Christmas tree farm in the vicinity of the mapped NROD. Plot 2 is also located in a low topographic area within the mapped NROD and upslope of a small diameter culvert under a gravel driveway along the southern property line of Tax Lot 1180. There was no defined channel upslope or downslope of the culvert. No defined channel was present upstream or downstream of the culvert.

Planted Douglas-fir dominated the vegetation at both plots. Soils were a dark reddish brown silt loam (with chromas of 3 and 4) and did not meet hydric soil indicators. Both plots lacked wetland hydrology indicators. Therefore, the area was determined to be upland.

No man-made drainage features, water marks, swash lines, drift lines on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation was observed on the site. The approximate location of sample Plots 1 and 2 are shown on attached Figure 6, Existing Conditions Map. The wetland determination data sheets and representative site photos are also attached (Attachments A and B).

Summary

No potentially jurisdictional Title 3 wetlands or waters, or associated vegetated corridors were documented within the project area. Therefore, we request that Oregon City update the online geographic information system (GIS) mapping to reflect current site conditions and the absence of any on-site streams or buffers.

Please do not hesitate to contact me with any questions concerning the proposed project.

K. Katkin

Kayla Katkin
Natural Resource Specialist
Field work and report preparation

Stacey Reed

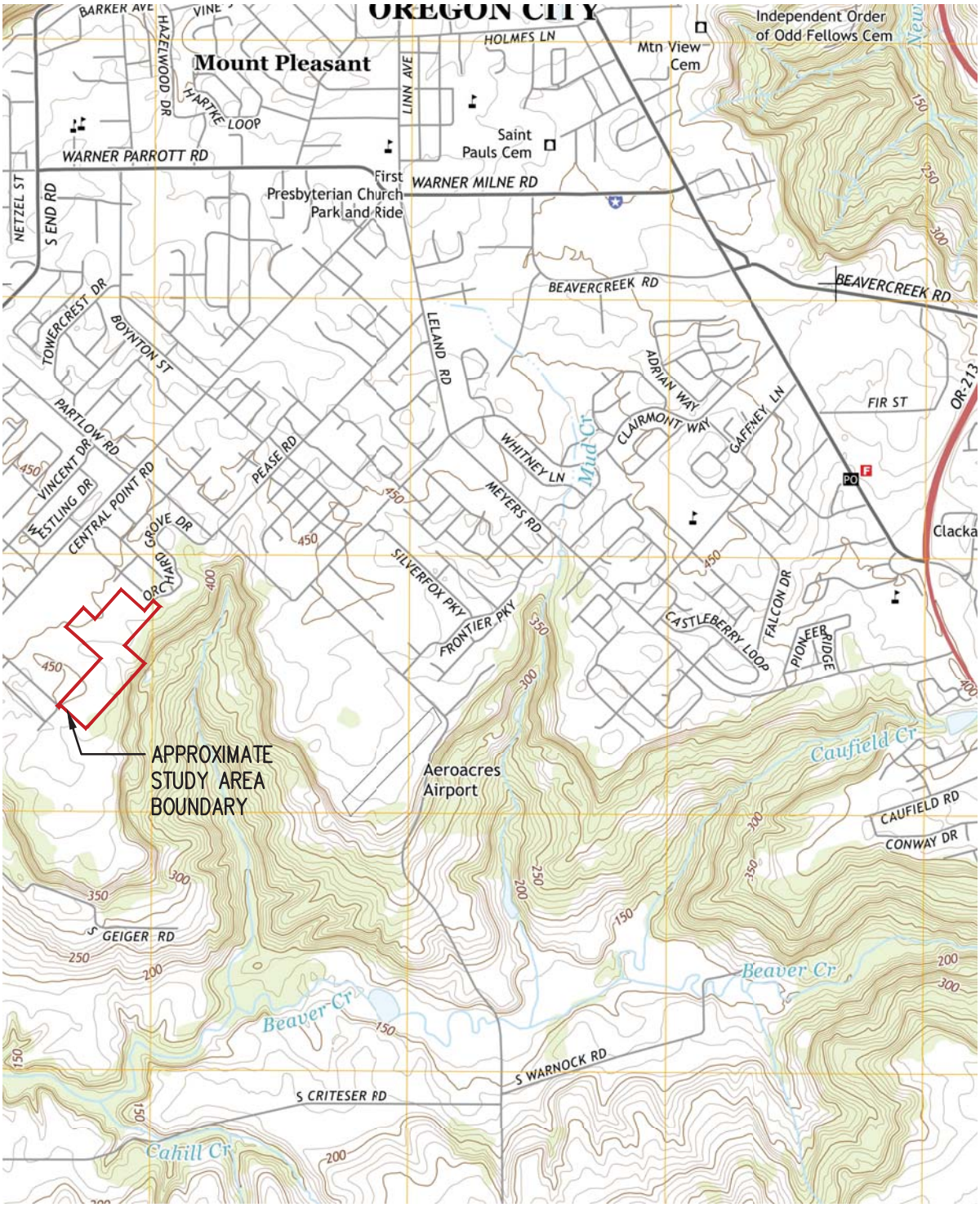
Stacey Reed, PWS
Senior Wetland Scientist
Report review

List of Attached Figures

Figure 1. Vicinity Map
Figure 2. Tax Lot Map
Figure 3. Soils Map
Figure 4. Oregon City Local Wetland Inventory Map
Figure 5. Oregon City GIS NROD Map
Figure 6. Existing Conditions Map

List of Attachments

Attachment A: Wetland Determination Data Sheets
Attachment B: Representative Site Photographs



N

SCALE 1" = 2000 FEET

2000 0 2000

USGS 7.5' TOPOGRAPHIC
QUADRANGLE: OREGON CITY, OR (2014)

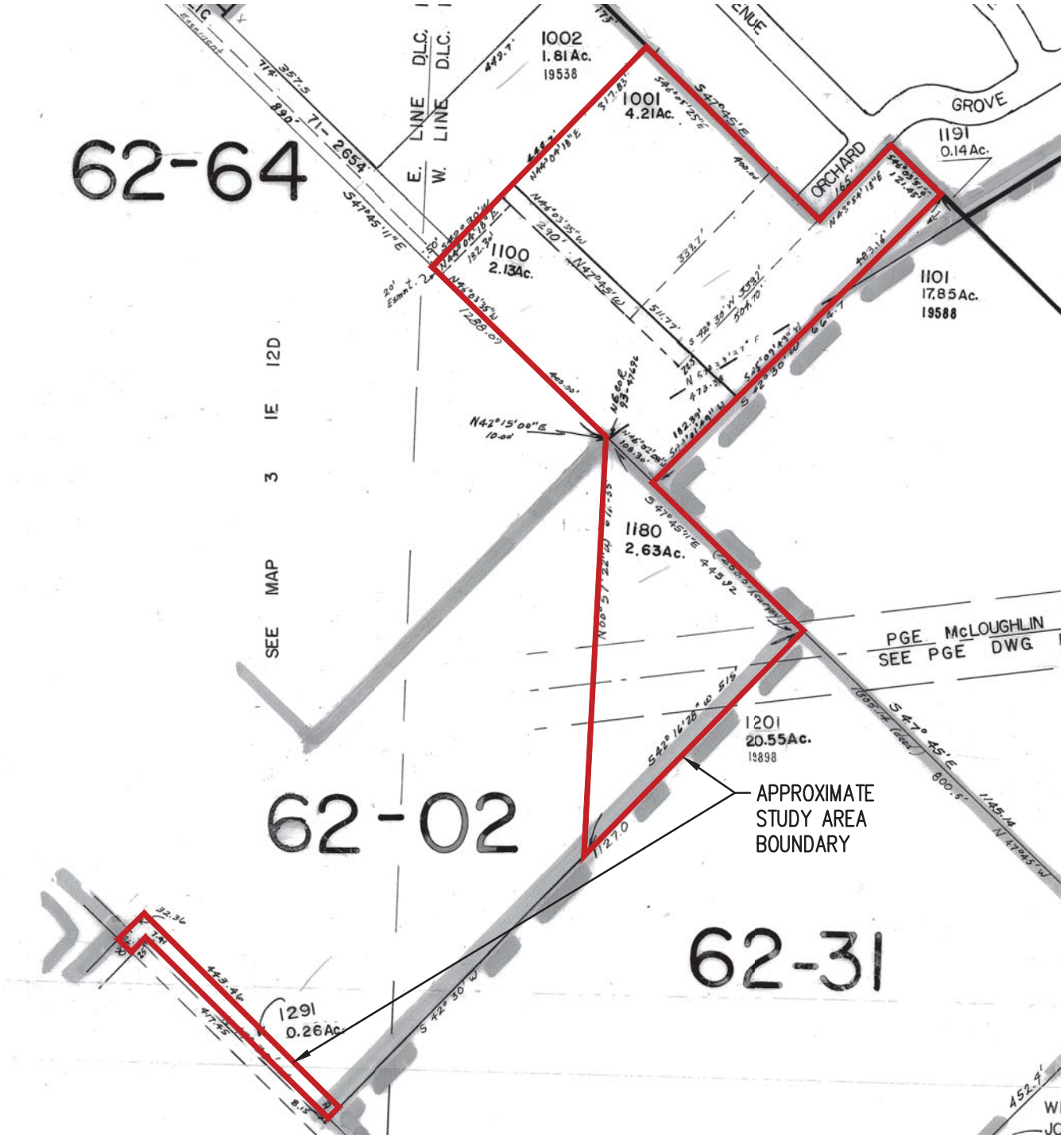
DATE: 03/20/2017

VICINITY MAP
WHEELER FARMS NATURAL RESOURCE ASSESSMENT

FIGURE 1

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
TUALATIN, OR 97062 www.aks-eng.com
PHONE: 503.563.6151 FAX: 503.563.6152

DRWN: KMK
CHKD: SAR
AKS JOB: 5621



N

SCALE 1" = 250 FEET

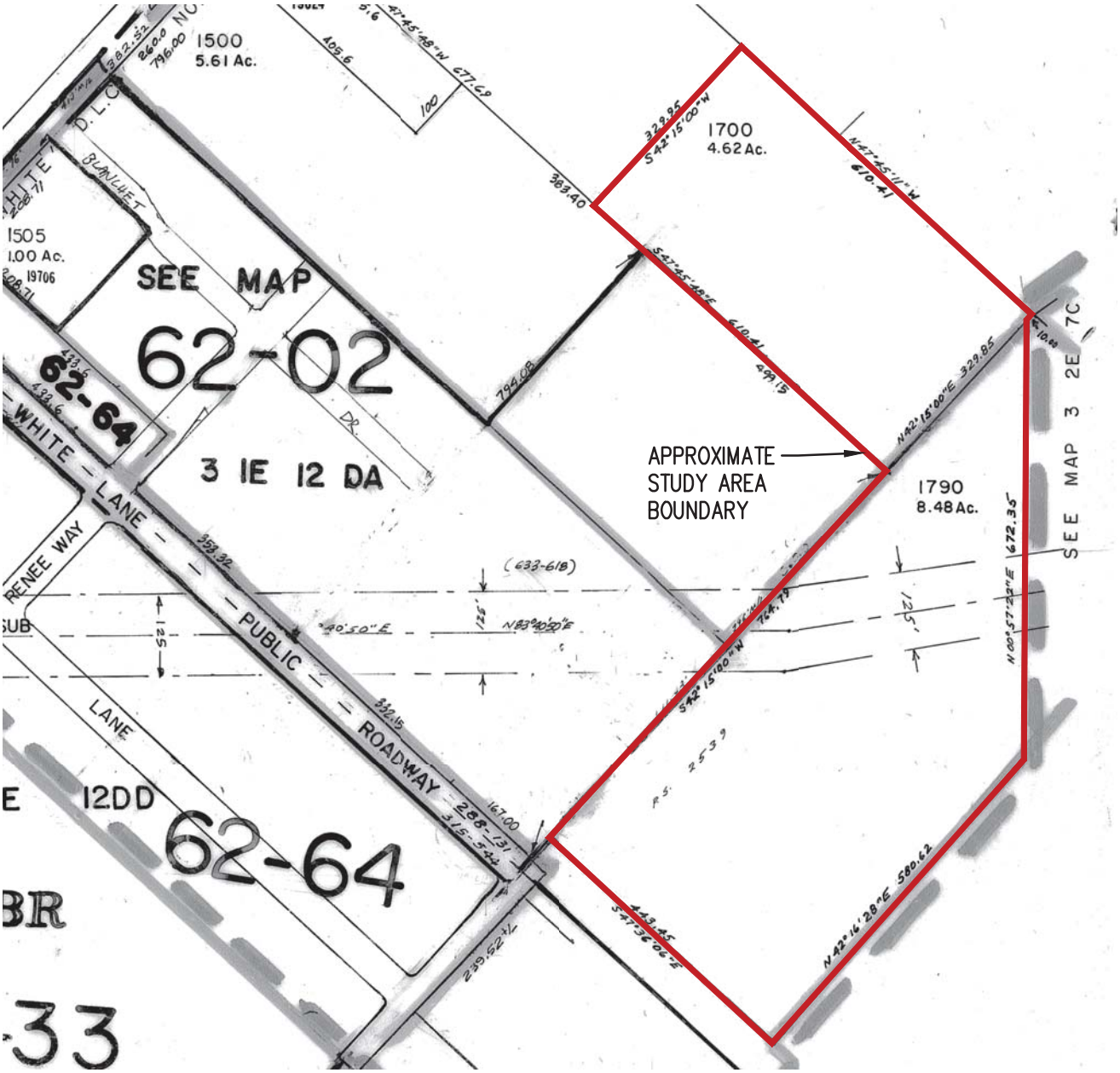
250 0 250

TAX MAP 3 2E 7C
PORTION OF TAX LOTS
1001, 1100, 1180, 1291

DATE: 03/20/2017

TAX MAP (MAP 3 2E 7C) WHEELER FARMS NATURAL RESOURCE ASSESSMENT	FIGURE 2A
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD SUITE 100 TUALATIN, OR 97062 www.aks-eng.com PHONE: 503.563.6151 FAX: 503.563.6152	DRWN: KMK CHKD: SAR AKS JOB: 5621

DWG: 5621 REPORT FIGURES | FIGURE 2A



TAX MAP 3 1E 12D
PORTION OF TAX LOTS
1700 AND 1790

N

SCALE 1" = 250 FEET

250 0 250

DATE: 03/20/2017

TAX MAP (MAP 3 1E 12D) WHEELER FARMS NATURAL RESOURCE ASSESSMENT	FIGURE 2B
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD SUITE 100 TUALATIN, OR 97062 www.aks-eng.com PHONE: 503.563.6151 FAX: 503.563.6152	DRWN: KMK CHKD: SAR AKS JOB: 5621

DWG: 5621 REPORT FIGURES | FIGURE 2B



MAP UNIT SYMBOL	MAP UNIT NAME
8B	BORNSTEDT SILT LOAM, 0% – 8% SLOPES; NON-HYDRIC
46B	JORY STONY SILT LOAM, 3% – 8% SLOPES; NON-HYDRIC
92F	XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP; NON-HYDRIC

NRCS WEB SOIL SURVEY FOR
CLACKAMAS COUNTY

N

SCALE: 1"= 250 FEET

250 0 100 150 200 250

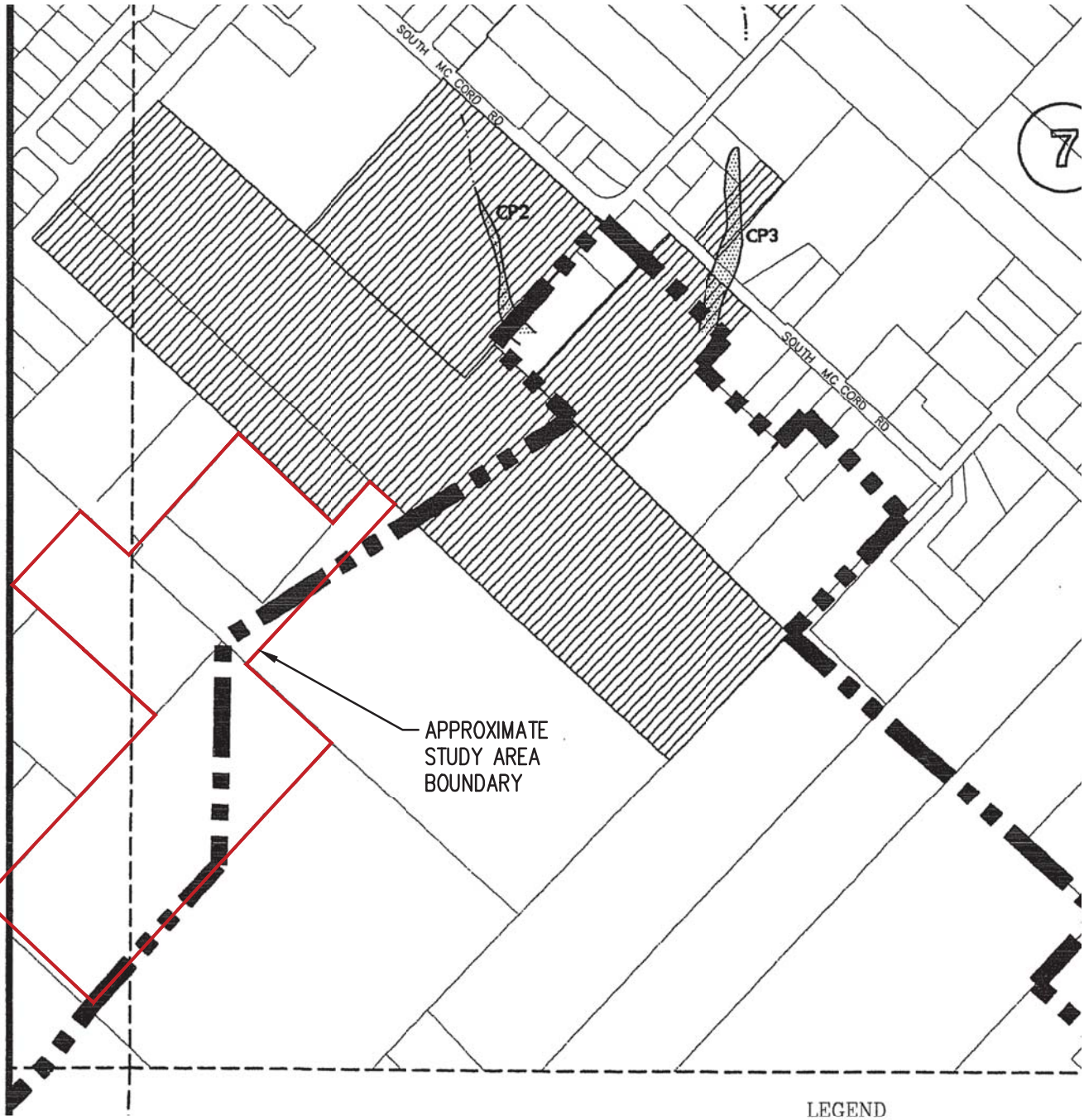
DATE: 03/20/2017

SOIL SURVEY MAP
WHEELER FARMS NATURAL RESOURCE ASSESSMENT

FIGURE 3

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
TUALATIN, OR 97062 www.aks-eng.com
PHONE: 503.563.6151 FAX: 503.563.6152

DRWN: KMK
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OREGON CITY LOCAL WETLAND INVENTORY, 1999
PAGE 7

NOTE: OLD UGB LINE FROM 1999

LEGEND

- Urban Growth Boundary
- Wetland
- AC2 Wetland label
- FCR1 Riparian label
- Sample site
- DSL DET wetland
- DSL DET 31-0569 DSL label
- Mitigation wetland
- Site access not granted
- Stream

DATE: 03/20/2017

N

SCALE: 1"= 500 FEET

500 0 200 300 400 500

LOCAL WETLAND INVENTORY MAP (LWI)
WHEELER FARMS NATURAL RESOURCE ASSESSMENT

FIGURE **4A**

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
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PHONE: 503.563.6151 FAX: 503.563.6152

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OREGON CITY LOCAL WETLAND
INVENTORY, 1999
PAGE 12

LEGEND

- Urban Growth Boundary
- Wetland
- AC2 Wetland label
- FCR1 Riparian label
- .46 Sample site
- DSL DET wetland
- DSL DET 97-0569 DSL label
- Mitigation wetland
- Site access not granted
- Stream

NOTE: OLD UGB LINE FROM 1999

STUDY AREA EXTENDS OFF MAP
(SEE FIGURE 4A)

APPROXIMATE
STUDY AREA
BOUNDARY

N

SCALE: 1"= 500 FEET

500 0 200 300 400 500

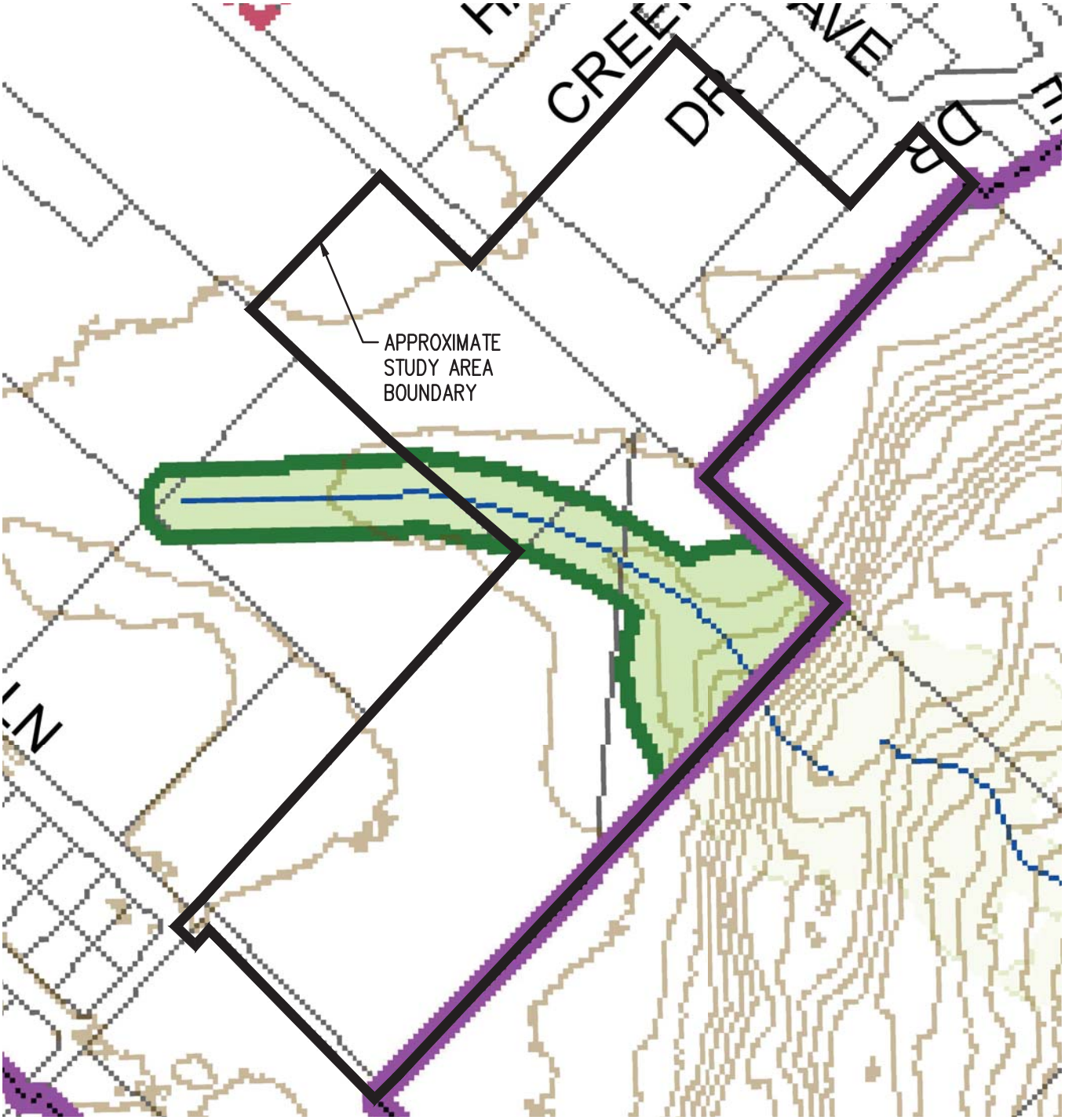
DATE: 03/20/2017

LOCAL WETLAND INVENTORY MAP (LWI)
WHEELER FARMS NATURAL RESOURCE ASSESSMENT

FIGURE
4B

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
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PHONE: 503.563.6151 FAX: 503.563.6152

DRWN: KMK
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OREGON CITY GIS NROD MAP

UGB
City Limits
Contours - 10 ft
Streams - piped
Perrenial Streams
Intermittent Streams
NROD Boundary
Taxlots
NROD Boundary (2009 Title13)
RIV_FILL

N

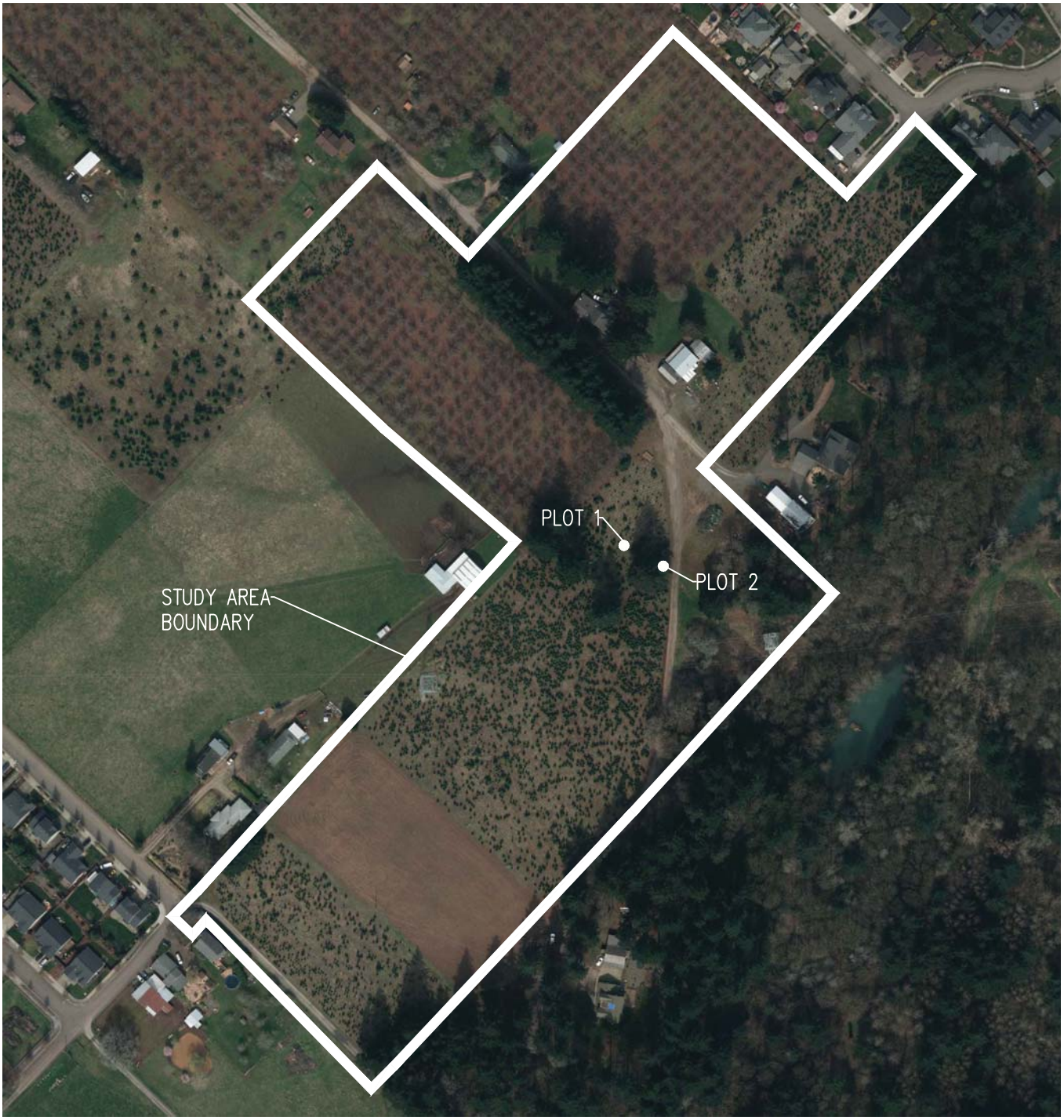
SCALE: 1"= 250 FEET

250 0 100 150 200 250

DATE: 03/20/2017

OREGON CITY GIS NROD MAP WHEELER FARMS NATURAL RESOURCE ASSESSMENT	FIGURE 5
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD SUITE 100 TUALATIN, OR 97062 www.aks-eng.com PHONE: 503.563.6151 FAX: 503.563.6152	DRWN: KMK CHKD: SAR AKS JOB: 5621

DWG: 5621 REPORT FIGURES | FIGURE 5



PLOT LOCATIONS SHOWN WERE DETERMINED BY AKS ENGINEERING & FORESTRY, LLC ON 3/15/2017. PLOT LOCATIONS ARE APPROXIMATE BASED ON FIELD OBSERVATIONS.

N

SCALE: 1"= 250 FEET

250 0 100 150 200 250

DATE: 03/20/2017

FIGURE 6

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
TUALATIN, OR 97062 www.aks-eng.com
PHONE: 503.563.6151 FAX: 503.563.6152

DRWN: KMK
CHKD: SAR
AKS JOB: 5621

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE I NATURAL RESOURCE OVERLAY DISTRICT VERIFICATION
May 19, 2017

FILE NUMBER:	NR 17-03: Type I Natural Resource Overlay District Verification
APPLICANT:	Rian Park Development, Inc. P.O. Box 2559 Oregon City, OR 97045
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CONSULTANT:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062
REQUEST:	The applicant submitted a request for a Type I Natural Resource Overlay District Verification with a professionally prepared assessment to demonstrate that the subject site is not within the Natural Resource Overlay District.
LOCATION:	NO SITUS ADDRESS: Clackamas County Tax Map: 32E07C, Tax Lots: 1001, 1180, & 1291 / 31E12D, Tax Lots: 1700 & 1790; and 19566 Central Point Rd, Oregon City, OR 97045, Clackamas County Tax Map: 32E07C, Tax Lot 1100
ZONING:	"R-10", Single Family Residential District
DECISION:	Approval
REVIEWER:	Pete Walter, AICP, Planner
CRITERIA:	OCMC Chapter 17.49 – Natural Resource Overlay District OCMC Chapter 17.50 – Administration and Procedures

Type I decisions do not require interpretation or the exercise of policy or legal judgment in evaluating approval criteria and include lot line adjustments, zone changes upon annexation as provided in Section 17.06.050 for which there is no discretion provided, final plats, and final planned unit development plans where there are no material deviations from the approved preliminary plans. Because no discretion is involved, Type I decisions do not qualify as a land use, or limited land use, decision. The decision-making process requires no notice to any party other than the applicant. One representative from each of the city-recognized neighborhood associations, who has been identified by the neighborhood coordinator, will be distributed a monthly compilation of all Type I activities. The Community Development Director's decision is final and not appealable by any party through the normal city land use process. IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722.3789.

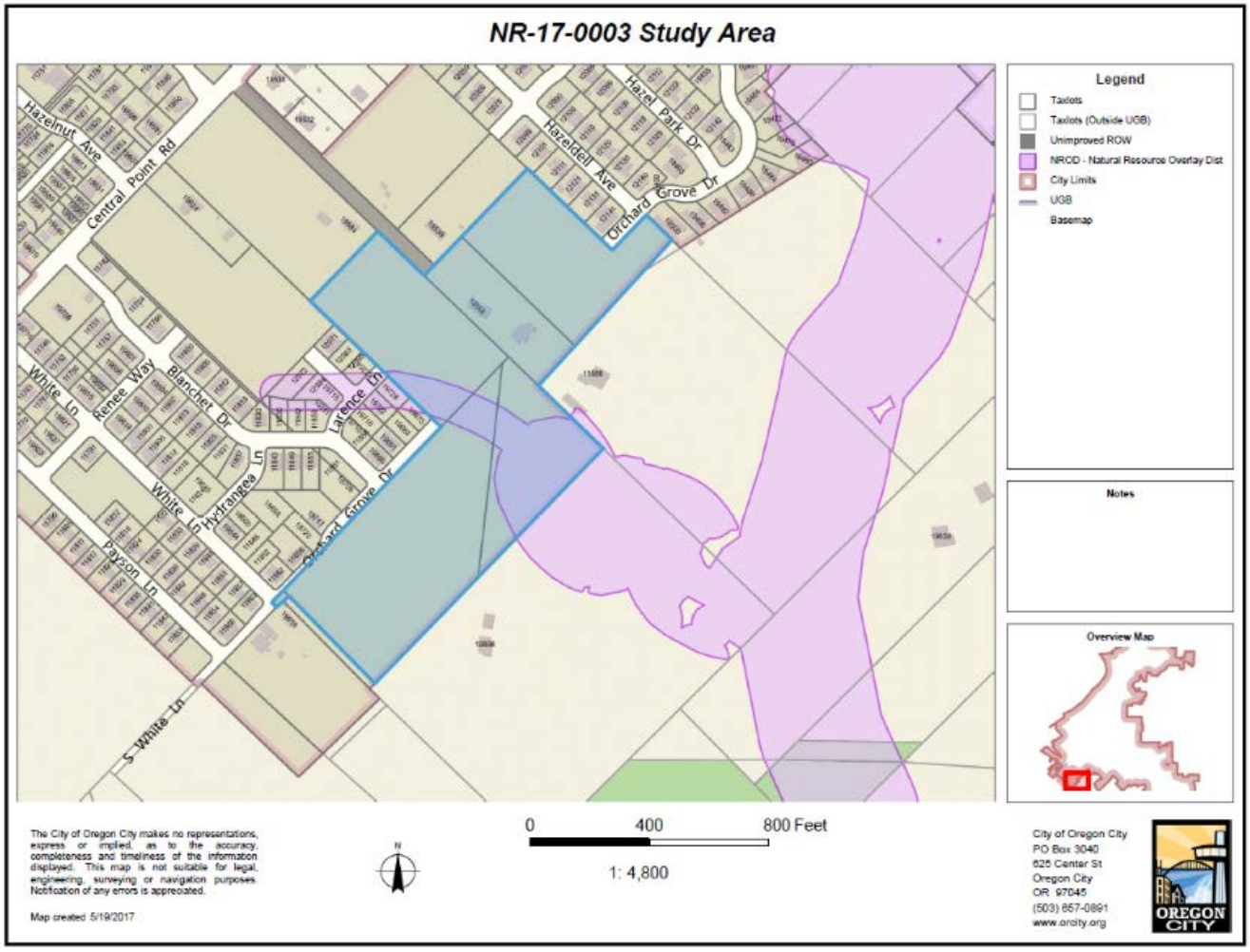
I. BACKGROUND

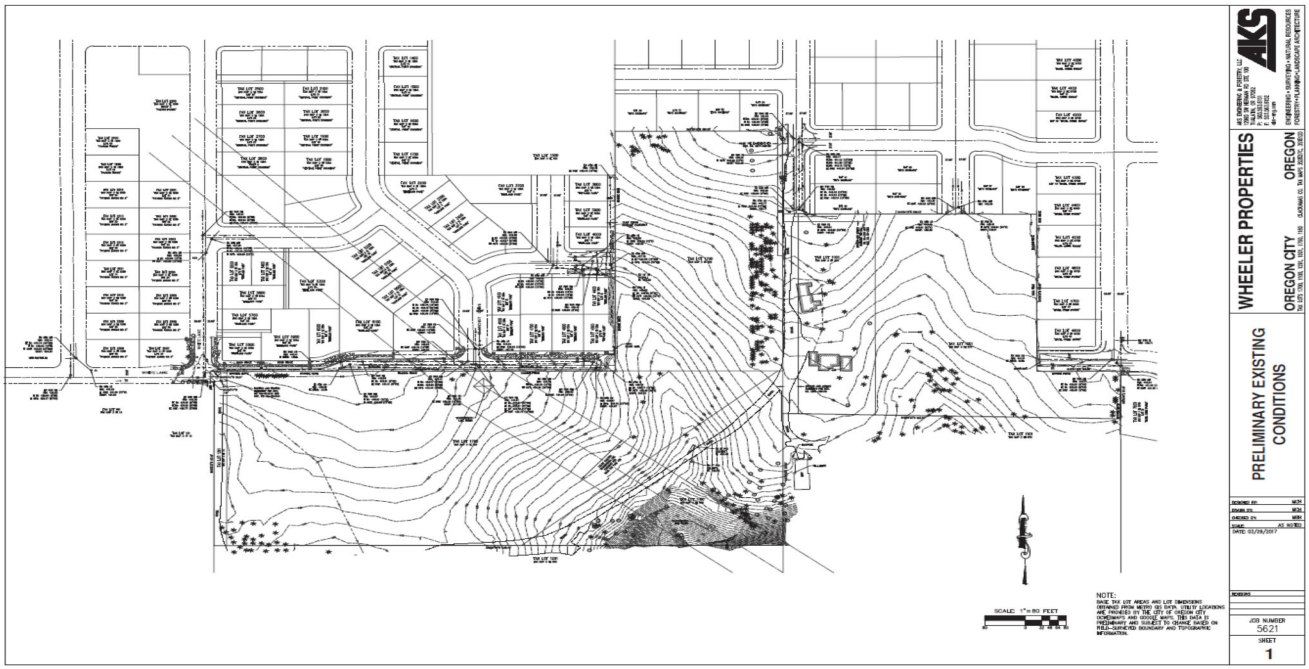
The subject properties are located southeast of Central Point Road on the southern boundary of the City. The area was historically pastureland, Christmas trees and orchard land that was brought into the Metro Urban Growth Boundary in 2001 or earlier in 1979. The lands in question were annexed to Oregon City in 2006 (File AN 16-02) and have a zoning designation of R-10 Single Family Residential. There has been a lot of recent subdivision and home construction in the area over the last 10 years abutting the site to the northwest, and it is anticipated that this land will be used in the same manner.

As shown in Figure 1, the subject site is partially located within the mapped Natural Resource Overlay District (NROD), and is thus subject to review by the City of Oregon City to ensure adequate protection of nearby water features and associated vegetated corridors.

The Oregon City Municipal Code protects degradation of water features enforcing a vegetated corridor consisting of native plantings adjacent to the identified feature (e.g. stream or wetland) to improve water quality and functions. The applicant has requested an exemption from the Natural Resource Overlay District. Approval of this verification application would exempt the property from further NROD review pursuant with Chapter 17.49 of the Oregon City Municipal Code.

Figure 1: Subject Site and Mapped NROD





II. ANALYSIS AND FINDINGS

CHAPTER 17.49 NATURAL RESOURCE OVERLAY DISTRICT

17.49.250 Verification of NROD Boundary

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

Finding: Applicable. The City of Oregon City's maps show a perennial stream that originates off-site to the west and flows into the center of the subject site. A Natural Resource Assessment dated April 3, 2017 has been prepared concluding that no potentially jurisdictional Title 3 wetlands or waters, or associated vegetated corridors were documented on-site and that the stream identified in the City's mapping is not present on the subject property. No development is associated with this application and it has been determined that a Type I NROD Verification application can accomplish the requested concurrence that the subject property is not in an NROD area.

17.49.255 - Type I verification.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.

Finding: Complies as Proposed. The applicant submitted a Natural Resource Assessment prepared by Lindsey Obermiller, Natural Resource Specialist, including site plans in accordance with Section 17.49.220, as applicable. The Natural Resource Assessment included in the application materials includes site plans and conclusions that no evidence of the characteristics found in criteria B.1. – B.6. exist on the subject site.

B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:
1. No soil, vegetation, hydrologic features have been disturbed;
2. No hydrologic features have been changed;
Finding: Complies as proposed. The applicant has not requested that the Community Development Director make this determination. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant provides the necessary evidence that the criteria for exemption are met.

3 There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.
Finding: Complies as Proposed. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant identify that the site did not have any observable water marks, swash lines, drift lines on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation in the vicinity of the steel building onsite.

4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.
Finding: Complies as Proposed. The City's local wetland inventory and NROD map do not identify a wetland at the property. The Natural Resources Assessment and Wetland Delineation Data Forms submitted by the applicant also conclude that the site and adjacent locations do not possess any jurisdictional Title 3 wetlands or waters, or associated vegetated corridors.

5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.
Finding: Complies as Proposed. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant identify that the site did not contain evidence of perennial or intermittent stream or other protected water features.

6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.
There is an existing physical barrier between the site and a protected water feature, including:
a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.
b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.
Finding: Complies as proposed. The Highland Park subdivision uphill and abutting the property received land use approval which included a prior NROD exemption regarding the subject mapped resource (Planning File TP 15-01, NR 14-08).

C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.6. above are met the verification application shall be denied. An applicant may then opt to apply for a verification through the Type II process defined below.
Finding: Not Applicable. The applicant's submittal adequately demonstrates that a protected feature and associated vegetated buffer are not present onsite, and that the criteria in subsections B.1-B.6 are met. A Type II verification is not required.

17.49.260. Type II Verification
Finding: Not Applicable. The application does not include a Type II Verification request.

17.49.265 - Corrections to violations.
For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met then the applicant's remediation plan shall demonstrate that there will be:
A. No permanent loss of any type of resource or functional value listed in Section 17.49.10, as determined by a qualified environmental professional;
B. A significant improvement of at least one functional value listed in section 17.49.10, as determined by a qualified environmental professional; and
C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.
Finding: Not Applicable. No violations have been reported. Therefore, a remediation plan for the violation is not required.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES
17.50.030 Summary of the City's Decision-Making Processes.
Finding: Complies as Proposed. The Natural Resource Overlay District verification application is being reviewed pursuant to the Type I process.

III. CONCLUSION AND DECISION

Based on the analysis and findings presented in this report, and the substantial evidence in the application materials, the properties identified are exempt from further review under Chapter 17.49 of the Oregon City Municipal Code. Though the site is exempt from further NROD review, portions of the property also fall within the Geologic Hazards Overlay District and development is subject to compliance with OCMC Chapter 17.44, *Geologic Hazards* at the time of land division application.

EXHIBITS

1. Vicinity Map (On File)
2. Map of the Site and Natural Resources Overlay District (On File)
2. Applicant's Submittal (On File)

Attachment A: Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: 5621: Wheeler Farms City/County: Oregon City/ Clackamas Sampling Date: 3/15/2017

Applicant/Owner: Rian Park Development State: OR Sampling Point: 1

Investigator(s): Kayla Katkin and Lindsey Obermiller Section, Township, Range: 3 1E 12D

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <3%

Subregion (LRR): A, Northwest Forests and Coast Lat: Long: Datum:

Soil Map Unit Name: Jory Stony Silt Loam, 3%-8% Slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are Vegetation ,Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ,Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Wetland Hydrology Present?	Yes	No X	

Precipitation: According to the AgACIS Oregon City station, 1.30 inches of rainfall was received on the day of the site visit and 4.32 inches within the two weeks prior. Rainfall conditions received prior to site visit were above normal.

Remarks: Plot taken at low spot in tree farm area in the vicinity of the NROD mapped stream.

VEGETATION

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 10' r)			
1. *Pseudotsuga menziesii*	40%	Yes	FACU
2. *Rubus armeniacus*	10%	Yes	FAC
3.			
4.			
5.			
	50% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Agrostis capillaris*	75%	Yes	FAC
2. *Daucus carota*	10%	No	FACU
3. *Hypochaeris radicata*	10%	No	FACU
4. *Plantago lanceolata*	2%	No	FACU
5. *Holcus lanatus*	2%	No	FAC
6. *Geranium molle*	2%	No	NOL
7.			
8.			
9.			
10.			
11.			
	101% = Total Cover		
Woody Vine Stratum (Plot size: 10' r)			
1.			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	87	x 3 =	261
FACU species	62	x 4 =	248
UPL species	2	x 5 =	10
Column Totals:	151 (A)		519 (B)

Prevalence Index = B/A = 3.44

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks: Shrub layer *Pseudotsuga menziesii are planted for Christmas tree farm.*

SOIL

Sampling Point: **1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16+	10YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___	
Water Table Present?	Yes ___	No X	Depth (inches): >16"	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): >16"	**Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: 5621: Wheeler Farms City/County: Oregon City/ Clackamas Sampling Date: 3/15/2017

Applicant/Owner: Rian Park Development State: OR Sampling Point: 2

Investigator(s): Kayla Katkin and Lindsey Obermiller Section, Township, Range: 3 1E 12D

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <3%

Subregion (LRR): A, Northwest Forests and Coast Lat: Long: Datum:

Soil Map Unit Name: Jory Stony Silt Loam, 3%-8% Slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are Vegetation ,Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ,Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X
Hydric Soil Present?	Yes	No X
Wetland Hydrology Present?	Yes	No X

Is the Sampled Area within a Wetland? Yes No X

Precipitation: According to the AgACIS Oregon City station, 1.30 inches of rainfall was received on the day of the site visit and 4.32 inches within the two weeks prior. Rainfall conditions received prior to site visit were above normal.

Remarks: Plot taken in low area, just outside of tree farm area in vicinty of NROD mapped stream. Approxiamtely 6" lower in elevation than Plot 1.

VEGETATION

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pseudotsuga menziesii*	25%	Yes	FACU
2.			
3.			
4.			
	25% = Total Cover		
Sapling/Shrub Stratum (Plot size: 10' r)			
1. *Pseudotsuga menziesii*	30%	Yes	FACU
2. *Rubus armeniacus*	5%	No	FAC
3.			
4.			
5.			
	35% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Agrostis capillaris*	70%	Yes	FAC
2. *Daucus carota*	10%	No	FACU
3. *Hypochaeris radicata*	10%	No	FACU
4. *Holcus lanatus*	5%	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95% = Total Cover		
Woody Vine Stratum (Plot size: 10' r)			
1.			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 5%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	130 (A)		440 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No X

Remarks: Shrub layer *Pseudotsuga menziesii* are planted for Christmas tree farm.

SOIL

Sampling Point: **2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					SiL	
6-14	10YR 3/3	98	7.5YR 4/4	2	C	M, PL	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___	
Water Table Present?	Yes ___	No X	Depth (inches): >14"	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): >14"	**Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Attachment B: Representative Site Photographs



Photo A. View south of Plot 2. Plot 2 is located just outside of the densely planted Christmas tree farm at the lowest point within the mapped NROD area.



Photo B. View facing north within Christmas tree farm.



Photo C. View south of driveway that extends through mapped NROD area.



Photo D. View north of Plot 1. Plot 1 is located within the Christmas tree farm in the vicinity of the mapped NROD area.

Photos taken by Kayla Katkin, March 15, 2017

Exhibit K: Preliminary Stormwater Report

Wheeler Farms
Oregon City, Oregon

Preliminary Stormwater Report

Date:	June 2017
Client:	Rian Park Development, Inc.
Engineering Contact:	Monty Hurley, PE, PLS
Engineering Firm:	AKS Engineering & Forestry, LLC
AKS Job No.:	5621



RENEWAL DATE: 6/30/17

AKS ENGINEERING & FORESTRY

12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: (503) 563-6151
www.aks-eng.com

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APPENDIX 9-1 UPSTREAM TRIBUTARY DRAINAGE MAP

Preliminary Stormwater Report
WHEELER FARMS SUBDIVISION
OREGON CITY, OREGON

1.0 Purpose of Report
The purpose of this report is to document the stormwater analysis for the subject site, the sources of information upon which the analysis was based, the design methodology, and the results of the analysis.

2.0 Project Location/Description
The proposed development comprises approximately 22.56± acres in the City of Oregon City, Clackamas County, Oregon. The development will encompass Tax Lots 1001, 1100, 1180, and 1291 of Clackamas County Assessor's Map 3 2E 07C and Tax Lots 1700 and 1790 of Clackamas County Assessor's Map 3 1E 12D.

3.0 Regulatory Design Criteria
3.1 STORMWATER QUANTITY MANAGEMENT CRITERIA
The stormwater quantity management criteria required by the Oregon City Public Works Stormwater and Grading Design Standards (February 2015) are summarized below:

> *Flow control facilities shall be designed so that the duration of peak flow rates from post-development conditions shall be less than or equal to the duration of peak flow rates from pre-development conditions for all peak flows between 42 percent of the 2-year peak flow rate up to the 10-year peak flow rate. […] The BMP Sizing Tool addresses these flow control requirements to size stormwater management facilities.*

The BMP Sizing Tool was utilized to size stormwater quantity management facilities for this project.

3.2 STORMWATER QUALITY MANAGEMENT CRITERIA
The stormwater quality management criteria required by the Oregon City Public Works Stormwater and Grading Design Standards (February 2015) are summarized below:

> *Water quality facilities shall be designed to capture and treat 80 percent of the average annual runoff volume to the MEP [maximum extent practicable] with the goal of 70 percent total suspended solids removal. The treatment volume equates to a water quality design storm of 1.0 inch over 24 hours. The BMP Sizing Tool addresses these water quality requirements to size stormwater management facilities.*

The BMP Sizing Tool was utilized to size stormwater quality management facilities for this project.

3.3 FLOODPLAIN
There are no floodplains present on the subject site according to the Flood Insurance Rate Map (FIRM) produced by the Federal Emergency Management Agency (FEMA).

3.4 REQUIRED PERMITS
No permits are required for this project from the Oregon Department of State Lands (DSL) or the U.S. Army Corps of Engineers (USACE).

4.0 Infiltration Test Result

Per the Geotechnical Engineering Report prepared by GeoPacific Engineering, Inc. and dated June 16, 2017 open pit falling-head infiltration testing conducted on the planned stormwater facility (detention pond) location demonstrated a minimum measured infiltration rate of 0.06 inches per hour at a depth of 12.0 feet. The detention pond is planned to be installed at a depth of at least 12.0 feet. Therefore, an infiltration rate of 0.03 inches per hour will be utilized for the design (a safety factor of 2 is applied to the tested rate).

There were several other open pit falling-head infiltration testing conducted on the planned filtration vegetated swale locations and the average (not including the test results considered too high for materials observed) infiltration rate was 0.20 inches per hour. Therefore, an infiltration rate of 0.10 inches per hour was utilized for the design of the filtration vegetated swales (a safety factor of 2 is applied to the tested rate).

5.0 Sources of Information and Design Methodology

The Santa Barbara Urban Hydrograph (SBUH) Method was utilized for the stormwater conveyance system analysis of the subject site. This method utilizes the SCS Type 1A 24-hour storm. HydroCAD software aided in the analysis. The BMP Sizing Tool was utilized to size the stormwater management facilities.

6.0 Design Parameters

6.1 DESIGN STORM

6.1.1 Stormwater Management Facilities Design

The flow results contained in the BMP sizing report were utilized for the stormwater management facilities sizing and analysis.

6.1.2 Inlet and Conduit Sizing

The stormwater inlets (curb inlet catch basins) for the site will be placed according to the grading (at all low points in grade and other necessary locations) and adequately manage the stormwater for the site. The distance between curb inlet catch basins will generally be 400 feet or less.

The stormwater pipes will be sized using the SBUH method to adequately convey the 10-year (3.5-inch) storm event (gravity flow).

6.2 PRE-DEVELOPED SITE TOPOGRAPHY AND LAND USE

6.2.1 Site Topography

The site slopes toward southeast corner of the project, with slopes ranging from 1% to 25%.

6.2.2 Land Use

There is an existing single-family home on the site, as well as outbuildings, orchards, fields, and trees.

6.2.3 Pre-Developed Input Parameters

The input parameters for each subcatchment (basin) are shown in the appendices.

6.3 SOIL TYPE

The soils on this site consist of Bornstedt silt loam, Jory stony silt loam, Xerochrepts and Haploxerolls. Per the U.S. Department of Agriculture (USDA) Soil Survey for Clackamas County, these soil types belong to hydrologic soil group "C" and "B". Applicable soil information is provided in Appendix 7-1.

6.4 POST-DEVELOPED SITE TOPOGRAPHY AND LAND USE

6.4.1 Site Topography

The post-developed site topography will be altered from the pre-developed site topography to allow for the construction of streets and lots for the future construction of single-family detached homes. There are no substantial terrain alterations planned.

6.4.2 Land Use

The post-developed land use will consist of 77 lots conforming to R-8 zoning standards for detached single-family homes, as well as one tract for a stormwater facility, one tract for open space, and seven public streets.

6.4.3 Future Development

The project's stormwater facility is sized to provide stormwater quality and quantity for a future seven (7) lot development on the remainder of Tax Lot 1790 of Clackamas County Assessor's Map 3 1E 12D.

6.4.4 Post-Developed Input Parameters

Input parameters for each subcatchment (basin) and pond are shown in the appendices. The calculation method used to determine impervious area for the site post-development included measuring all impervious area within the new rights-of-way (streets, curbs, sidewalks, and driveway approaches) and adding 2,640 square feet of impervious area per lot (total of 84 lots).

6.5 DESCRIPTION OF OFF-SITE CONTRIBUTORY BASINS

There is an existing stormwater pipe that was installed with Highland Park subdivision (at the end of Larence Lane) to provide a stormwater connection point for future development on Tax Lots 1500 and 1501 (approximately 6.5 acres) of Clackamas County Assessor's Map 3 1E 12D. This existing pipe will connect to the stormwater conveyance system for this project.

7.0 Calculation Methodology

7.1 PROPOSED STORMWATER CONDUIT SIZING AND INLET SPACING

The proposed stormwater pipes will be sized during final engineering using the SBUH method to adequately convey the 10-year storm event (gravity flow). Inlets will be placed at all low points and will generally be spaced at 400 feet or less.

7.2 PROPOSED STORMWATER QUANTITY CONTROL (DETENTION) FACILITY DESIGN

The detention pond was sized with the BMP Sizing Tool to provide flow control for the stormwater runoff from impervious area within the new rights-of-way and lots. Stormwater quantity facility design parameters were determined from topographic survey information, aerial photographs, contours, design, and analysis. The detention pond was designed to address the stormwater quantity (detention) requirements of the Oregon City Public Works Stormwater and Grading Design Standards (February 2015).

7.3 PROPOSED STORMWATER QUALITY CONTROL FACILITY DESIGN

The detention pond was sized with the BMP Sizing Tool to provide water quality management for the stormwater runoff from future impervious areas on the lots. Filtration vegetated swales between the curb and sidewalk of streets within the development were sized using the BMP Sizing Tool to provide water quality management for stormwater runoff from impervious area within the new street right-of-ways.

Stormwater quality facility design parameters were determined from topographic survey information, aerial photographs, contours, design, and analysis. The filtration vegetated swales were designed to address the stormwater quality requirements of the Oregon City Public Works Stormwater and Grading Design Standards (February 2015).

7.4 ENERGY DISSIPATER CALCULATIONS

Riprap will be placed at the inlet of the pond to act as an energy dissipater. The riprap size will be a minimum of Class 50.

7.5 DOWNSTREAM ANALYSIS

The subject site is designated in the City's Drainage Master Plan to be located in the Beaver Basin.

The stormwater facility provides water quality and water quantity for the project. Peak flow will be detained and metered out at or below the existing downstream system capacity. The area of the project site is approximately 6.5% of the upstream tributary drainage area. Therefore, this project does not significantly impact downstream drainage capacity.

7.6 CULVERT ANALYSIS

No culverts are proposed with this project.

8.0 BMP Sizing Tool Summary

The stormwater from the site will be routed through a series of filtration vegetated swales, curb inlets, pipes, and manholes prior to reaching the stormwater facility in Tract B. There will be two main inlets and one outlet in the pond. The pond bottom (at the bottom of drain rock layer) will be at an elevation of 424.50 feet and the top of the pond will be at an elevation 431.00 feet. The pond outlet structure will have the following orifices per the BMP Sizing Tool model:

Table 8-1: Pond Outlet Structure Parameters

Pond Outlet	Size	Type	Invert Elevation
Orifice A	3.4" diameter	Round orifice	424.50
Orifice B	12.6" diameter	Round orifice	428.00
Riser C	24.0" diameter	Round orifice	429.75

Filtration vegetated swales will address the water quality treatment requirements for all impervious area within the new rights-of-way (streets, curbs, sidewalks, and driveway approaches). Per the BMP Sizing Tool report, 5,764 square feet of filtration vegetated swale is required. The planned total area of filtration vegetated swale within the new rights-of-way will exceed the required 5,764 square feet.

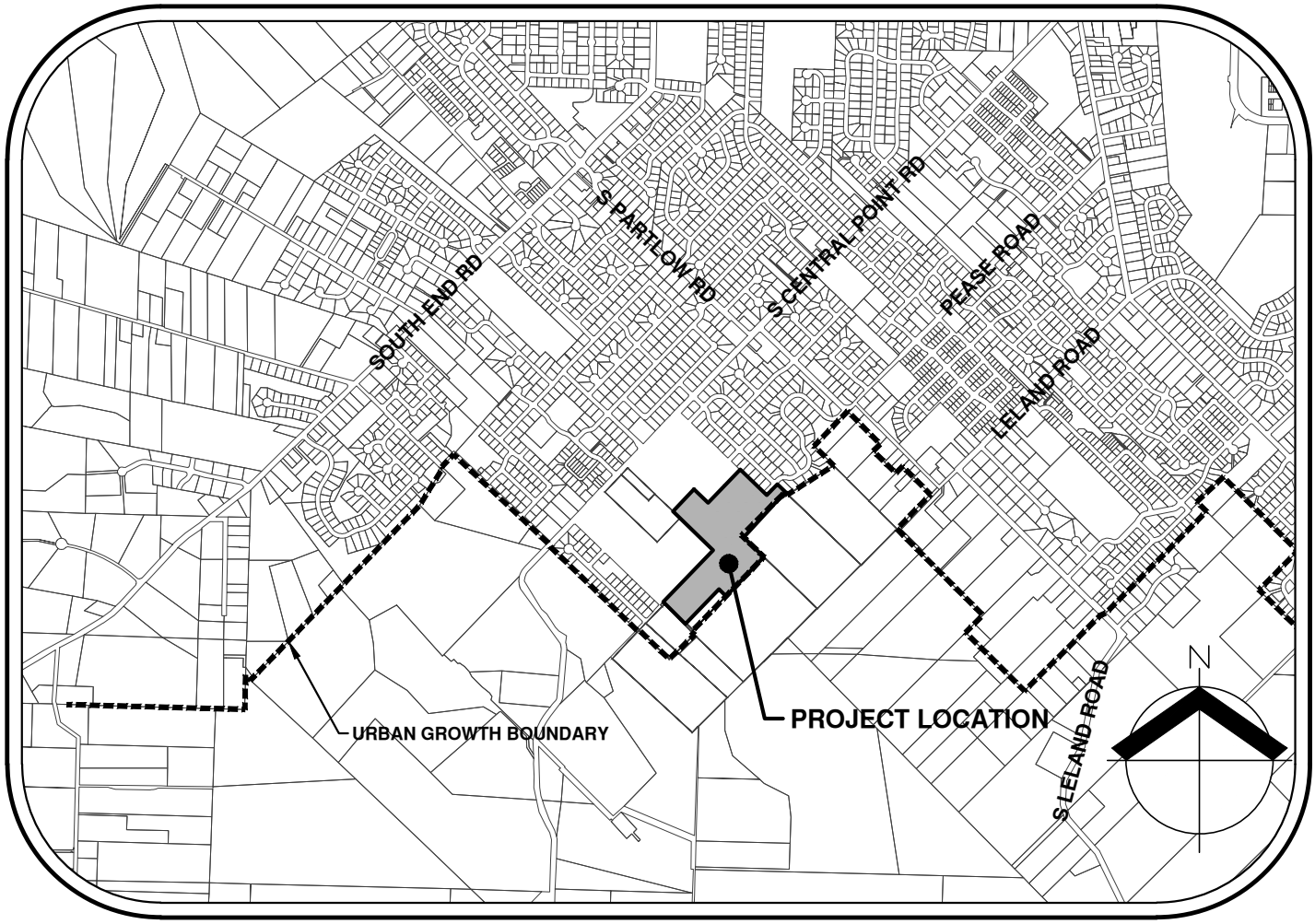
The project will adhere to the grading and compaction guidelines of the Oregon City Public Works Stormwater and Grading Design Standards (February 2015) to the maximum extent possible.

9.0 Stormwater Detention Pond Safeguards

Calculations for the 100-year storm event are included in the appendices. The stormwater pond is designed to adequately handle this storm event. If the outlet structure becomes plugged, or for some other reason cannot convey the stormwater, the stormwater will overflow through the emergency overflow (maintenance access driveway) and to the downstream conveyance system. The emergency overflows were sized to accommodate flows from the 100-year storm (assuming the outlet structure is plugged). There are no foreseen problems with this method.

APPENDIX 1-1

VICINITY MAP



VICINITY MAP

NOT TO SCALE

APPENDIX 2-1

PRE-DEVELOPED BASIN MAP



JOB NUMBER	5621
SHEET	
REVISIONS	
DESIGNED BY:	VMV/MMC
DRAWN BY:	MMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	08/29/2017

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
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P: 503.563.6151
F: 503.563.6152
aks-eng.com

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APPENDIX 3-1

POST-DEVELOPED BASIN MAP



JOB NUMBER	5621
SHEET	
REVISIONS	
DESIGNED BY:	VMV/MMC
DRAWN BY:	MMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	08/19/2017

TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

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APPENDIX 4-1

BMP SIZING TOOL REPORT

WES BMP Sizing Software Version 1.6.0.1, August 2015

WES BMP Sizing Report

Project Information

Project Name	Wheeler Farms
Project Type	Subdivision
Location	19566 Central Point Road, Oregon City
Stormwater Management Area	30000
Project Applicant	Rian Park Development, Inc.
Jurisdiction	OutofDistrict

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
Roof (77 Lots)	203,280	Forested	Roofs	C	Pond
Total Pervious Grass	249,972	Forested	Grass	C	Street Swale
Street, Sidewalk and Driveway Approach	186,750	Forested	ConventionalConcrete	C	Street Swale
Total Pervious Landscape	249,971	Forested	LandscapeCsoil	C	Street Swale
Future Roof (7 Lots)	18,480	Forested	Roofs	C	Pond

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
Street Swale	WaterQuality	Vegetated Swale - Filtration	C3	5,763.4	9,500.0	3.5

Pond Sizing Details

Pond ID	Design Criteria(1)	Facility Soil Type	Max Depth (ft)(2)	Top Area (sq-ft)	Side Slope (1:H)	Facility Vol. (cu-ft)(3)	Water Storage Vol. (cu-ft)(4)	Adequate Size?
Pond	FCWQT	D1	5.25	17,900.0	3	73,584.5	51,242.3	Yes

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only

2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation layer and growing media).

3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.

4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.

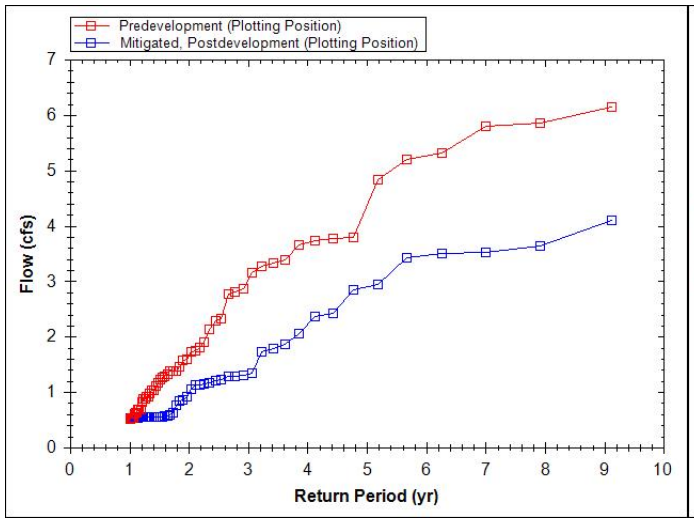
Custom Pond Geometry Configuration

Pond ID: Pond
Design: FlowControlAndTreatment

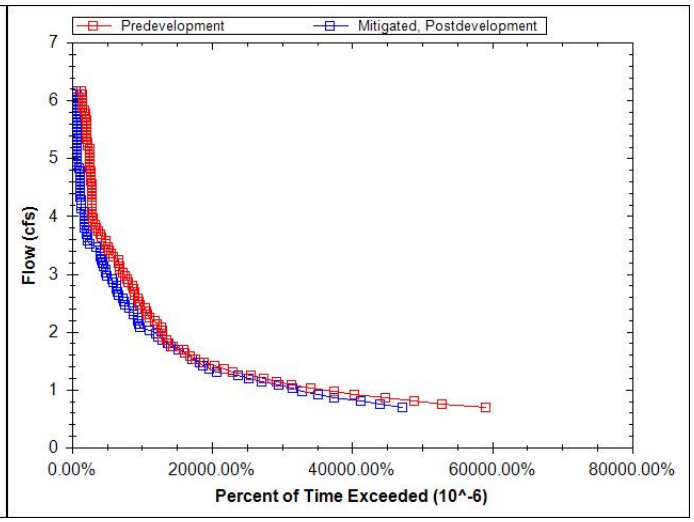
Shape Curve

Depth (ft)	Area (sq ft)	Discharge (cfs)
NaN	NaN	NaN

Flow Frequency Chart



Flow Duration Chart



BMP Sizing Tool

File

Project | Discharge Management Areas | Best Management Practices | Report | Warnings (2)

Add New Best Management Practice

Pond | Street Swale

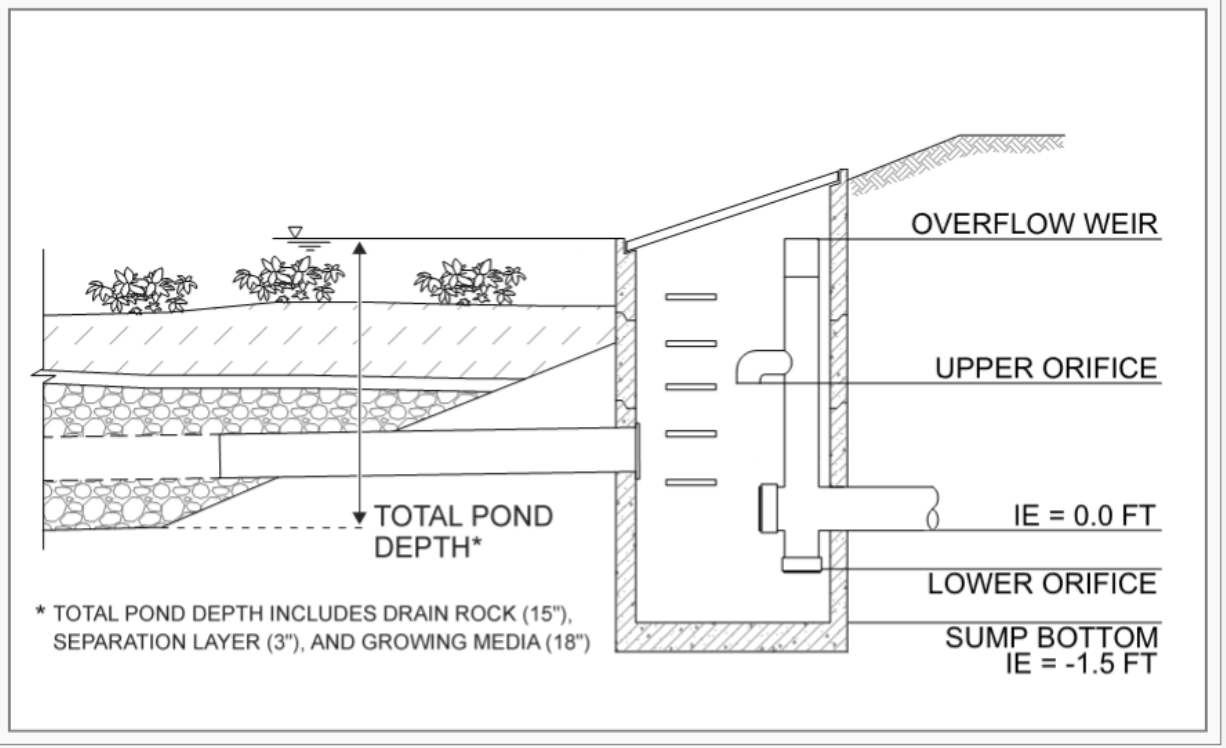
Detention Pond

Name	Pond
Facility Infiltration Rate	D1 (0.02 - 0.07 in/hr)
Treatment Type	Treatment and Flow Control

Geometry | Outlet Structure | Tributary Areas

Lower Orifice Diameter	3.4	in
Lower Orifice Invert	0.0	ft
Upper Orifice Diameter	12.6	in
Upper Orifice Invert	3.5	ft
Weir Length	6.3	ft
Weir Invert	4.3	ft

Facility Schematic | Flow Duration | Peak Flows



APPENDIX 5-1

STORMWATER FACILITIES LOCATION AND DETAIL



JOB NUMBER	5621
SHEET	
REVISIONS	
DESIGNED BY	VMV/MMC
DRAWN BY	MMC
CHECKED BY	MBH
SCALE	AS NOTED
DATE	08/29/2017

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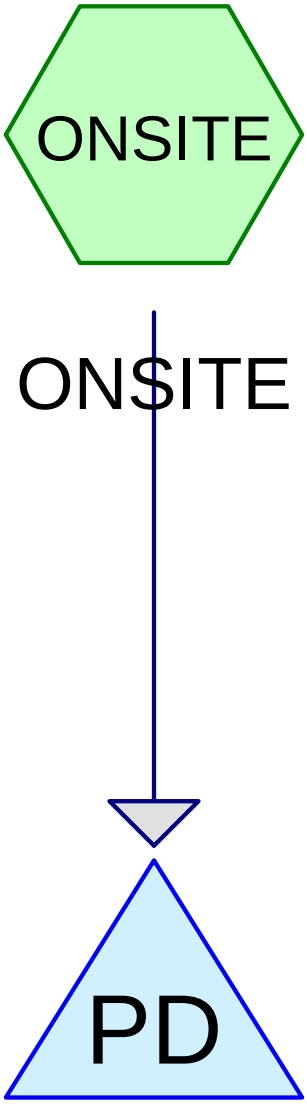
CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

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APPENDIX 6-1

EMERGENCY OVERFLOW CALCULATIONS



Detention Pond

Subcat Reach Pond Link

Drainage Diagram for 5621 Overflow HydroCad
Prepared by AKS Engineering & Forestry, LLC, Printed 6/7/2017
HydroCAD® 8.50 s/n 005096 © 2007 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
11.500	86	Pervious (ONSITE)
9.400	98	Impervious (ONSITE)
20.900		TOTAL AREA

Soil Listing (all nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
20.900	Other	ONSITE
20.900		TOTAL AREA

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ONSITE: ONSITE — Runoff Area=20.900 ac 44.98% Impervious Runoff Depth>3.53"
Flow Length=300' Slope=0.0200 '/' Tc=26.2 min CN=86/98 Runoff=13.84 cfs 6.155 af

Pond PD: Detention Pond — Peak Elev=430.66' Storage=52,110 cf Inflow=13.84 cfs 6.155 af
Outflow=13.43 cfs 5.089 af

Total Runoff Area = 20.900 ac Runoff Volume = 6.155 af Average Runoff Depth = 3.53"
55.02% Pervious = 11.500 ac 44.98% Impervious = 9.400 ac

Summary for Subcatchment ONSITE: ONSITE

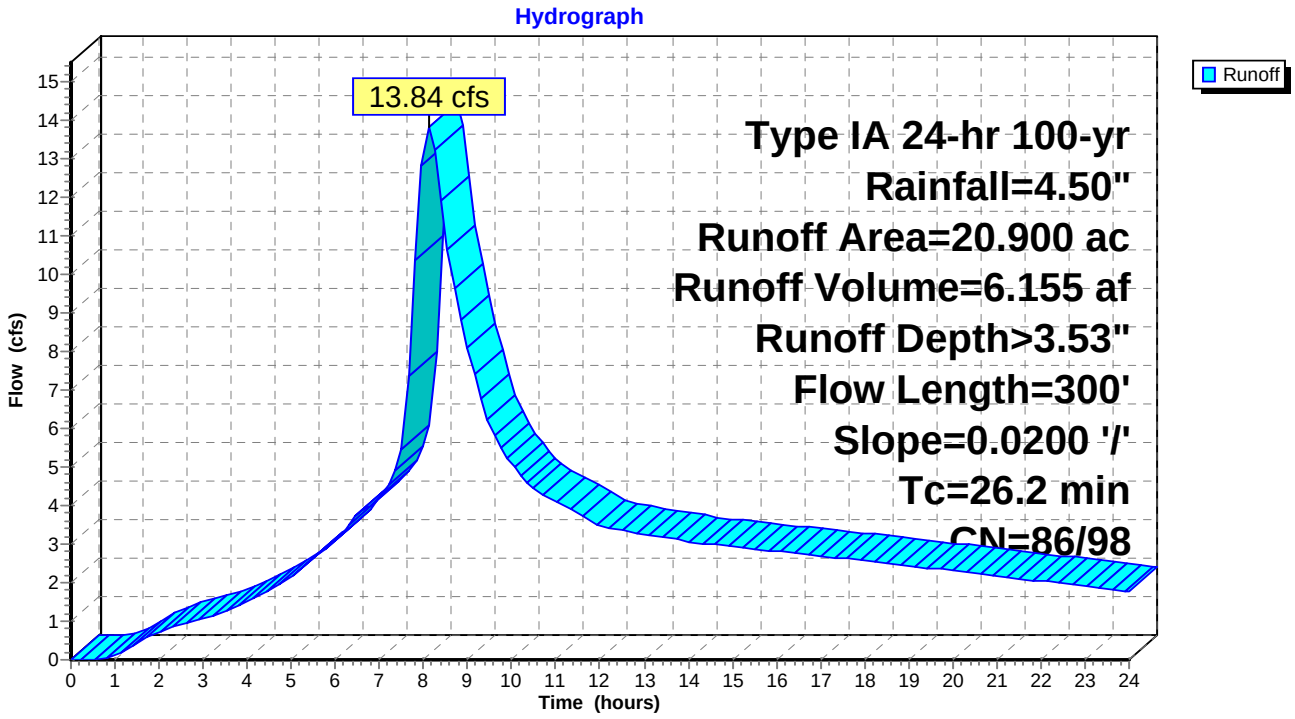
Runoff = 13.84 cfs @ 8.12 hrs, Volume= 6.155 af, Depth> 3.53"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
Type IA 24-hr 100-yr Rainfall=4.50"

	Area (ac)	CN	Description
*	11.500	86	Pervious
*	9.400	98	Impervious
	20.900	91	Weighted Average
	11.500	86	Pervious Area
	9.400	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.2	300	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment ONSITE: ONSITE



Summary for Pond PD: Detention Pond

Inflow Area = 20.900 ac, 44.98% Impervious, Inflow Depth > 3.53" for 100-yr event
Inflow = 13.84 cfs @ 8.12 hrs, Volume= 6.155 af
Outflow = 13.43 cfs @ 8.24 hrs, Volume= 5.089 af, Atten= 3%, Lag= 7.3 min
Primary = 13.43 cfs @ 8.24 hrs, Volume= 5.089 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
Peak Elev= 430.66' @ 8.24 hrs Surf.Area= 19,134 sf Storage= 52,110 cf

Plug-Flow detention time= 198.0 min calculated for 5.057 af (82% of inflow)
Center-of-Mass det. time= 87.7 min (805.5 - 717.8)

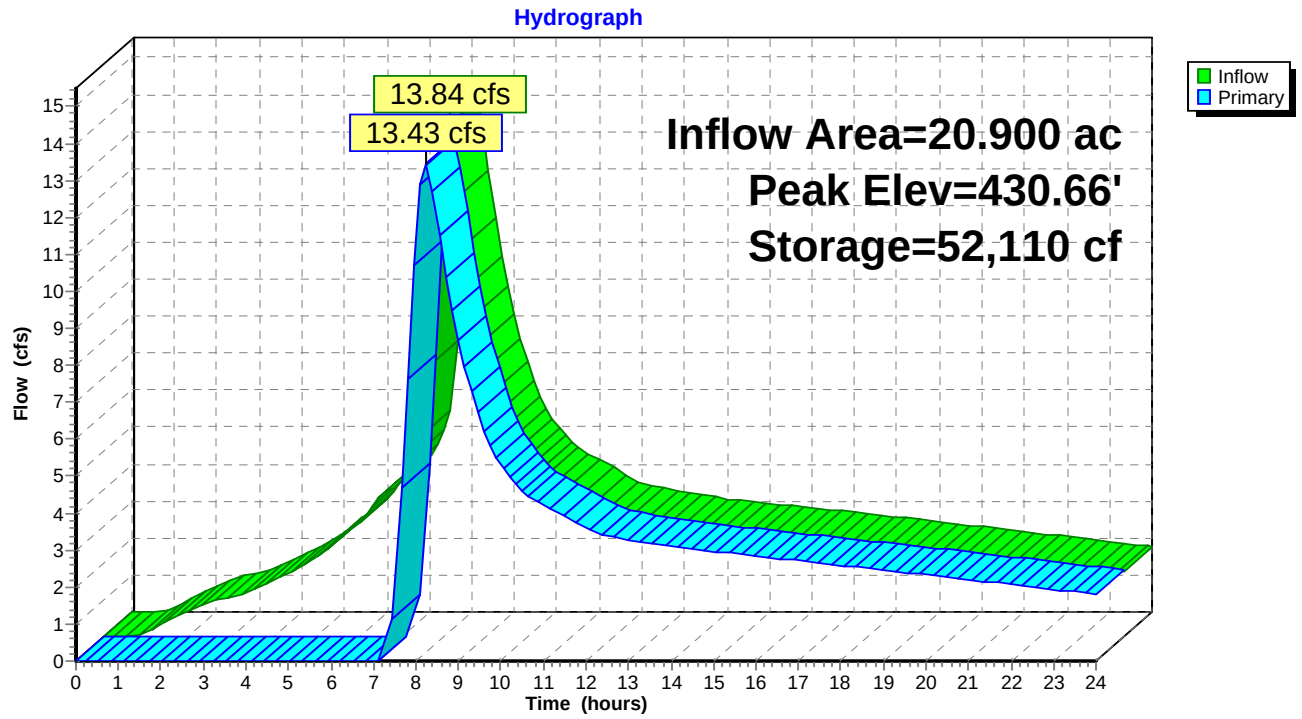
Volume	Invert	Avail.Storage	Storage Description
#1	427.50'	58,625 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
427.50	13,800	0	0
431.00	19,700	58,625	58,625

Device	Routing	Invert	Outlet Devices
#1	Primary	430.25'	20.0' long x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=13.37 cfs @ 8.24 hrs HW=430.66' (Free Discharge)
└1=Weir (Weir Controls 13.37 cfs @ 1.62 fps)

Pond PD: Detention Pond



APPENDIX 7-1

SOIL INFORMATION FROM THE USDA SOIL SURVEY OF CLACKAMAS COUNTY, OREGON

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Clackamas County Area, Oregon



April 14, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,130 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 11, Sep 16, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 26, 2014—Sep 5, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Clackamas County Area, Oregon (OR610)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
8B	Bornstedt silt loam, 0 to 8 percent slopes	9.9	44.2%
46B	Jory stony silt loam, 3 to 8 percent slopes	10.3	45.9%
92F	Xerochrepts and Haploxerolls, very steep	2.2	9.9%
Totals for Area of Interest		**22.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Clackamas County Area, Oregon

8B—Bornstedt silt loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 227t
Elevation: 300 to 650 feet
Mean annual precipitation: 48 to 65 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 140 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bornstedt and similar soils: 85 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bornstedt

Setting

Landform: Terraces, hillslopes
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve, tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed old alluvium

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 33 inches: silty clay loam
H3 - 33 to 71 inches: silty clay

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Other vegetative classification: Moderately Well Drained < 15% Slopes (G002XY004OR)
Hydric soil rating: No

Minor Components

Borges

Percent of map unit: 5 percent
Landform: Depressions on terraces, hillslopes

Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Aquults

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

46B—Jory stony silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2251
Elevation: 250 to 1,200 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Jory and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jory

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Base slope, interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium

Typical profile

H1 - 0 to 8 inches: stony silt loam
H2 - 8 to 48 inches: stony silty clay
H3 - 48 to 60 inches: stony silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Other vegetative classification: Well drained < 15% Slopes (G002XY002OR)
Hydric soil rating: No

92F—Xerochrepts and Haploxerolls, very steep

Map Unit Setting

National map unit symbol: 2281
Elevation: 50 to 1,000 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition

Xerochrepts and similar soils: 50 percent
Haploxerolls and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Xerochrepts

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from igneous rock

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 48 inches: gravelly clay loam
H3 - 48 to 60 inches: very cobbly clay loam

Properties and qualities

Slope: 20 to 60 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Haploxerolls

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Colluvium derived from igneous rock

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 60 inches: very gravelly loam

Properties and qualities

Slope: 20 to 60 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 36 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

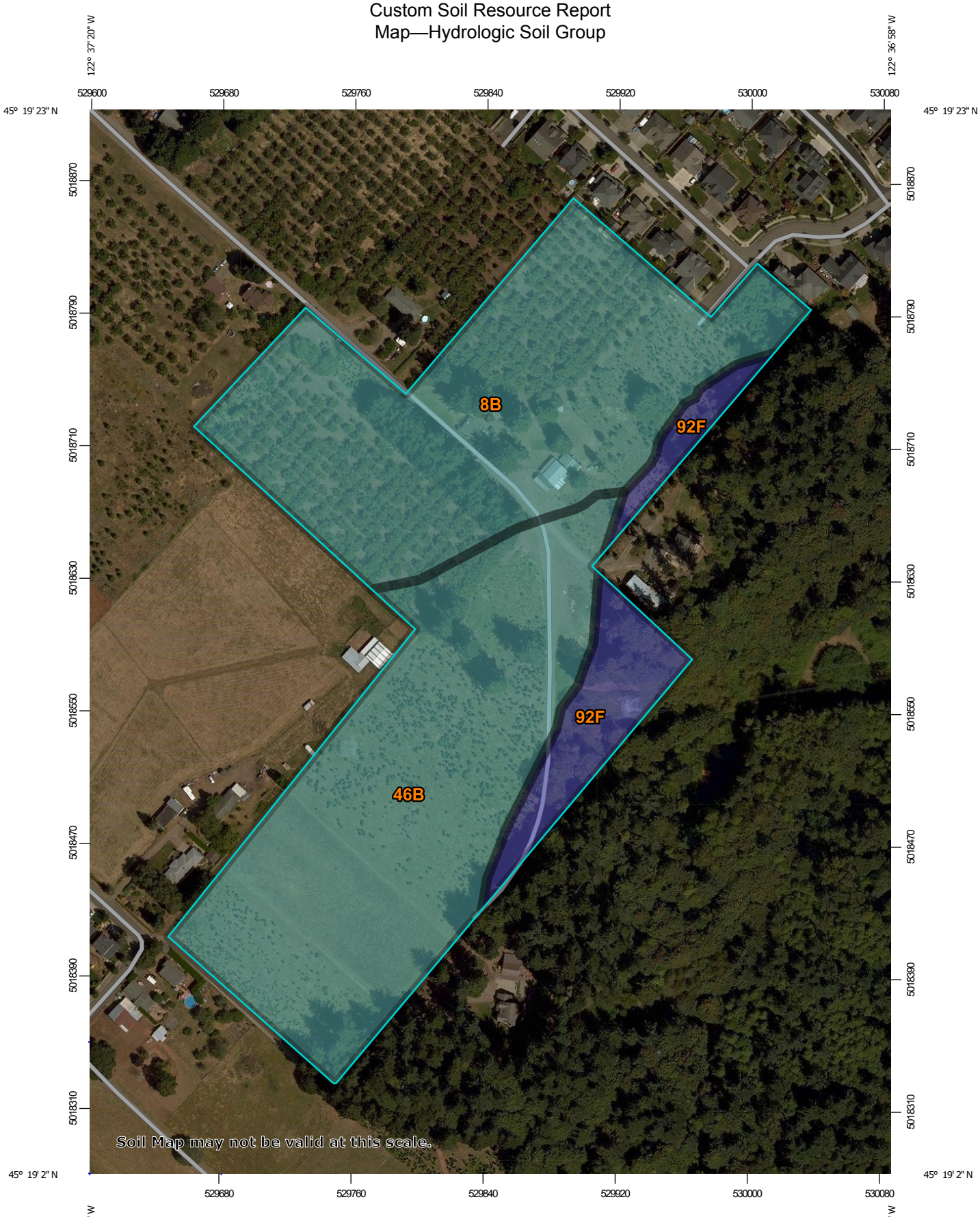
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



Map Scale: 1:3,130 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 45 90 180 270

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 11, Sep 16, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 26, 2014—Sep 5, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor

Table—Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Clackamas County Area, Oregon (OR610)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
8B	Bornstedt silt loam, 0 to 8 percent slopes	C	9.9	44.2%
46B	Jory stony silt loam, 3 to 8 percent slopes	C	10.3	45.9%
92F	Xerochrepts and Haploxerolls, very steep	B	2.2	9.9%
Totals for Area of Interest			**22.5**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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APPENDIX 8-1

RELEVANT INFORMATION

TABLE 3.5.2B SCS WESTERN WASHINGTON RUNOFF CURVE NUMBERS

SCS WESTERN WASHINGTON RUNOFF CURVE NUMBERS (Published by SCS in 1982)					
Runoff curve numbers for selected agricultural, suburban and urban land use for Type 1A rainfall distribution, 24-hour storm duration.					
LAND USE DESCRIPTION		CURVE NUMBERS BY HYDROLOGIC SOIL GROUP A	B	C	D
Cultivated land(1):	winter condition	86	91	94	95
Mountain open areas:	low growing brush and grasslands	74	82	89	92
Meadow or pasture:		65	78	85	89
Wood or forest land:	undisturbed or older second growth	42	64	76	81
Wood or forest land:	young second growth or brush	55	72	81	86
Orchard:	with cover crop	81	88	92	94
Open spaces, lawns, parks, golf courses, cemeteries, landscaping.					
good condition:	grass cover on 75% or more of the area	68	80	86	90
fair condition:	grass cover on 50% to 75% of the area	77	85	90	92
Gravel roads and parking lots		76	85	89	91
Dirt roads and parking lots		72	82	87	89
Impervious surfaces, pavement, roofs, etc.		98	98	98	98
Open water bodies:	lakes, wetlands, ponds, etc.	100	100	100	100
Single Family Residential (2)					
Dwelling Unit/Gross Acre	% Impervious (3)				
1.0 DU/GA	15	Separate curve number shall be selected for pervious and impervious portion of the site or basin			
1.5 DU/GA	20				
2.0 DU/GA	25				
2.5 DU/GA	30				
3.0 DU/GA	34				
3.5 DU/GA	38				
4.0 DU/GA	42				
4.5 DU/GA	46				
5.0 DU/GA	48				
5.5 DU/GA	50				
6.0 DU/GA	52				
6.5 DU/GA	54				
7.0 DU/GA	56				
Planned unit developments, condominiums, apartments, commercial business and industrial areas.	% impervious must be computed				

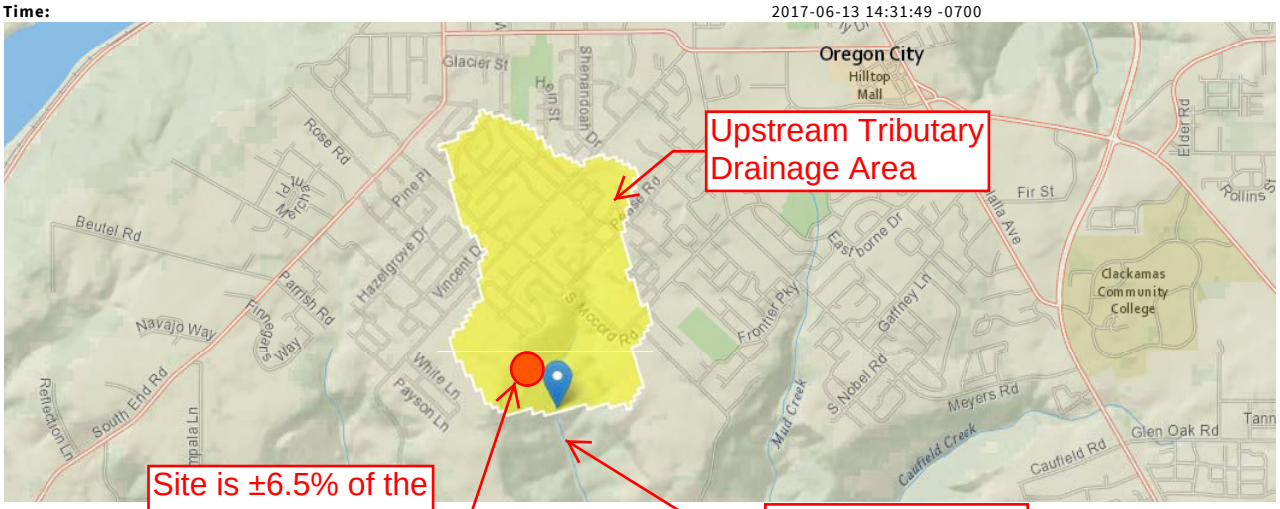
(1) For a more detailed description of agricultural land use curve numbers refer to National Engineering Handbook, Section 4, Hydrology, Chapter 9, August 1972.
(2) Assumes roof and driveway runoff is directed into street/storm system.
(3) The remaining pervious areas (lawn) are considered to be in good condition for these curve numbers.

APPENDIX 9-1

UPSTREAM TRIBUTARY DRAINAGE MAP

StreamStats Report

Region ID:	OR
Workspace ID:	OR20170613173107274000
Clicked Point (Latitude, Longitude):	45.31848, -122.61513
Time:	2017-06-13 14:31:49 -0700

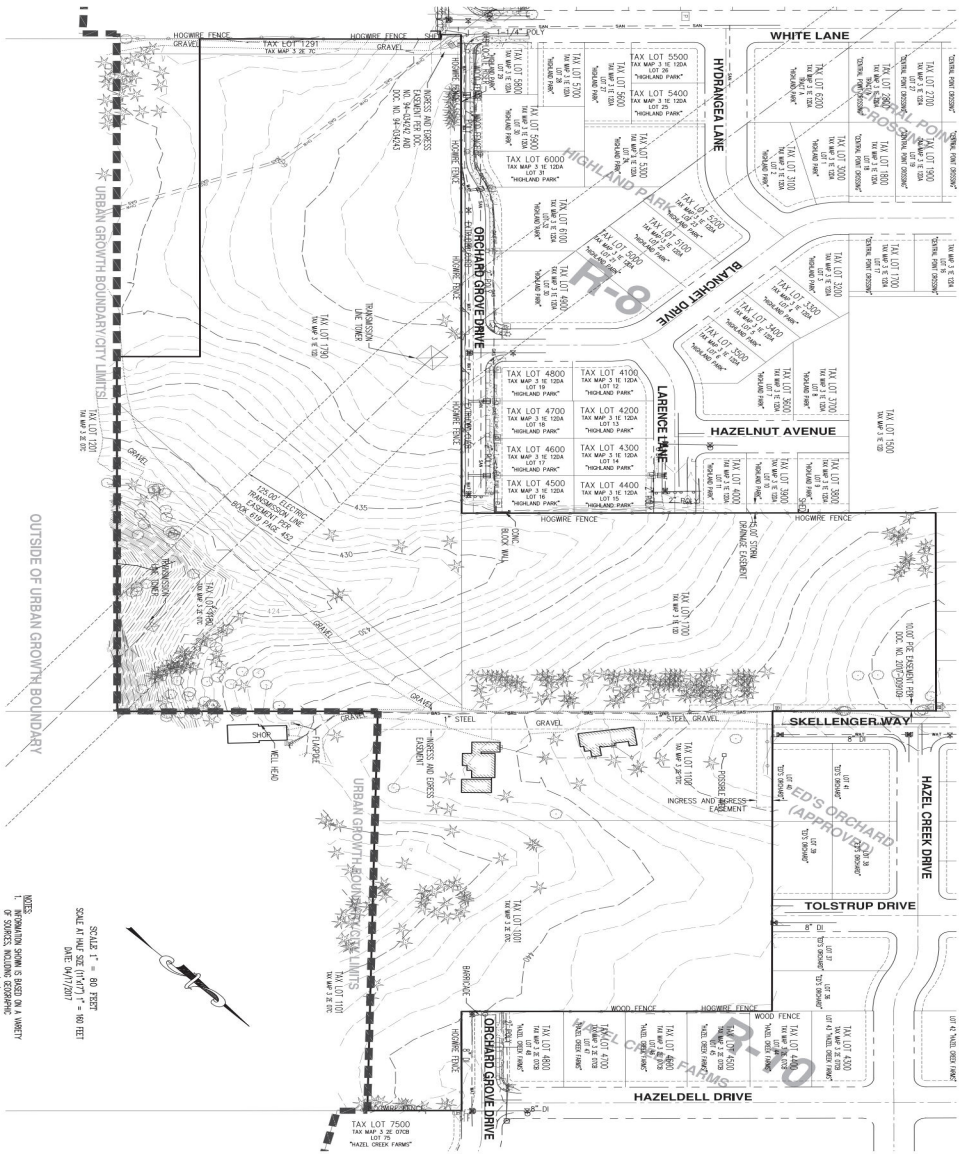


Wheeler Farms

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.55	square miles
I24H2Y	Maximum 24-hour precipitation that occurs on average once in 2 years - Equivalent to precitation intensity index	1.98	inches
SOILPERM	Average Soil Permeability	0.54	inches per hour
WATCAPORC	Available water capacity from STATSGO data using methods from SIR 2005-5116	0.15	inches
JANMAXT2K	Mean Maximum January Temperature from 2K resolution PRISM 1961-1990 data	46.6	degrees F
ORREG2	Oregon Region Number	10001	dimensionless
BSLOPD	Mean basin slope measured in degrees	3.56	degrees
JANMINT2K	Mean Minimum January Temperature from 2K resolution PRISM PRISM 1961-1990 data	34.3	degrees F
ELEV	Mean Basin Elevation	433	feet
PRECIP	Mean Annual Precipitation	49.3	inches
MINTEMP	Mean annual minimum air temperature over basin surface area as defined in SIR 2008-5126	43	degrees F

Exhibit L: Neighborhood Meeting Materials



NOTES:
1. INFORMATION SHOWN IS BASED ON A VARIETY OF SOURCES, INCLUDING GEOGRAPHIC INFORMATION SYSTEMS (GIS), AERIAL PHOTOGRAPHY, SURVEY INFORMATION, AND TAX ASSESSOR MAP INFORMATION.
2. DIMENSIONS SHOWN ARE APPROXIMATE.

SCALE: 1" = 80 FEET
SCALE AT HALF SIZE (11"x17") 1" = 160 FEET
DATE: 11/17/2017

TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

DRAWN BY:	
DESIGN BY:	
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	05/09/2017

REVISIONS

JOB NUMBER 5621

SHEET

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE



SCALE 1" = 80 FEET
SCALE AT HALF SIZE (11"x17") 1" = 160 FEET
DATE: 04/17/2017

NOTES:
1. INFORMATION SHOWN IS BASED ON A VARIETY OF SOURCES, INCLUDING GEOGRAPHIC INFORMATION SYSTEMS (GIS), AERIAL PHOTOGRAPHS, AS-BUILT INFORMATION, AND TAX ASSESSOR MAP INFORMATION.
2. DIMENSIONS SHOWN ARE APPROXIMATE.

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WHEELER FARMS

OREGON CITY, OREGON
TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

PRELIMINARY SUBDIVISION LAYOUT

DESIGNED BY:
DRAWN BY:
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 05/16/2017

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER 5621

SHEET 2

AKS DRAWING FILE: 5621 NEIGHBOR PLANS.DWG | LAYOUT: 2

AKS DRAWING FILE: 5621 NEIGHBOOR PLANS.DWG | LAYOUT: 3



WHEELER FARMS

OREGON CITY TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 **OREGON** CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

AERIAL PHOTO PLAN

PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED BY:
DRAWN BY: MRH
CHECKED BY:
SCALE: AS NOTED
DATE: 05/16/2017

REVISIONS

JOB NUMBER 5621

SHEET 3

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
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aks-eng.com

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Date: 5-18-17		South End Neighborhood Association Meeting			
#	Name:	Address:		Phone #:50	
1	Harryette Shuell	Street:	19067 Maywood St	Home:	503-722-8467
		Email:	shuell8055@comcastnet	Cell:	
2	LEE & SUE MULLER	Street:	11952 HAZEL FERN DR	Home:	
		Email:	harleylee@juno.com	Cell:	
3	CHRIS GOODELL	Street:	12965 SW HERMAN ROAD TUALATIN	Home:	
		Email:	chrisg@aks-eng.com	Cell:	
4	Tom O'Brien	Street:	19364 HAZELGROVE DR	Home:	503-723-3334
		Email:	HAVE IT	Cell:	
5	JOHN WILLIAMS	Street:	1176 SUNNY LANE	Home:	
		Email:		Cell:	
6	Brenda Wheeler	Street:	19725 Orchard Grove Drive	Home:	need email
		Email:	brendaspiderwheeler@gmail.com	Cell:	
7	Joe Wheeler	Street:	19725 Orchard Grove Dr.	Home:	
		Email:	joe.e.wheeler@comcast.net	Cell:	503.260.6104
8	Renee Buell	Street:	11835 Partlow R	Home:	208-870-1443
		Email:	reneebuell@gmail.com	Cell:	
9	Mike Day	Street:		Home:	
		Email:	Mday@orcity.org	Cell:	(503) 793-2222

Date: 5-18-17		South End Neighborhood Association Meeting			
#	Name:	Address:		Phone #:	
1	TONY KONKOL	Street:	OREGON CITY - CITY HALL	Home:	503 657.0891
		Email:		Cell:	
2	Charity Smith	Street:	19310 Tower Hill Drive	Home:	503-735-5741
		Email:		Cell:	
3	Judy Peitz	Street:	19380 Hazel Grove Dr.	Home:	503-655-7977
		Email:		Cell:	
4	Jim Peitz	Street:	" " " "	Home:	"
		Email:	jimpeitz@gmail.com.	Cell:	
5	Carol Johnson	Street:	18813 Paulsen Dr	Home:	
		Email:		Cell:	
6	Don Wheeler	Street:	19898 S. White Lane	Home:	
		Email:		Cell:	
7	Joyce Clark	Street:	18649 Joyce Ct	Home:	
		Email:	ettg2luv2@q.com	Cell:	503-313-7338
8	Gary Fergus	Street:		Home:	
		Email:		Cell:	
9	Kevin Ertel	Street:	888 South End Rd	Home:	
		Email:	kpertel@hotmail.com	Cell:	

Date: 5-18-17		South End Neighborhood Association Meeting			
#	Name:	Address:		Phone #:	
1	KEITH/CHERYL STRICKLAND	Street:	18967 PAULSEN DR., O.C	Home:	
		Email:		Cell:	
2	MJ Militante	Street:	PO Box 601 OC	Home:	
		Email:	militante@att.net	Cell:	
3		Street:		Home:	
		Email:		Cell:	
4		Street:		Home:	
		Email:		Cell:	
5		Street:		Home:	
		Email:		Cell:	
6		Street:		Home:	
		Email:		Cell:	
7		Street:		Home:	
		Email:		Cell:	
8		Street:		Home:	
		Email:		Cell:	
9		Street:		Home:	
		Email:		Cell:	

TUALATIN · VANCOUVER · SALEM-KEIZER
12965 SW HERMAN RD., SUITE 100 · TUALATIN, OR 97062
AKS ENGINEERING & FORESTRY
WWW.AKS-ENG.COM
P: (503) 563-6151 F: (503) 563-6152

May 30, 2017

Neighborhood Meeting Minutes: Wheeler Farms Subdivision
19566 Central Point Road, Oregon City, OR

Meeting Date: May 19, 2017
Time: 7:00 PM
Location: Oregon City United Methodist Church, 18955 South End Road, Oregon City, OR

The Applicant attended a South End Neighborhood Association meeting to present details to neighbors and community members in preparation for the submission of land use applications for a zone change and subdivision. Chris Goodell, with AKS Engineering & Forestry, was present. An overview of the project location, current and future zoning, lot sizes, lot configuration, public utilities, public streets, open space tracts, and recent surrounding developments was provided. The planned applications and a general process and timeframe for the land use reviews and construction permitting process were described. Sign-in sheets and business cards were provided.

Following the presentation, attendees asked questions and/or provided general comments about the project. The following topics were discussed:

- Other projects in the area
- Traffic/ construction traffic on S. Central Point Road
- Estimated price of future homes
- Growth in area over time
- Off-site intersections
- Wheeler family history (provided by Don Wheeler)

The meeting concluded at approximately 8:00 p.m.

Sincerely,
AKS ENGINEERING & FORESTRY, LLC



Chris Goodell, AICP, LEED[AP]

Exhibit M: City Pre-Application Conference Summary

OREGON CITY

Pre-Application Conference Notes

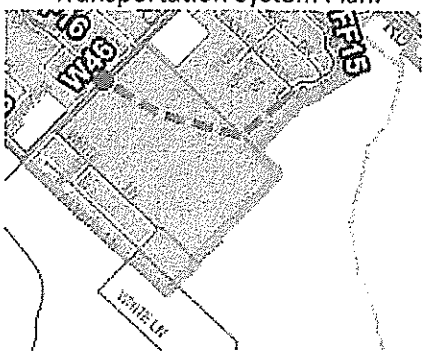
(PA 16-54, December 6, 2016)

These are preliminary notes based on the application submitted.

Proposed Project: Approximately 83± lot subdivision and rezone

General Information:

- Location: Located in the vicinity southeast of Orchard Grove Dr.
  Clackamas County Map 3-2E-07C, tax lots: 101, 1291, 1100, 1180
  Clackamas County Map 3-1E-12D, tax lots: 1700 and 1790
- Zoning: R-10 Single-Family Dwelling District
- Overlay Districts: Geologic Hazards, Natural Resource Overlay District
- Street Designations: Central Point RD: Collector
- Transportation System Plan:



Planning Review and Application Fees:
The Planning Division fees for this application are anticipated to increase on January 1st. The 2017 Planning applications and fees include-

- Subdivision: $4,136 plus $344 per lot
- Mailing Labels: $15 – or provided by applicant
- Transportation Study: $1,365 + $682 for Large Study Area/Near Key Corridor + $2,046 for Zone Change
- Zone Change: $2,798
- Natural Resource Overlay District: $1,959
- Property Line Adjustment: $1,159
- Geologic Hazards Review: See Public Works Notes

Review Process:

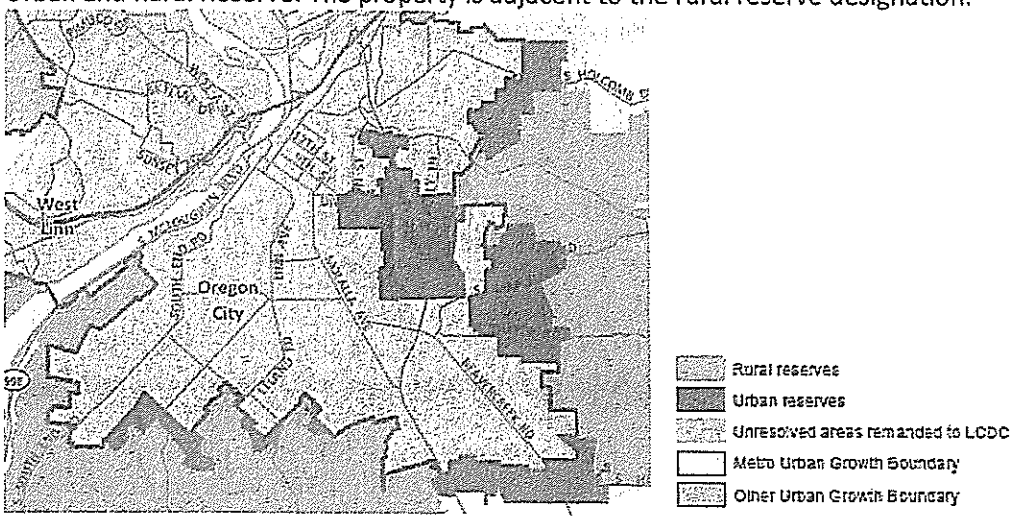
Though the Subdivision itself is a **Type II** application the Zone Change is a **Type IV** application, and thus the combined applications are subject to a Type IV process. Type IV decisions include only quasi-judicial plan amendments and zone changes. These applications involve the greatest amount of discretion and evaluation of subjective approval standards and must be heard by the city commission for final action. The process for these land use decisions is controlled by ORS 197.763. At the evidentiary hearing held

before the planning commission, all issues are addressed. If the planning commission denies the application, any party with standing (i.e., anyone who appeared before the planning commission either in person or in writing within the comment period) may appeal the planning commission denial to the city commission. If the planning commission denies the application and no appeal has been received within fourteen days of the issuance of the final decision then the action of the planning commission becomes the final decision of the city. If the planning commission votes to approve the application, that decision is forwarded as a recommendation to the city commission for final consideration. In either case, any review by the city commission is on the record and only issues raised before the planning commission may be raised before the city commission. The city commission decision is the city's final decision and is subject to review by the land use board of appeals (LUBA) within twenty-one days of when it becomes final.

Subdivision Layout

- The proposed layout generally complies with the Planning requirements within the Oregon City Municipal Code.
- The right-of-way adjacent to lot 62 and 72 is awkward and should be contain a wider width.
- Submit documentation identifying the lot averages the minimum square footage of the zoning designation and that no lot is less than 20% of that size.. The lot widths, depths, and frontage appear to comply with minimums.
- A tree removal and mitigation plan is required which must include the lot setbacks and the caliper of the trees to be removed as well as the species, caliper and location of the mitigation trees. The tree mitigation plan report shall be prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. Provide sufficient documentation if utilizing the following exemption in 17.41.040:

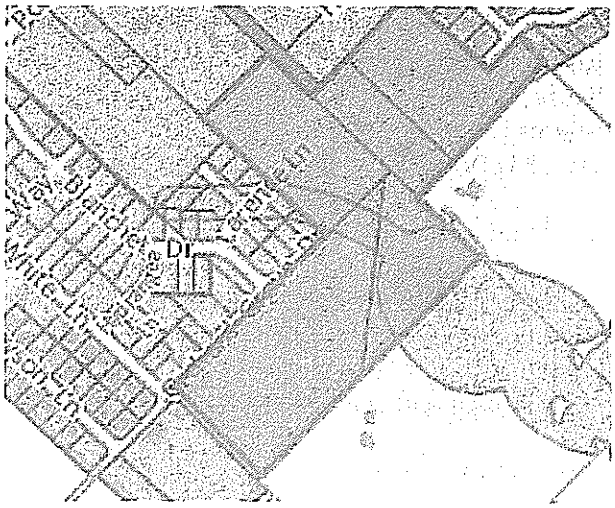
  These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930.
- Provide additional details about Tract B. Will this include a heritage tree site?
- A street tree plan including one for every 35' of frontage is required in accordance with OCMC 12.08. Please provide total frontage length in the application to demonstrate the number of street trees is correct.
- Identify all existing structures to remain and demonstrate compliance with required setbacks, lot coverage, etc.
- Urban and Rural Reserve: The property is adjacent to the rural reserve designation.



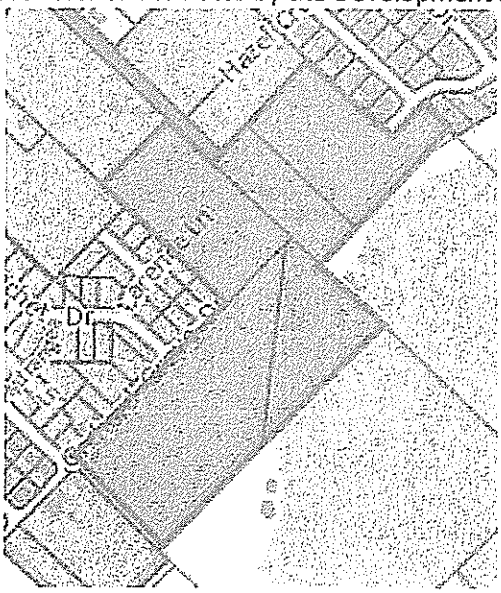
Zone Change:
Identify compliance with the Zone Change criteria in OCMC 17.68.020, which includes findings for compliance with state land use goals and the Oregon City Comprehensive Plan.

Property Line Adjustment
The proposed Property Line Adjustment is unclear, please provide additional specificity. Please provide a clear depiction of the site before and after and indicate property ownership for tax lot 1180 and 1291. If under the same ownership in the site, they are considered part of the development.

Natural Resource Overlay District (NROD)
A portion of the site is within the Natural Resource Overlay District. An application prepared by a qualified professional and in compliance with OCMC 17.49 is required.



Geologic Hazards Overlay District:
Please refer to the notes by the Development Services Department.

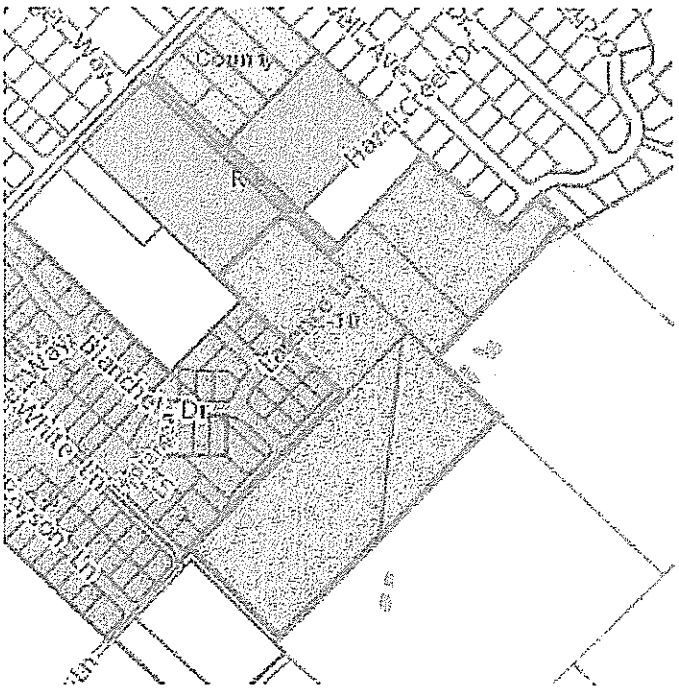


Questions from the Applicant

1. Please discuss the zone change process and confirm if the R-8 is an acceptable zone for this site.

Response: Please see the above description of the Type IV process. This may be further defined in OCMC 17.50.030.D. Criteria for the Zone Change is identified in OCMC 17.68.020.

2. Please confirm that a Comprehensive Plan Map Amendment would not be necessary with a zone change to R-8, as all tax lots are within the Low Density Residential Comprehensive Plan designation.
   Response: The Low Density Residential Comprehensive Plan designation includes the R-10, R-8 and R-6 Single-Family Dwelling Districts.
3. Please confirm the minimum and maximum residential densities in the R-8 and R-10 districts, and please confirm that the densities shown in the layouts provided are acceptable to the City.
   Response: Minimum and maximum densities are described in Title 16 as well as the zoning designation proposed. Minimum density is 80% of the maximum allowed. Lot sizes may be up to 20% smaller than the minimum, provided the subdivision averages to the minimum.
4. Please confirm if the preliminary layouts/lot configurations are acceptable to the City.
   Response: Please see the notes within this report.
5. Please confirm the required setbacks, lot dimensions, and lot areas.
   Response: Please refer to the dimensional standards of the zoning designation in 17.08 or 17.10.
6. Are there any overlay designations that will apply to this property?
   Response: Yes, please see the first section of this report.
7. Please let us know of any tree removal requirements or concerns.
   Response: Tree removal requirements are identified in OCMC 17.49 for those within the NROD and 17.41
8. Please confirm the City review procedure type and the required land use application(s).
   Response: Please see notes above.
9. Please let us know if any additional studies or analyses (natural resources, geotechnical, soils, etc.) are necessary.
   Response: Please see notes above.
10. Please discuss any pending/future Municipal Code changes and what impact those Code changes may have on this application/project.
    Response: None yet, but we will be working on code changes in 2017.



Transportation Review:

City of Oregon City | PO Box 3040 | 221 Molalla Avenue, Suite 200 | Oregon City, OR 97045
Ph (503) 722-3789 www.orcity.org

Your application was reviewed by John Replinger of Replinger and Associates, a city consultant for transportation engineering. You may contact John Replinger, at Replinger-Associates@comcast.net or at 503.719.3383.

Based on your submittal, a traffic engineer shall conduct a transportation study in conformance with the City's *Guidelines for Transportation Impact Analyses* available on the Oregon City website. Based on the information provided by the applicant, it appears the trip generation exceeds the level at which the project's transportation analysis requirements can be satisfied by submittal of a Transportation Analysis Letter (TAL). A full Transportation Impact Analysis (TIA) will be required. Among other requirements, a full TIA includes conducting traffic counts and operational analysis of impacted intersections will be required. Intersections to be analyzed include the site access and intersections of collector/collector and higher where traffic volumes from the development exceed 20 peak hour trips.
Because the proposal includes a zone change, the applicant will also need to address the requirements of Oregon's Transportation Planning Rule. Specifically, the applicant shall address the provisions of 660-12-0060 Plan and Land Use Regulation Amendments. When a zone change is proposed, a future year analysis is required assessing the impact associated with the planning horizon specified in the city's adopted Transportation System Plan.

The applicant and his traffic engineer should review the *Guidelines for Transportation Impact Analyses* and the most recent mobility standards as specified in Oregon City Municipal Code section 12.04.205.

The applicant and his traffic engineer should review the Guidelines for Transportation Impact Analyses and the most recent mobility standards as specified in Oregon City Municipal Code section 12.04.205.

Planning Division
Laura Terway, Planning Manager with the Oregon City Planning Division reviewed your pre-application. You may contact Laura Terway at 503.496.1553 or lterway@orcity.org.

Development Services Division
Wendy Marshall, Development Project Manager with the Oregon City Development Services Division reviewed your pre-application. You may contact Wendy Marshall at 503.496.1548 or wmarshall@orcity.org.

Building Division:
Your application was transmitted to our Building Official whom provided comments. You may contact Mike Roberts, Building Official, at 503.496.1517 or mroberts@orcity.org if you have any building related questions.

Clackamas County Fire:
Your application was transmitted to Mike Boumann, Lieutenant Deputy Fire Marshal of Clackamas County Fire District #1. No comments were returned regarding your application. You may contact Mr. Boumann at 503.742.2660 or at michaelbou@ccfd1.com.

Other notes:

- A neighborhood meeting is required. You are in the Hazel Grove-Westling Farms (Non-active Neighborhood Association). Contact the South End Neighborhood Association to setup a meeting.
  Chair: Bill McConnel, sena97045@gmail.com
  Vice Chair: Gary Fergus, Interim Vice Chair fergusfamily@gmail.com
  Secretary/Treasurer: vacant
- Per Annexation AN 06-02, each new home is required to pay a Police fee of $3,500 if submitted prior to July 1, 2018. Copies of the recorded agreements are attached.
- The questions regarding the park space were forwarded to Phil Lewis, Community Services Director.

- Notice of your proposed development has been provided to the State Historic Preservation Office (SHPO) and all affected tribes per OCMC chapter 17.62.040.H.
- The existing dwellings and all accessory structures shall be removed prior to final plat unless they comply with all new standards.
- Fence height limitations provided in OCMC 17.54.100.
- If you would like to build a sign for the subdivision, the sign code can be found in OCMC 15.28.
- Residential Design Standards are provided in OCMC chapter 17.20 and 17.21.
- All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance.
- No proposed changes to the Oregon City Municipal Code are proposed which would affect your proposal.

Oregon City Municipal Code Criteria:
The following chapters of the Oregon City Municipal Code (OCMC) may be applicable to this proposal:
OCMC 12.04 - Streets, Sidewalks and Public Places
OCMC 12.08 - Public and Street Trees
OCMC 13.12 – Stormwater Management
OCMC 16.08 – Subdivisions – Processes and Standards
OCMC 16.12 – Minimum Improvements and Design Standards for Land Divisions
OCMC 16.20 – Property Line Adjustments and Abandonments
OCMC 17.08 – "R-10" Single-Family Dwelling District
OCMC 17.10 – "R-8" Single-Family Dwelling District
OCMC 17.20 – Residential Design Standards
OCMC 17.41- Tree Protection Standards
OCMC 17.44 – Geologic Hazards
OCMC 17.49 – Natural Resources Overlay District
OCMC 17.50 – Administrative Processes
OCMC 17.68 – Zone Changes and Amendments

Pre-application conferences are required by Section 17.50.050 of the City Code, as follows:
A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.
B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

NOTICE TO APPLICANT: A property owner may apply for any permit they wish for their property. HOWEVER, THERE ARE NO GUARANTEES THAT ANY APPLICATION WILL BE APPROVED. No decisions are made until all reports and testimony have been submitted. This form will be kept by the Community Development Department. A copy will be given to the applicant. IF the applicant does not submit an application within six (6) months from the Pre-application Conference meeting date, a NEW Pre-Application Conference will be required.

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

DEVELOPMENT SERVICES

PRE-APPLICATION MEETING NOTES

Date: 12-6-2016

Planning Project Number:	PA 16-54
Address:	19566 Central Point Road, Oregon City, OR 97045
Map Number(s):	3-2E-07C; 3-1E-12D
Tax Lot(s):	1001, 1291, 1100, 1180; 1700, 1790
Project Name:	Wheeler Farms
Meeting Date:	December 6, 2016 (Notes updated December 28, 2016)
Reviewer(s):	Hunter Bennett-Daggett, PE

GENERAL COMMENTS

1. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements.

2. A performance bond and agreement shall be provided to the City prior to issuance of construction plans.

3. The Applicant may be required to sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties.

4. All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance. Applicant will need to complete a SDC request form, found on the City's website, for an estimate of fees.

ENGINEERING - UTILITIES

Streets

1. The proposed development includes several new streets and extensions of existing streets. All new streets within the proposed development will be functionally classified as a Local (Residential). For a residential local, the Oregon City Municipal Code (OCMC) requires a 54-foot-wide right-of-way (ROW), two (2) 16-foot-wide shared travel lanes, two (2) 5-foot-wide planter strips, two (2) 5-foot-wide sidewalks, and two (2) 0.5-foot-wide public access strips. Additional requirements include curb, gutter, street trees, and street lights.

2. The southwestern edge of the proposed development includes a narrow strip of land that will eventually be part of an extension of White Lane. This strip of land is not wide enough to create a functional half street that aligns with the existing street; however, the aligned portion will need to be dedicated as right-of-way. Fee-in-lieu payment will be required for

street improvements that cannot be constructed due to space constraints. Fee-in-lieu shall be paid to the centerline of the future street.

3. Block length standards, as outlined in OCMC 12.04.195, must be met even for proposed developments adjacent to the Urban Growth Boundary (UGB). The proposed development meets block length requirements, with the exception of the "island" created at the center, which exceeds the 530-foot max block length when considered with the relevant portion of the Ed's Orchard subdivision. As a result, a mid-block pedestrian path is required. The applicant may request that this pedestrian path requirement be waived by providing appropriate justifications, addressing such items as: location of pedestrian generators within the subdivision, number of pedestrians served, most likely routes for pedestrians through the subdivision, the availability of pedestrian routes and circulation, and the available route to Central Point Road (a Collector road).

4. With the exception of White Lane, streets in the proposed development will not be required to extend to the UGB.

5. A 10-foot-wide Public Utility Easement (PUE) will be required along the frontage of all lots.

6. Reduction to the standard improvements and right-of-way dedication may be requested through the modification process outlined in OCMC 12.04.007.

7. The proposed development includes a section of Shared-Use Path, connecting Larence Lane to Orchard Grove Drive. The standard residential local street section shall be considered acceptable for the Shared-Use Path.

8. The portion of Orchard Grove Drive that was not previously built during construction of the Highland Park subdivision shall be constructed to meet residential local street requirements. Fee-in-lieu previously paid for this unconstructed street portion shall be available for construction of the full street improvements as part of the proposed development.

9. Two large trees (54-inch and 43-inch diameter) are located within the proposed Orchard Grove Drive ROW. The applicant has requested consideration of modifications to the required street section to allow preservation of the trees. Due to the location of the trees with respect to the proposed ROW and 10-foot PUE, it does not appear feasible to protect the trees. The root systems of the trees are unknown but are likely to be negatively impacted by grading and utility construction, thereby reducing the long-term health of the trees. In addition, proximity of the root systems to the ROW and PUE causes concern for future root growth effects on utilities in the area, including curb/gutter, sidewalk, pavement, and underground pipe systems. A constrained ROW does not appear to provide adequate space for the ROW, PUE, and grading and utility construction without negative impacts to the trees. If the applicant wishes to preserve the trees, an arborist's report shall be provided addressing the City's concerns and showing that there would be no adverse impacts to the trees from the construction of the grading and underground improvements proposed in the ROW and 10-foot PUE, no long-term adverse impacts to the trees as the root system grows, and no adverse impacts to the public and private improvements as the root system grows.

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

Stormwater

1. The proposed development shall adhere to the requirements of the current Stormwater and Grading Design Standards. The current Standards can be found online here:

   http://www.orcity.org/sites/default/files/final_manual_0.pdf

2. The General Threshold(s) for Applicability of the Stormwater and Grading Design Standards:

   a. *Development activities that result in **5,000 square feet of new or replaced impervious surface**, cumulative over a 5-year period, are subject to the requirements of these standards.*

3. If the above threshold is met, the Applicant must submit a completed *Site Assessment and Planning Checklist* (and other attachments as described in **Section 9.1.1**) as part of the land use application process. This submittal shall constitute a preliminary drainage report and form the basis for developing the Stormwater Management Plan described in **Section 9.1.2**. Submittal of the final Stormwater Management Plan will be required prior to issuance of Public Works permits.

4. It does not appear possible to convey stormwater from the proposed development to any existing City stormwater system by gravity. The applicant proposes to construct a new stormwater facility within the proposed development. The proposed facility shall meet the requirements of the City's Stormwater and Grading Design Standards.

5. The submitted materials for some layouts show an access easement to the proposed stormwater facility. An access road shall be provided within the easement, complying with the requirements of the Stormwater and Grading Design Standards. If the access road exceeds 300 feet in length, a truck turn-around shall be provided.

Water

1. There are existing 8-inch ductile iron water mains within Orchard Grove Drive and Larence Lane. New 8-inch ductile iron water mains shall be provided in all streets within the proposed development and shall connect to existing water mains wherever possible. Stubs shall be provided at the end of any streets with future connections.

2. The Highland Park subdivision installed a 4-inch ductile iron water main in the half-street portion of Orchard Grove Drive adjacent to White Lane. This street portion will be extended to full width by the proposed project, and the improvements shall include an 8-inch ductile iron water main that allows the 4-inch water main to be taken out of service.

3. The narrow portion of land at the southwestern edge of the proposed development that will eventually be part of an extension of White Lane is not wide enough to accommodate a water main extension along the frontage, as required. Temporary looping is required along the White Lane ROW until an 8-inch water main is extended when White Lane ROW is fully developed. Proposed water system improvements shall include an 8-inch waterline

extension to the southeast in the proposed intersection improvements of White Lane and Orchard Grove Drive with reduction to a temporary 4-inch waterline extension in an easement along proposed White Lane ROW and looped to the proposed water pipe at the street intersection of the southeasterly subdivision street.

4. Any new fire hydrants shall be located per the requirements and direction of Clackamas Fire District No. 1.

Sanitary Sewer

1. There are existing 8-inch PVC sanitary sewer pipes within Orchard Grove Drive and Larence Lane. The applicant proposes to connect to these existing sewer pipes via gravity. The City's Sanitary Sewer Master Plan calls for a new public sewer pump station in the area of the proposed development. In order to justify the deviation from the master plan, the applicant will need to demonstrate that the proposed gravity sewer can adequately serve all proposed lots and not negatively impact future development. Proposed gravity sewers shall comply with all applicable City design standards, including minimum sanitary sewer slope requirements.

2. Proposed sanitary sewer depths, slopes, and covers will need to be provided to the City to allow evaluation of shallow sewers. Where shallow sewer laterals are approved by the City, ductile iron pipe is typically required for any sewer with less than three feet of cover.

3. The narrow portion of land at the southwestern edge of the proposed development that will eventually be part of an extension of White Lane is not wide enough to accommodate a sanitary sewer extension along the frontage, as required. Fee-in-lieu will be required to allow for future extension of this sewer.

4. As part of this proposed development, any existing SFRs that are to be demolished must abandon their septic system per State, County, and City requirements. Contact the Building Department regarding abandonment requirements.

Other

1. A portion of the proposed development is within the Natural Resource Overlay District (NROD). Section 17.49 of the OCMC will need to be addressed in the application.

2. A portion of the proposed development is within the Geologic Hazard area. Section 17.44 of the OCMC will need to be addressed in the application. A geotechnical report will be required and shall provide recommendations as applicable for the proposed public and private subdivision improvements. There is a pass-through fee for the City's geotechnical peer review. Total peer review costs shall be paid by the applicant.

3. A portion of the proposed development is within the High Water Table area. The geotechnical report addressing the Geologic Hazard area shall also address high groundwater impacts on construction.

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

P:\15285\135-15285-15001\Docs\PA 16-54 Wheeler Farms\20161205 Pre-App Conf Meeting Notes_DevServices_PA 16-54 Updated.docx

Exhibit N: Site Assessment and Planning Checklist

SITE ASSESSMENT AND PLANNING CHECKLIST

✓	Information needed	Attach supporting materials as needed
2.2.1 Site Information		
	Applicant contact information	Applicant name: Rian Park Development, Inc. Business name: Rian Park Development, Inc. Contact address, phone number, and e-mail: P.O. Box 2559 Oregon City, OR 97045
	Project location	Site address: 19566 Central Point Road, Oregon City Site description: The property is located south of the Ed's Orchard Subdivision, west of Hazel Creek Farms Subdivision, and east of the Highland Park Subdivision. Major drainage basin: Beaver Basin Is the project site located with the WQRA as defined in OCMC 17.49? No (Y/N) *Include a vicinity map of the site (including location of property in relation to adjacent properties, roads, and pedestrian/bike facilities).*
	Project type	Identify types of development planned for the site such as commercial, industrial, single-family residential, multi-family residential, or other (describe): 77 single-family residential lots.
	Size of site	Size of site: 22.56± (acres) Number of existing/proposed tax lots: 6/77 Amount of new and replaced impervious area: 408,510 (SF)
2.2.2 Site Assessment *Note: Site assessment information may be available from the OCMaps online tool available through the City's website.*		
	Site Assessment Map	*Attach engineered scale Site Assessment Map, showing items below.*
	Topography Evaluate site and map slopes: *Flat: 0-10%* *Moderate: 10-25%* *Steep: 25% and greater*	*Surveyed or aerial-based mapping with 2-foot intervals for slopes 0-25% slope and 10-foot intervals for steeper. Indicate Geologic Hazard Areas as defined by OCMC 17.04.510 and Geologic Hazards Overlay Zone as defined by OCMC 17.04.515.*
	Soils and Groundwater Research and map site soil hydrologic group, depth to groundwater	NRCS Hydrologic Soil Type (show on map if more than one type present): C *Attach seasonal groundwater depth evaluation if available or required (site has floodplain and/or wetland). Groundwater depth information is available from the City.*
	Infiltration Assessment Determine soil capacity for onsite infiltration	If an infiltration test is performed, attach the documentation. Report the test type (Basic/Professional) performed and results. See **Appendix D** for the approved infiltration testing methods. Test type: Open Pit Falling Head 0.06 - 0.2 (inches/hour)

SITE ASSESSMENT AND PLANNING CHECKLIST		
	Hydrology – Conditions and Natural Features Map site floodplains, wetlands, streams, and location of outfalls	Clearly label on map all intermittent and perennial creeks/streams/rivers and wetlands, FEMA floodplains, and existing drainage systems (pipes, ditches, outfalls). Check here if present on site: _____ Sensitive area(s) _____ Floodplain _____
	Downstream Conveyance	Indicate the proposed point of discharge on the site plan. *Prepare and attach a Downstream Analysis as required by **Chapter 5**.* Check here to verify that adequate downstream capacity is available: X
	Existing Vegetation Map trees and vegetation	Using aerial photos or survey, map all trees and vegetation. Note all existing trees 6-inch caliper and greater (DBH) on map. Delineate and identify other areas and types of existing vegetation. The local planning authority may require a formal tree survey.
	Required Vegetated Buffers and Setbacks Assess and map buffers	Identify required vegetated buffer areas and other setback limits as defined by OCMC Title 17.
	Land Use and Zoning	Existing Land Use Zoning designation(s): R-8
	Access and Parking	Delineate proposed access points for all transportation modes on map. Indicate amount and area of required parking onsite if applicable, *attach documentation as needed.*
	Utilities to Site and Surrounding Area	Map existing utilities including stormwater facilities, storm conveyance, sewer, water, electricity, phone/cable, gas, and any public storm system/facility downstream.
2.2.3 Site Planning Design Objectives *(attach engineered scale Preliminary Site Plan)*		
	1. Preserve existing resources	**Required:** Show sensitive areas and buffers on site plan. Denote buffer areas that require enhancement. Show any proposed areas of encroachment and associated buffer mitigation areas.
	2. Minimize site disturbance	**Required:** Delineate protection areas on site plan for areas to remain undisturbed during construction.
	3. Minimize soil compaction	**Required:** Delineate and note temporary fencing on site plan for proposed infiltration facilities, vegetated stormwater management facilities, and re-vegetation areas.
	4. Minimize imperviousness	**Required:** Delineate proposed impervious areas and proposed impervious area reduction methods on the site plan. A. Total proposed new/replaced impervious area: 408,510 (SF) B. Area of proposed Green Roofs: 0 (SF) C. Area of proposed pervious pavements: 0 (SF) D. Describe type of pavers or pavement proposed: _____ E. Impervious area requiring management [A-(B+C)]: 408,510 (SF)

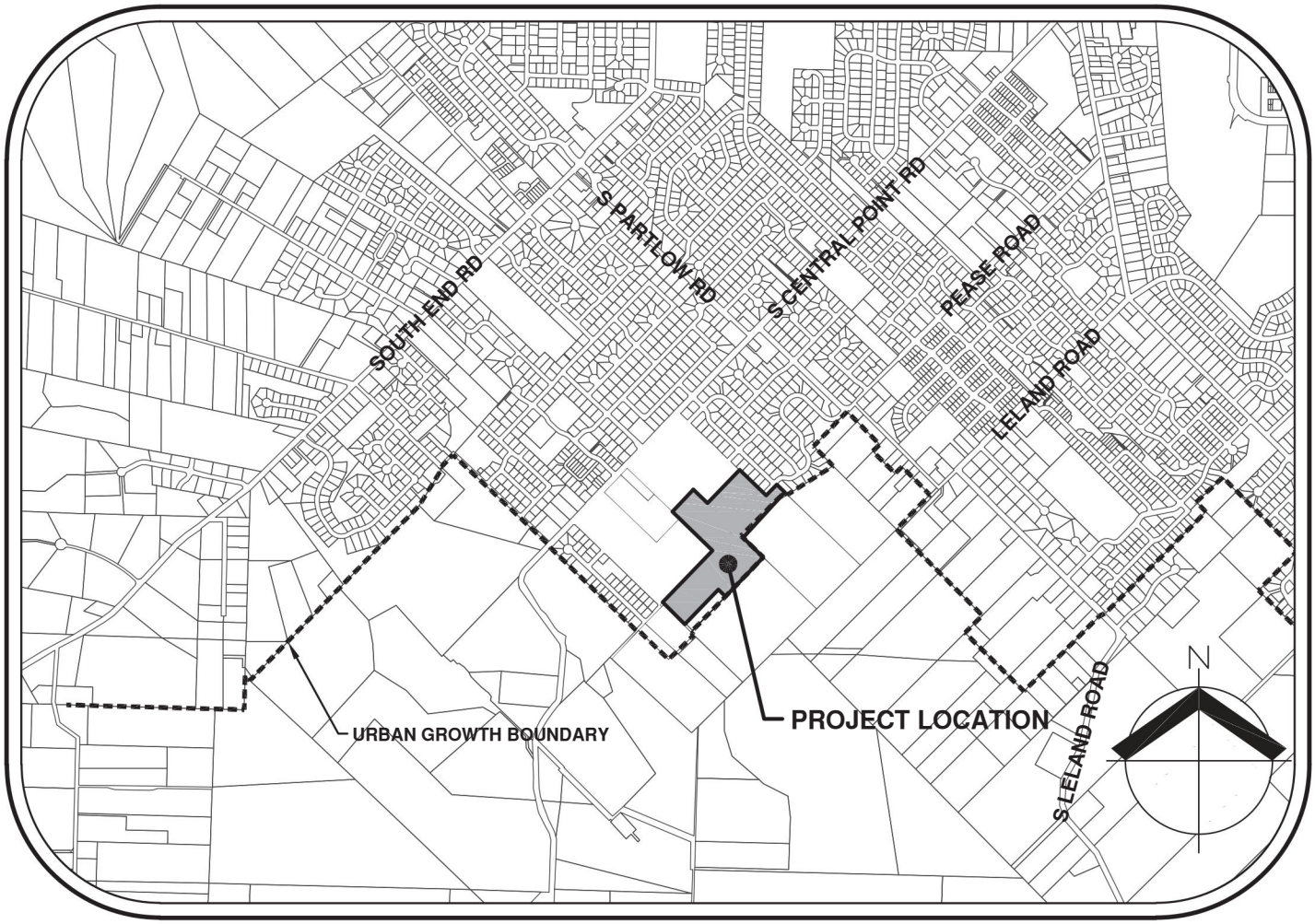
SITE ASSESSMENT AND PLANNING CHECKLIST

2.2.4 Proposed Stormwater Management Strategy

	Proposed Stormwater Management Strategy	X ____ Infiltration facilities X ____ Surface Infiltration facilities to the MEP _____ Full onsite retention/infiltration up to the 10-year storm event _____ Infiltration facilities are limited by the following conditions *(include documentation to demonstrate the limiting condition and choose an alternate strategy below):* _____ Stormwater management facility to be located on fill _____ Steep slopes _____ High groundwater _____ Contaminated soils _____ Conflict with required Source Controls (**Chapter 6**) _____ Onsite Stormwater management facilities (indicate below) _____ Offsite stormwater management facilities/regional facilities _____ Fee in Lieu, as determined by the City
	Preliminary Facility Selection/Sizing	Check all that apply, *attach output from BMP Sizing Tool*, and show proposed Stormwater Management Facilities on Preliminary Site Plan. LID facilities: _____ Infiltration Stormwater Planter _____ Filtration Stormwater Planter _____ Infiltration Rain Garden _____ Filtration Rain Garden X ____ Vegetated Swale X ____ Detention Pond _____ Infiltration Trench _____ Manufactured Treatment Technology _____ Other: _____
	Verify Minimum Facility Size	A. Required surface area of onsite surface infiltration facilities: As determined by BMP sizing tool or engineered method: 23,663 (SF) B. Calculate MEP surface area of surface infiltration facilities for sites with limiting conditions: Total new/replaced impervious area (SF) x 0.10 = 40,851 (SF) C. Calculate required surface area of onsite LID facilities: Smaller of [A] or [B]: 23,663 (SF) D. Proposed surface infiltration facility size(s): From site plan: 27,400 (SF) *must be larger than [C]*

SITE ASSESSMENT AND PLANNING CHECKLIST		
2.2.5 Other Project Requirements		
	Grading Permit	Review OCMC 15.48 to determine whether a grading permit will be required. Grading permit required? Y (Y/N) Type of Grading Plan proposed (see **Chapter 3**): Engineered Grading Plan
	Erosion Prevention and Sediment Control	Identify the required permits: _____ ESC Permit from the City *(sites that include 1,000+ SF new or replaced impervious area)* X 1200-C Permit from DEQ *(sites that disturb 1 acre or more land surface)*
	Source Control for High Use Sites	Identify whether the proposed development will include any of the following: _____ Fuel Dispensing Facilities and Surrounding Traffic Areas _____ Above-Ground Storage of Liquid Materials _____ Solid Waste Storage Areas, Containers, and Trash Compactors _____ Exterior Storage of Bulk Materials _____ Material Transfer Areas/Loading Docks _____ Equipment and/or Vehicle Washing Facilities _____ Development on Land With Suspected or Known Contamination _____ Covered Vehicle Parking Areas _____ Industrial and Commercial High Traffic Areas _____ Other land uses subject to the ODEQ 1200-Z Industrial Stormwater Permit
	Other Permits	Identify other natural resources related permits from local, state, or federal agencies that may be required as part of the proposed development activity. It is the responsibility of the applicant to identify and obtain required permits prior to project approval. List other anticipated permits: N/A

VICINITY MAP



VICINITY MAP

NOT TO SCALE

SITE ASSESSMENT MAP

SCALE: 1"=60 FEET
60 0 24 36 48 60
ON 34" X 24" PAPER

HAZEL CREEK DRIVE
TOLSTRUP DRIVE
HAZELNUT AVENUE
HYDRANGEA LANE
BLANCHET DRIVE
LARENCE LANE
WHITE LANE
ORCHARD GROVE DRIVE
HAZEDELL DRIVE

10.00' PGE EASEMENT PER DOC. NO. 2017-009109
15.00' STORM DRAINAGE EASEMENT
INGRESS AND EGRESS EASEMENT
INGRESS AND EGRESS EASEMENT PER DOC. NO. 94-034242 AND DOC. NO. 94-034243
125.00' ELECTRIC TRANSMISSION LINE EASEMENT PER BOOK 619 PAGE 452

TAX LOT 1500
TAX MAP 3 1E 12D
EX STM MH RIM: 443.48 IE OUT: 435.43 (16"SE)

TAX LOT 3800
TAX MAP 3 1E 12DA
LOT 9
"HIGHLAND PARK"

TAX LOT 3900
TAX MAP 3 1E 12DA
LOT 10
"HIGHLAND PARK"

TAX LOT 4000
TAX MAP 3 1E 12DA
LOT 11
"HIGHLAND PARK"

TAX LOT 4100
TAX MAP 3 1E 12DA
LOT 12
"HIGHLAND PARK"

TAX LOT 4200
TAX MAP 3 1E 12DA
LOT 13
"HIGHLAND PARK"

TAX LOT 4300
TAX MAP 3 1E 12DA
LOT 14
"HIGHLAND PARK"

TAX LOT 4400
TAX MAP 3 1E 12DA
LOT 15
"HIGHLAND PARK"

TAX LOT 4500
TAX MAP 3 1E 12DA
LOT 16
"HIGHLAND PARK"

TAX LOT 4600
TAX MAP 3 1E 12DA
LOT 17
"HIGHLAND PARK"

TAX LOT 4700
TAX MAP 3 1E 12DA
LOT 18
"HIGHLAND PARK"

TAX LOT 4800
TAX MAP 3 1E 12DA
LOT 19
"HIGHLAND PARK"

TAX LOT 5300
TAX MAP 3 1E 12DA
LOT 24
"HIGHLAND PARK"

TAX LOT 5400
TAX MAP 3 1E 12DA
LOT 25
"HIGHLAND PARK"

TAX LOT 5500
TAX MAP 3 1E 12DA
LOT 26
"HIGHLAND PARK"

TAX LOT 5600
TAX MAP 3 1E 12DA
LOT 27
"HIGHLAND PARK"

TAX LOT 5700
TAX MAP 3 1E 12DA
LOT 28
"HIGHLAND PARK"

TAX LOT 5800
TAX MAP 3 1E 12DA
LOT 29
"HIGHLAND PARK"

TAX LOT 5900
TAX MAP 3 1E 12DA
LOT 30
"HIGHLAND PARK"

TAX LOT 6000
TAX MAP 3 1E 12DA
LOT 31
"HIGHLAND PARK"

TAX LOT 6100
TAX MAP 3 1E 12DA
LOT 32
"HIGHLAND PARK"

TAX LOT 1700
TAX MAP 3 1E 12D

TAX LOT 1100
TAX MAP 3 2E 07C

TAX LOT 1001
TAX MAP 3 2E 07C

TAX LOT 1101
TAX MAP 3 2E 07C

TAX LOT 1180
TAX MAP 3 2E 07C

TAX LOT 1790
TAX MAP 3 1E 12D
DOCUMENT NUMBER 2013-070117

REMAINDER OF TAX LOT 1790
TAX MAP 3 1E 12D
DOC. NO. 2013-070117

TAX LOT 1201
TAX MAP 3 2E 07C

TAX LOT 1291
TAX MAP 3 2E 7C

TAX LOT 4300
TAX MAP 3 2E 07CB
LOT 43 "HAZEL CREEK FARMS"

TAX LOT 4400
TAX MAP 3 2E 07CB
LOT 44
"HAZEL CREEK FARMS"

TAX LOT 4500
TAX MAP 3 2E 07CB
LOT 45
"HAZEL CREEK FARMS"

TAX LOT 4600
TAX MAP 3 2E 07CB
LOT 46
"HAZEL CREEK FARMS"

TAX LOT 4700
TAX MAP 3 2E 07CB
LOT 47
"HAZEL CREEK FARMS"

TAX LOT 4800
TAX MAP 3 2E 07CB
LOT 48
"HAZEL CREEK FARMS"

LOT 20 "ED'S ORCHARD"
LOT 21 "ED'S ORCHARD"
LOT 22 "ED'S ORCHARD"
LOT 23 "ED'S ORCHARD"
LOT 38 "ED'S ORCHARD"
LOT 39 "ED'S ORCHARD"
LOT 40 "ED'S ORCHARD"
LOT 37 "ED'S ORCHARD"
LOT 36 "ED'S ORCHARD"

EX STM MH RIM: 450.77 IE IN: 441.43 (15"NW) IE IN: 441.33 (12"SE) IE IN: 443.13 (12"S) IE OUT: 441.24 (15"NE)
EX STM MH RIM: 446.82 IE IN: 442.43 (12"SW) IE IN: 442.63 (12"NE) IE OUT: 442.43 (12"NW)
EX STM MH RIM: 443.35
EX STM CI RIM: 446.94 IE OUT: 443.95 (12"SW) SUMP: 442.50
EX STM CI RIM: 443.40 IE OUT: 440.81 (12"N) SUMP: 439.30
EX STM CI RIM: 443.31 IE OUT: 440.84 (12"W) SUMP: 439.11
EX STM MH RIM: 437.72 IE IN: 434.93 (16"NW) IE OUT: 434.83 (16"SE)
EX STM CI RIM: 438.50 IE IN: 436.19 (6"SE) IE OUT: 436.03 (12"W) SUMP: 434.68
EX STM MH RIM: 440.03 IE IN: 435.63 (12"NE) IE IN: 435.60 (12"NW) IE OUT: 435.53 (12"SW)
EX STM MH RIM: 438.86 IE IN: 435.92 (12"N) IE IN: 435.93 (12"E) IE OUT: 435.83 (12"SW)
EX STM MH RIM: 444.15 IE IN: 435.70 (12"SW) IE IN: 436.10 (12"NE) IE IN: 435.50 (12"SE) IE OUT: 435.30 (12"NW)
EX STM CI RIM: 444.39 IE OUT: 438.09 (12"NE) SUMP: 437.99
EX STM CI RIM: 445.62 IE OUT: 439.72 (12"SE) SUMP: 445.62
EX STM CI RIM: 444.34 IE OUT: 438.53 (12"SW) SUMP: 439.06
EX STM MH RIM: 439.70 IE IN: 436.35 (12"N) IE OUT: 436.26 (12"SW)
EX STM MH RIM: 444.81 IE IN: 435.81 (12"SW) IE IN: 435.81 (12"NE) IE IN: 435.96 (12"SE) IE OUT: 435.75 (12"NW)
EX STM CI RIM: 438.10 IE IN: 436.77 (12"SE) IE OUT: 436.60 (12"S) SUMP: 434.73
EX STM CO RIM: 448.96 IE BEND: 441±
EX STM MH RIM: 448.87 IE IN: 440.07 (12"S) IE OUT: 439.93 (12"NE)
EX STM MH RIM: 437.36 IE IN: 432.41 (12"SE) IE IN: 432.30 (12"NE) IE OUT: 432.06 (12"SW)

STORM LATERAL BOARD
STORMWATER DISCHARGE POINT
TRANSMISSION LINE TOWER
FLAGPOLE
SHOP
GRAVEL
EXTRUDED CURB
12" PVC
12" DIP

NOTES:
- NRCS HYDROLOGICAL SOIL TYPE: BORNSTEDL SILT LOAM, JORY STONY SILT LOAM, XEROCHREPTS AND HAPLOXEROLLS
- INFILTRATION ASSESSMENT: 0.06-0.30 IN/HR (OPEN PIT FALLING HEAD METHOD)
- LAND USE AND ZONING: R-8

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

AKS
ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

WHEELER FARMS
OREGON CITY
OREGON
TAX LOTS 1001, 1100, 1180, AND 1291
TAX LOTS 1700 AND 1790
CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

SITE ASSESSMENT MAP

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/19/2017

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER 5621

SHEET 1

AKS DRAWING FILE: 5621 BASIN PRE.DWG | LAYOUT: ASSES

GEOTECHNICAL ENGINEERING REPORT

GeoPacific Engineering, Inc.

Real-World Geotechnical Solutions
Investigation • Design • Construction Support

June 16, 2017
Project No. 17-4521

Rian Park Development, Inc.
Attn: Bruce Ament
PO Box 2559
Oregon City, OR 97045

CC: Vu Nguyen, AKS Engineering & Forestry via email: VuN@aks-eng.com

SUBJECT: GEOTECHNICAL ENGINEERING REPORT
WHEELER FARMS SUBDIVISION
TAX LOTS 31E12D (01700/1790); 32E07C (1291/1180/1100/1001)
OREGON CITY, OREGON

This report presents the results of a geotechnical exploration conducted by GeoPacific Engineering, Inc. (GeoPacific) for the above-referenced project. The purpose of our work was to evaluate subsurface conditions at the site and provide recommendations for site development. This geotechnical exploration was performed in accordance with GeoPacific Proposal No. P-6025 dated March 16, 2017 and your subsequent authorization of our proposals and *General Conditions for Geotechnical Services*.

SITE AND PROJECT DESCRIPTION

The subject site is located at the eastern terminus of South White Lane in Oregon City, Clackamas County, Oregon. The property consists of six parcels that total approximately 22.5 acres. Topography is flat to gently sloping to the southeast with grades of 5 to 20 percent. Grades steepen to approximately 50 percent grade to the east. A large, prehistoric or ancient (greater than 150 years old) landslide is located along the eastern property line and beyond. One home and auxiliary structure currently occupies the site. Vegetation consists primarily of short grasses and dense to sparse trees. Two parcels are occupied by orchard and Christmas trees are present elsewhere. A 125 foot electric transmission line easement bisects the central portion of the property.

It is our understanding that the proposed development will consist of a 77 lot subdivision for single family homes, new streets, water quality facility, open space, and associated underground utilities. The grading plan provided for our review indicates maximum cuts will be on the order of 13 feet and fills will be on the order of about 10 feet.

REGIONAL GEOLOGIC SETTING

Regionally, the subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins.

The subject site lies on a broad volcanic plateau underlain by the Boring Lava Formation which formed during a period of Plio-Pleistocene (5 to 0.2 million years ago) volcanism and faulting (Schlicker and Finlayson, 1979). The Boring Lava consists mainly of basaltic lava flows, but locally contains tuff breccia, ash, tuff, cinders, and scoriaceous volcanic debris flows deposited on the flanks of volcanic cones. The flows are commonly light gray to nearly black, with lighter tones predominating, and are characterized by columnar jointing and flow structures. The upper surface of the Boring Lava is typically weathered to depths of 25 feet or more with the upper 5 to 15 feet consisting of red-brown, clayey silt to silty clay soil.

Underlying the Boring Lava is the late Miocene to late Pliocene age (6 to 1.6 million years old) Troutdale Formation (Madin, 2009; Schlicker and Finlayson, 1979). In the site vicinity, the Troutdale Formation consists primarily of massive mudstone, claystone, and siltstone with minor sandstone and water-laid tuff. Ripples, channels and cross bedding structures are common, indicating a fluvial origin of deposition. Locally, the Troutdale Formation may contains organic material including wood and logs.

REGIONAL SEISMIC SETTING

At least three major source zones capable of generating damaging earthquakes are thought to exist in the vicinity of the subject site.

Portland Hills Fault Zone

The Portland Hills Fault Zone is a series of NW-trending faults that include the central Portland Hills Fault, the western Oatfield Fault, and the eastern East Bank Fault. These faults occur in a northwest-trending zone that varies in width between 3.5 and 5.0 miles. The combined three faults vertically displace the Columbia River Basalt by 1,130 feet and appear to control thickness changes in late Pleistocene (approx. 780,000 years) sediment (Madin, 1990). The Portland Hills Fault occurs along the Willamette River at the base of the Portland Hills, and is about 5 miles northeast of the site. The Oatfield Fault occurs along the western side of the Portland Hills, and is about 4.5 miles northeast of the site. The accuracy of the fault mapping is stated to be within 500 meters (Wong, et al., 2000). No historical seismicity is correlated with the mapped portion of the Portland Hills Fault Zone, but in 1991 a M3.5 earthquake occurred on a NW-trending shear plane located 1.3 miles east of the fault (Yelin, 1992). Although there is no definitive evidence of recent activity, the Portland Hills Fault Zone is assumed to be potentially active (Geomatrix Consultants, 1995).

Gales Creek-Newberg-Mt. Angel Structural Zone

The Gales Creek-Newberg-Mt. Angel Structural Zone is a 50-mile-long zone of discontinuous, NW-trending faults that lies about 16 miles southwest of the subject site. These faults are recognized in the subsurface by vertical separation of the Columbia River Basalt and offset seismic reflectors in the overlying basin sediment (Yeats et al., 1996; Werner et al., 1992). A recent geologic reconnaissance and photogeologic analysis study conducted for the Scoggins Dam site in the

Tualatin Basin revealed no evidence of deformed geomorphic surfaces along the structural zone (Unruh et al., 1994). No seismicity has been recorded on the Gales Creek or Newberg Faults (the faults closest to the subject site); however, these faults are considered to be potentially active because they may connect with the seismically active Mount Angel Fault and the rupture plane of the 1993 M5.6 Scotts Mills earthquake (Werner et al. 1992; Geomatrix Consultants, 1995).

Cascadia Subduction Zone

The Cascadia Subduction Zone is a 680-mile-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continent at a rate of 4 cm per year (Goldfinger et al., 1996). A growing body of geologic evidence suggests that prehistoric subduction zone earthquakes have occurred (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). This evidence includes: (1) buried tidal marshes recording episodic, sudden subsidence along the coast of northern California, Oregon, and Washington, (2) burial of subsided tidal marshes by tsunami wave deposits, (3) paleoliquefaction features, and (4) geodetic uplift patterns on the Oregon coast. Radiocarbon dates on buried tidal marshes indicate a recurrence interval for major subduction zone earthquakes of 250 to 650 years with the last event occurring 300 years ago (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). The inferred seismogenic portion of the plate interface lies roughly along the Oregon Coast at depths of 20 and 40 kilometers below the ocean surface.

FIELD EXPLORATION

Our site-specific exploration for this report was conducted on April 20, May 9, and May 10, 2017. Ten exploratory test pits were excavated with a medium sized trackhoe to depths ranging between 10 and 12 feet at the approximate locations shown on Figure 2. Two exploratory borings (designated B-1 and B-2) were drilled with a track mounted drill rig to depths of 35 to 101.5 feet at the approximate locations indicated on Figure 2. It should be noted that exploration locations were located in the field by pacing or taping distances from apparent property corners and other site features shown on the plans provided. As such, the locations of the explorations should be considered approximate.

The boreholes were drilled using a track mounted drill rig and mud rotary methods operated by Western States Soil Conservation, Inc. of Hubbard, Oregon. At each boring location, SPT (Standard Penetration Test) sampling was performed in general accordance with ASTM D1586 using a 2-inch outside diameter split-spoon sampler and a 140-pound hammer equipped with a rope and cathead mechanism. During the test, a sample is obtained by driving the sampler 18 inches into the soil with the hammer free-falling 30 inches. The number of blows for each 6 inches of penetration is recorded. The Standard Penetration Resistance ("N-value") of the soil is calculated as the number of blows required for the final 12 inches of penetration. If 50 or more blows are recorded within a single 6-inch interval, the test is terminated, and the blow count is recorded as 50 blows for the number of inches driven. This resistance, or N-value, provides a measure of the relative density of granular soils and the relative consistency of cohesive soils. At the completion of the borings, the holes were backfilled with bentonite.

A GeoPacific geologist continuously monitored the field exploration program and logged the explorations. Soils observed in the explorations were classified in general accordance with the Unified Soil Classification System. Rock hardness was classified in accordance with Table 1, modified from the ODOT Rock Hardness Classification Chart. During exploration, our geologist also noted geotechnical conditions such as soil consistency, moisture and groundwater conditions.

Logs of the test pits and borings are attached to this report. The following report sections are based on the exploration program and summarize subsurface conditions encountered at the site.

Table 1. Rock Hardness Classification Chart

ODOT Rock Hardness Rating	Field Criteria	Unconfined Compressive Strength	Typical Equipment Needed For Excavation
Extremely Soft (R0)	Indented by thumbnail	<100 psi	Small excavator
Very Soft (R1)	Scratched by thumbnail, crumbled by rock hammer	100-1,000 psi	Small excavator
Soft (R2)	Not scratched by thumbnail, indented by rock hammer	1,000-4,000 psi	Medium excavator (slow digging with small excavator)
Medium Hard (R3)	Scratched or fractured by rock hammer	4,000-8,000 psi	Medium to large excavator (slow to very slow digging), typically requires chipping with hydraulic hammer or mass excavation)
Hard (R4)	Scratched or fractured w/ difficulty	8,000-16,000 psi	Slow chipping with hydraulic hammer and/or blasting
Very Hard (R5)	Not scratched or fractured after many blows, hammer rebounds	>16,000 psi	Blasting

SUBSURFACE CONDITIONS

Results of the field exploration program indicate the site is underlain by a topsoil horizon, residual soil and weathered rock belonging to the Boring Lava Formation, and residual soil and weathered rock belonging to the Troutdale Formation. The observed soil and groundwater conditions are summarized below.

Topsoil – The ground surface in test pits TP-1 through TP-10 and borings B-1 and B-2 was directly underlain by a moderately organic topsoil horizon. The topsoil horizon was composed of light brown clayey silt (OL-ML) that contained fine roots throughout. The topsoil generally extended to a depth of 8 to 12 inches and had a medium stiff consistency.

Residual Soil of Boring Lava Formation – Underlying the topsoil horizon in test pits TP-1 through TP-10 and borings B-1 and B-2 was clayey silt (ML) to silty clay (CL) residual soil resulting from in-place weathering of the underlying Boring Lava Formation. The light reddish brown silty clay to clayey silt contained weathered basalt fragments and was generally characterized by a stiff to very stiff consistency. In explorations, the residual soil extended to a depth of 2.5 to 8 feet.

Boring Lava Formation – Highly weathered basalt belonging to the Boring Lava Formation was encountered beneath the residual soil in test pits TP-1 through TP-10 and borings B-1 and B-2. The basalt was weathered to extremely soft (R0) to very soft (R1) and contained trace silty clay to clayey silt matrix. In test pits TP-1 through TP10, the extremely soft (R0) to very soft (R1) basalt extended beyond the maximum depth of exploration (10 to 12 feet). The extremely soft (R0) to

very soft (R1) basalt transitioned to soft (R2) to medium hard (R3) basalt in borings B-1 and B-2 at depths of 9 and 18 feet, respectively. The soft (R2) to medium hard (R3) basalt extended beyond the maximum depth of exploration in boring B-2 (35 feet). The medium-size trackhoe used for our explorations was able to excavate the R0 and R1 basalt with relative ease and practical refusal was not met in any test pit explorations to a maximum depth of 12 feet.

Residual Soil of Troutdale Formation – Underlying the basalt belonging to the Boring Lava Formation in boring B-1 was clayey silt (ML) with trace sand residual soil resulting from in-place weathering of the underlying Troutdale Formation. The light brown clayey silt exhibited dark red mottling and was generally characterized by a very stiff consistency. In boring B-1, the residual soil of the Troutdale Formation extended to a depth of 31 feet.

Troutdale Formation – The residual soil of the Troutdale Formation in boring B-1 was underlain by mudstone belonging to the Troutdale Formation. The mudstone was weathered and classified as extremely soft (R0) to very soft (R1) according to the ODOT Rock Hardness Chart (Table 1). The mudstone was brown to brownish gray in color and trace laminar bedding could be observed. The mudstone extended to a depth of approximately 57 feet and standard penetration testing indicate a hard consistency with N values on the order of N=41 to N=50 for 5.5 inches. The weathered mudstone was underlain by extremely soft (R0) sandstone that contained trace silt. Standard penetration testing indicates the sandstone is very dense with N-values ranging from N=64 to N=50 for 5.75 inches. The highly weathered sandstone extended beyond the maximum depth of exploration in boring B-1 (101.5 feet).

Groundwater

On April 20 and May 9-10, 2017, soils encountered in explorations were damp to moist. Static groundwater was not encountered in test pits to a depth of 12 feet. Groundwater could not be determined in the borings due to mud rotary techniques. Perched groundwater seepage was encountered in test pit TP-9 at a depth of 6 feet. Discharge was visually estimated at less than ¼ gallon per minute. Regional groundwater mapping by Snyder (2008) indicates groundwater levels are approximately 40 to 60 feet below the existing ground surface. Experience has shown that temporary perched storm-related groundwater conditions often occur within the surface soils over fine-grained native deposits such as those beneath the site, particularly during the wet season. It is anticipated that groundwater conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors.

The 1979 Geology and Geologic Hazards Study by Schlicker and Finlayson identifies the area has having wet soils and/or a high water table; this is the study that primarily helped modify Oregon City's development code to require that groundwater concerns be addressed. This regionally mapped wet soils condition is predominantly created by storm runoff during the wet season due to the impermeable clay soils derived from the Boring Lava Formation and slow draining topography of the Oregon City plain. Such shallow, perched groundwater is a lesser geotechnical issue than seeps or springs created from groundwater emanating from below due to geologic structural control of groundwater flow. The effects of shallow perched groundwater are most pronounced in low-lying areas which are currently mapped as wetlands and stay wet for longer periods, perhaps year round. At the time of the 1979 report, areas of severe concern such as low-lying wetlands and drainages could still be developed. This report served as a warning for those attempting to develop in low-lying areas that localized development sites may have more severe problems than the average site in the region and that specific types of constructed systems may experience water related difficulties. The report specifically addresses concerns relating to hydrostatic pressures on basement walls, underground storage tanks, and poor performance of septic systems. We do not

believe that any of these constructed systems are currently proposed at the Wheeler Farms Subdivision.

INFILTRATION TESTING

Soil infiltration testing was performed using the open hole infiltration method in test pits TP-1 through TP-10 at depths of 5 and 12 feet, as indicated on Table 2. The soil was pre-saturated for a period of over 3 hours. The water level was measured to the nearest tenth of an inch every half hour with reference to the ground surface. Table 2 presents the results of our falling head infiltration testing and do not incorporate a factor of safety.

Table 2. Summary of Infiltration Test Results

Test Pit	Depth (feet)	Soil Type	Infiltration Rate (in/hr)	Hydraulic Head Range (inches)
TP-1	5	Highly Weathered Basalt	***0.9***	7-11
TP-2	5	Highly Weathered Basalt	***1.3***	8-14
TP-3	12	Highly Weathered Basalt	***2.8***	6-20
TP-4	12	Highly Weathered Basalt	0.2	23-24
TP-5	12	Highly Weathered Basalt	0.06	23-24
TP-6	5	Silty Clay (CL) to Clayey Silt (ML) (Residual Soil)	***4.0***	2-13
TP-7	5	Silty Clay (CL) to Clayey Silt (ML) with Basalt (Residual Soil)	***3.5***	11-19
TP-8	5	Highly Weathered Basalt	0.1	25-26
TP-9	5	Highly Weathered Basalt	***1.4***	14-20
TP-10	5	Highly Weathered Basalt	0.3	24-26

***Note*:** Test results considered too high for materials observed.

Slope Stability

For the purpose of evaluating slope stability, we: (1) reviewed of published geologic mapping, (2) performed a field reconnaissance of the property, and (3) performed a program of subsurface exploration including test pits and borings.

Landslide inventory mapping of the Oregon City Quadrangle and the statewide landslide database indicates the headscarp of a prehistoric or ancient landslide (greater than 150 years old) is present along the southeastern property line, as indicated on Figure 1B (Burns and Madin, 2009, Dogami SLIDO, 2017). The landslide is classified as a rock slide-rotational with an earthflow component. The Dogami SLIDO database indicates the landslide is deep seated with a failure depth of approximately 70 to 75 feet. Our reconnaissance and review of Lidar based high resolution digital

elevation maps (Dogami, 2017) indicate slope geomorphology adjacent to the ancient landslide is smooth and uniform. No evidence of recent movement (ground cracks, scarps, or hummocky topography) was observed during our reconnaissance.

The Troutdale Formation, which underlies the site vicinity at depth, includes a thick sequence of weak sedimentary strata that are prone to instability on moderate to steep slopes. Regionally, many large landslides are mapped within the Troutdale Formation primarily on the side slopes of drainages where stream erosion has deeply incised the formation and created oversteepened slopes (Schlicker and Finlayson, 1979; Madin, 1994; Madin and Burns, 2006). In areas where the Troutdale Formation is capped by Boring Lava, these landslides are known to propagate upslope by undermining large blocks of Boring Lava Formation.

Subsurface exploration indicates that the ground surface is underlain by residual soil and weathered rock belonging to the Boring Lava Formation underlain by residual soil and weathered mudstone and sandstone belonging to the Troutdale Formation. Pocket penetrometer measurements of the residual soil of the Boring Lava Formation indicate an approximate unconfined compressive strength of 1.0 to 4.5 tons/ft^2 which correlates to a stiff to very stiff consistency. The residual soil extended to a depth of 2.5 to 8 feet and was underlain by weathered Boring Lava basalt. Standard penetration tests in borings B-1 and B-2 indicate that the basalt has a generally stiff to hard consistency with N-values ranging between N=4 and N=50 for less than 1 inch. In boring B-1, the basalt was underlain by residual soil of the Troutdale Formation that had a very stiff consistency with N-values ranging between N=14 and N=18. The residual soil extended to a depth of 31 feet and was underlain by weathered mudstone belonging to the Troutdale Formation. The mudstone had a hard consistency with N-values of N=41 to N=50 for 4.5 inches. In boring B-1, the mudstone was underlain by weathered sandstone that was very dense with N-values of N=56 to N=50 for 5 inches. No weak zones such as volcanic ash layers were observed in explorations and contacts between the layers appeared to be gradational. Our explorations indicate that native soils underlying the slope are characterized by moderate shear strength and a moderate to high resistance to slope instability.

In our opinion, prior slope instability southeast of and along the southeastern property line of the site likely resulted from failure of steeply sloping exposures of the Troutdale Formation and undermining of the Boring Lava. Since the failure occurred greater than 150 years ago, slopes adjacent to the landslide are less steep and existing landslide debris support the toe of the slope. Existing Boring Lava and Troutdale Formation materials are very stiff to hard and no evidence of recent landslide movement was observed. In order to prevent damage caused by reactivation of the headscarp of the existing slide, a 50 foot horizontal building to top of steep slope setback is recommended for lots adjacent to the headscarp (Lots 51 through 53, Lot 63, and Lot 64.

CONCLUSIONS AND RECOMMENDATIONS

Our investigation indicates that the proposed development is geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. In our opinion, the greatest geotechnical constraint for this project is the potential for encountering hard rock boulders and the steep slope in the southeastern portion of the site. Due to the presence of the headscarp and prehistoric/ancient landslide along the southeast property line and to the southeast of the property, a 50 foot horizontal building to top of steep slope setback is recommended for structures on Lots 51 through 53, Lot 63, and Lot 64.

The Boring Lava Formation, which underlies the site, is known for hard, rounded basalt boulders which could hamper excavations (such as for utility trenching). The rock encountered in test pits

was highly weathered and excavatable to depths of 10 to 12 feet and practical refusal was not achieved. Large, hard boulders should be expected throughout the site that could make deep excavations difficult. Contractors should be prepared to manage difficult excavation conditions and budget accordingly.

Stormwater Disposal

The results of our infiltration testing indicate that soils have a limited infiltration capacity at depths of 5 and 12 feet below the ground surface in clayey silt to silty clay residual soils and weathered basalt, as shown on Table 2. Testing conducted in test pits TP-1 through TP-3, TP-6, TP-7, and TP-9 yielded higher infiltration rates than testing conducted elsewhere at the site under similar geologic conditions. These higher rates may be due to fractures in the weathered basalt or rooted zones within the residual soil that would likely silt up over time or become saturated quickly in a storm event.

Infiltration test methods and procedures attempt to simulate the as-built conditions of the planned subsurface disposal system. However, due to natural variations in soil properties, actual infiltration rates may vary from the measured and/or recommended design rates. All systems should be constructed such that potential overflow is discharged in a controlled manner away from structures, and all systems should include an adequate factor of safety. Infiltration rates presented in this report should not be applied to inappropriate or complex hydrological models such as a closed basin without extensive further studies. This report presents infiltration test results only, and should not be construed as an approval of a system design.

Site Preparation

Areas of proposed buildings, new streets, and areas to receive fill should be cleared of vegetation and any organic and inorganic debris. Existing buried structures, should be demolished and any cavities structurally backfilled. Inorganic debris and organic materials from clearing should be removed from the site.

Existing fill and any organic-rich topsoil should then be stripped from construction areas of the site or where engineered fill is to be placed. Fill was not encountered in our explorations; however, areas of fill may be present elsewhere at the site, especially in the vicinity of the exiting structures. The estimated depth range necessary for removal of topsoil in cut and fill areas is approximately 6 to 9 inches, respectively. Deeper stripping may be necessary to remove large tree roots in orchard and Christmas tree areas. The final depth of soil removal will be determined on the basis of a site inspection after the stripping/ excavation has been performed. Stripped topsoil should preferably be removed from the site. Any remaining topsoil should be stockpiled only in designated areas and stripping operations should be observed and documented by the geotechnical engineer or his representative. Any remaining undocumented fills and subsurface structures (tile drains, basements, driveway and landscaping fill, old utility lines, septic leach fields, etc.) should be removed and the excavations backfilled with engineered fill.

Once stripping of a particular area is approved, the area must be ripped or tilled to a depth of 12 inches, moisture conditioned, root-picked, and compacted in-place prior to the placement of engineered fill or crushed aggregate base for pavement. Exposed subgrade soils should be evaluated by the geotechnical engineer. For large areas, this evaluation is normally performed by proof-rolling the exposed subgrade with a fully loaded scraper or dump truck. For smaller areas where access is restricted, the subgrade should be evaluated by probing the soil with a steel probe. Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition, over-excavated and replaced with engineered fill (as described below), or

stabilized with rock prior to placement of engineered fill. The depth of overexcavation, if required, should be evaluated by the geotechnical engineer at the time of construction.

Excavating Conditions and Utility Trenches

We anticipate that on-site soils can be excavated using conventional heavy equipment such as scrapers and trackhoes. Highly weathered basalt bedrock was encountered in explorations throughout the site at depths of 2.5 to 8 feet. Practical refusal on soft (R2) to medium hard (R3) basalt boulders was not achieved in explorations. Our test pit explorations indicate the basalt bedrock is moderately weathered and excavation depths of 12 feet should be obtainable with conventional heavy equipment. Deeper excavations may encounter harder rock and based on our experience with soils in this area, large, hard boulders can be commonly encountered during construction activities. The selected contractor for site development should be prepared for encountering boulders.

All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926), or be shored. The existing native soils classify as Type B Soil and temporary excavation side slope inclinations as steep as 1H:1V may be assumed for planning purposes. This cut slope inclination is applicable to excavations above the water table only. Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions.

Saturated soils and groundwater may be encountered in utility trenches, particularly during the wet season. We anticipate that dewatering systems consisting of ditches, sumps and pumps would be adequate for control of perched groundwater. Regardless of the dewatering system used, it should be installed and operated such that in-place soils are prevented from being removed along with the groundwater.

Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

PVC pipe should be installed in accordance with the procedures specified in ASTM D2321. We recommend that trench backfill be compacted to at least 95% of the maximum dry density obtained by Modified Proctor ASTM D1557 or equivalent. Initial backfill lift thickness for a ¾"-0 crushed aggregate base may need to be as great as 4 feet to reduce the risk of flattening underlying flexible pipe. Subsequent lift thickness should not exceed 1 foot. If imported granular fill material is used, then the lifts for large vibrating plate-compaction equipment (e.g. hoe compactor attachments) may be up to 2 feet, provided that proper compaction is being achieved and each lift is tested. Use of large vibrating compaction equipment should be carefully monitored near existing structures and improvements due to the potential for vibration-induced damage.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, one density test is taken for every 4 vertical feet of backfill on each 200-lineal-foot section of trench.

Engineered Fill

All grading for the proposed development should be performed as engineered grading in accordance with the applicable building code at time of construction with the exceptions and additions noted herein. Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Imported fill material must be approved by the geotechnical engineer prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

Engineered fill should be compacted in horizontal lifts not exceeding 8 inches using standard compaction equipment. We recommend that engineered fill be compacted to at least 95% of the maximum dry density determined by ASTM D698 (Standard Proctor) or equivalent. Field density testing should conform to ASTM D2922 and D3017, or D1556. All engineered fill should be observed and tested by the project geotechnical engineer or his representative. Rocky fill may need to be evaluated by proofrolling and should be placed wet of optimum moisture content. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 yd^3, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency. Site earthwork will be impacted by soil moisture and shallow groundwater conditions. Earthwork in wet weather would likely require extensive use of cement or lime treatment, or other special measures, at considerable additional cost compared to earthwork performed under dry-weather conditions.

Wet Weather Earthwork

Soils underlying the site are likely to be moisture sensitive and may be difficult to handle or traverse with construction equipment during periods of wet weather. Earthwork is typically most economical when performed under dry weather conditions. Earthwork performed during the wet-weather season will probably require expensive measures such as cement treatment or imported granular material to compact fill to the recommended engineering specifications. If earthwork is to be performed or fill is to be placed in wet weather or under wet conditions when soil moisture content is difficult to control, the following recommendations should be incorporated into the contract specifications.

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soils should be followed promptly by the placement and compaction of clean engineered fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance. Under some circumstances, it may be necessary to excavate soils with a backhoe to minimize subgrade disturbance caused by equipment traffic;
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water;
- Material used as engineered fill should consist of clean, granular soil containing less than 5 percent fines. The fines should be non-plastic. Alternatively, cement treatment of on-site soils may be performed to facilitate wet weather placement;
- The ground surface within the construction area should be sealed by a smooth drum vibratory roller, or equivalent, and under no circumstances should be left uncompacted and exposed to moisture. Soils which become too wet for compaction should be removed and replaced with clean granular materials;

- Excavation and placement of fill should be observed by the geotechnical engineer to verify that all unsuitable materials are removed and suitable compaction and site drainage is achieved; and
- Geotextile silt fences, straw wattles, and fiber rolls should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, GeoPacific should be contacted to provide additional recommendations and field monitoring.

Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion except in areas of moderately to steeply sloping topography. In our opinion, the primary concern regarding erosion potential will occur during construction, in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw bales and silt fences. If used, these erosion control devices should be in place and remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

Pavement Design

For design purposes, we used an estimated resilient modulus of 9,000 for compacted native soil. Table 3 presents our recommended minimum pavement section for dry weather construction.

Table 3. Recommended Minimum Dry-Weather Pavement Section

Material Layer	Light-duty Public Streets	Compaction Standard
Asphaltic Concrete (AC)	3 in.	92% of Rice Density AASHTO T-209
Crushed Aggregate Base ¾"-0 (leveling course)	2 in.	95% of Modified Proctor AASHTO T-180
Crushed Aggregate Base 1½"-0	8 in.	95% of Modified Proctor AASHTO T-180
Subgrade	12 in.	95% of Standard Proctor AASHTO T-99 or equivalent

Any pockets of organic debris or loose fill encountered during ripping or tilling should be removed and replaced with engineered fill (see *Site Preparation* Section). In order to verify subgrade strength, we recommend proof-rolling directly on subgrade with a loaded dump truck during dry weather and on top of base course in wet weather. Soft areas that pump, rut, or weave should be stabilized prior to paving. If pavement areas are to be constructed during wet weather, the subgrade and construction plan should be reviewed by the project geotechnical engineer at the

time of construction so that condition specific recommendations can be provided. The moisture sensitive subgrade soils make the site a difficult wet weather construction project.

During placement of pavement section materials, density testing should be performed to verify compliance with project specifications. Generally, one subgrade, one base course, and one asphalt compaction test is performed for every 100 to 200 linear feet of paving.

Spread Foundations

The proposed residential structures may be supported on shallow foundations bearing on competent undisturbed, native soils and/or engineered fill, appropriately designed and constructed as recommended in this report. Foundation design, construction, and setback requirements should conform to the applicable building code at the time of construction. For maximization of bearing strength and protection against frost heave, spread footings should be embedded at a minimum depth of 18 inches below exterior grade. The recommended minimum widths for continuous footings supporting wood-framed walls without masonry are 12 inches for single-story, 15 inches for two-story, and 18 inches for three-story structures. Minimum foundation reinforcement should consist of a No. 4 bar at the top of stem walls, and a No. 4 bar at the bottom of the footings.

The anticipated allowable soil bearing pressure is 1,500 lbs/ft^2 for footings bearing on competent, native soil and/or engineered fill. A maximum chimney and column load of 30 kips is recommended for the site. The recommended maximum allowable bearing pressure may be increased by 1/3 for short-term transient conditions such as wind and seismic loading. For heavier loads, the geotechnical engineer should be consulted. The coefficient of friction between on-site soil and poured-in-place concrete may be taken as 0.45, which includes no factor of safety. The maximum anticipated total and differential footing movements (generally from soil expansion and/or settlement) are 1 inch and ¾ inch over a span of 20 feet, respectively. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied. Excavations near structural footings should not extend within a 1H:1V plane projected downward from the bottom edge of footings.

Footing excavations should penetrate through topsoil and any loose soil to competent subgrade that is suitable for bearing support. All footing excavations should be trimmed neat, and all loose or softened soil should be removed from the excavation bottom prior to placing reinforcing steel bars. Due to the moisture sensitivity of on-site native soils, foundations constructed during the wet weather season may require overexcavation of footings and backfill with compacted, crushed aggregate.

Our recommendations are for house construction incorporating raised wood floors and conventional spread footing foundations. If living space of the structures will incorporate basements, a geotechnical engineer should be consulted to make additional recommendations for retaining walls, water-proofing, underslab drainage and wall subdrains. After site development, a Final Soil Engineer's Report should either confirm or modify the above recommendations.

Seismic Design

The Oregon Department of Geology and Mineral Industries (Dogami), Oregon HazVu: 2017 Statewide GeoHazards Viewer indicates that the site is in an area where *very strong* ground shaking is anticipated during an earthquake (Dogami HazVu, 2017). Structures should be designed to resist earthquake loading in accordance with the methodology described in the 2015 International Building Code (IBC) with applicable Oregon Structural Specialty Code (OSSC) revisions (current 2014). We recommend Site Class D be used for design per the OSSC, Table

1613.5.2 and as defined in ASCE 7, Chapter 20, Table 20.3-1. Design values determined for the site using the USGS (United States Geological Survey) 2017 Seismic Design Maps Summary Report are summarized in Table 4, and are based upon existing soil conditions.

Table 4. Recommended Earthquake Ground Motion Parameters (2010 ASCE-7)

Parameter	Value
Location (Lat, Long), degrees	45.321, -122.619
Mapped Spectral Acceleration Values (MCE):	
Peak Ground Acceleration PGA_M	0.439
Short Period, S_s	0.914 g
1.0 Sec Period, S_1	0.397 g
Soil Factors for Site Class D:	
F_a	1.134
F_v	1.606
Residential Site Value = 2/3 x F_a x S_s	0.691 g
Residential Seismic Design Category	D

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Soil liquefaction is generally limited to loose, granular soils located below the water table. According to the Oregon HazVu: Statewide Geohazards Viewer, the subject site is regionally characterized as having a low risk of soil liquefaction (DOGAMI:HazVu, 2017).

Footing and Roof Drains

Construction should include typical measures for controlling subsurface water beneath the homes, including positive crawlspace drainage to an adequate low-point drain exiting the foundation, visqueen covering the expose ground in the crawlspace, and crawlspace ventilation (foundation vents). The homebuyers should be informed and educated that some slow flowing water in the crawlspaces is considered normal and not necessarily detrimental to the home given these other design elements incorporated into its construction. Appropriate design professionals should be consulted regarding crawlspace ventilation, building material selection and mold prevention issues, which are outside GeoPacific's area of expertise.

Down spouts and roof drains should collect roof water in a system separate from the footing drains to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point and storm system well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

If the proposed structures will have a raised floor, and no concrete slab-on-grade floors in living spaces are used, perimeter footing drains would not be required based on soil conditions encountered at the site and experience with standard local construction practices. Where it is desired to reduce the potential for moist crawl spaces, footing drains may be installed. If concrete slab-on-grade floors are used, perimeter footing drains should be installed as recommended below.

Where necessary, perimeter footing drains should consist of 3 or 4-inch diameter, perforated plastic pipe embedded in a minimum of 1 ft^3 per lineal foot of clean, free-draining drain rock. The drain pipe and surrounding drain rock should be wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. A

minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. In our opinion, footing drains may outlet at the curb, or on the back sides of lots where sufficient fall is not available to allow drainage to meet the street.

UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, GeoPacific should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. The checklist attached to this report outlines recommended geotechnical observations and testing for the project. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, GeoPacific executed these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.

We appreciate this opportunity to be of service.

Sincerely,

GEOPACIFIC ENGINEERING, INC.

CERTIFIED OREGON ELIZABETH K. RAPP No. E2180 ENGINEERING GEOLOGIST

REGISTERED PROFESSIONAL ENGINEER 14743PE OREGON JAN. 23, 1990 JAMES D. IMBRIE

EXPIRES: 06/30/2019

Beth K. Rapp, C.E.G.
Senior Engineering Geologist

James D. Imbrie, P.E.
Principal Engineer

Attachments: References
Figure 1A – Vicinity Map
Figure 1B – Lidar Based Vicinity Map with Mapped Landslides
Figure 2 – Site Plan and Exploration Locations
Test Pit Logs (TP-1 through TP-10)
Boring Logs (B-1 & B-2)

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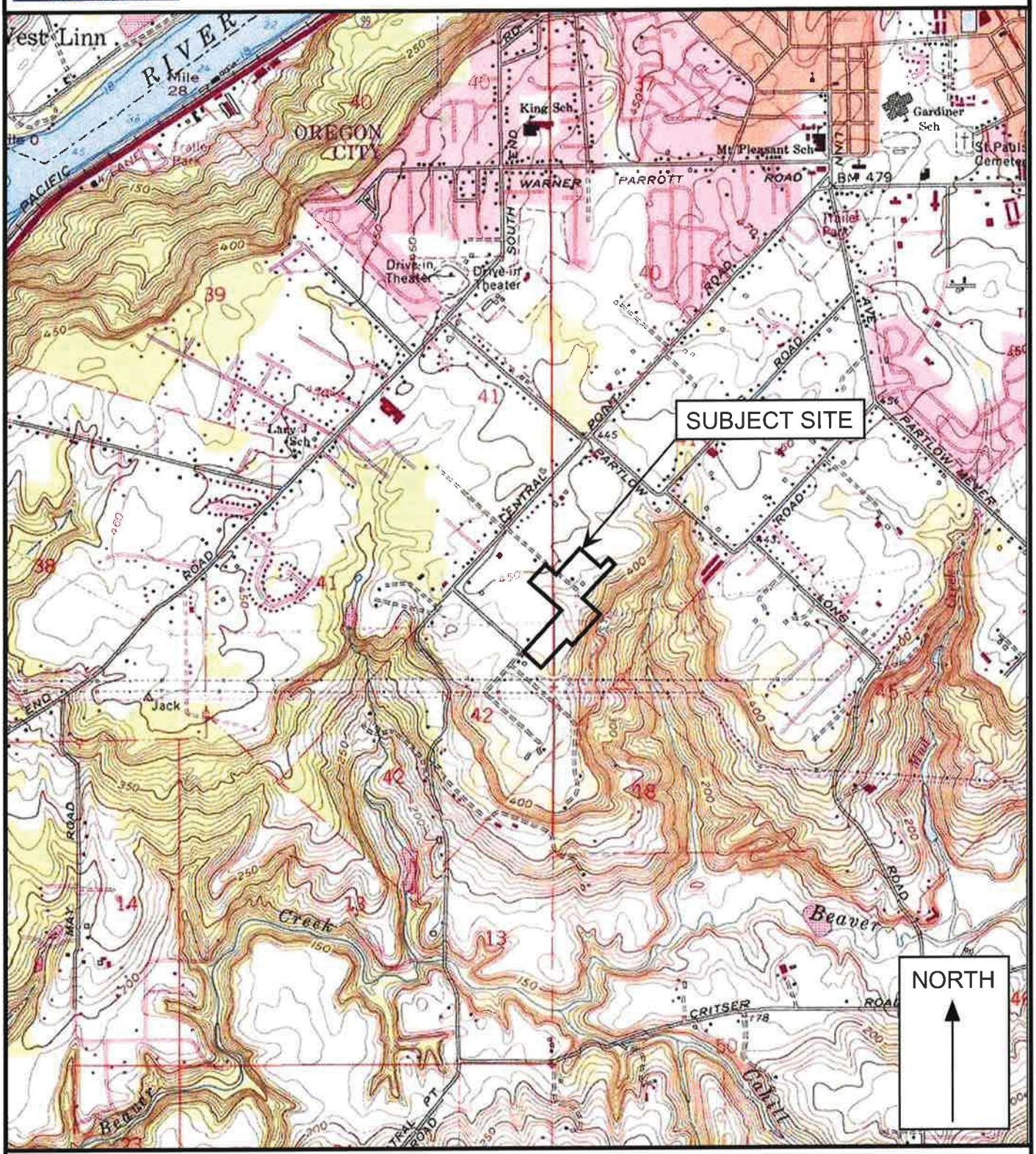
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VICINITY MAP



Legend

Approximate Scale 1 in = 2,000 ft

Date: 6/16/2017

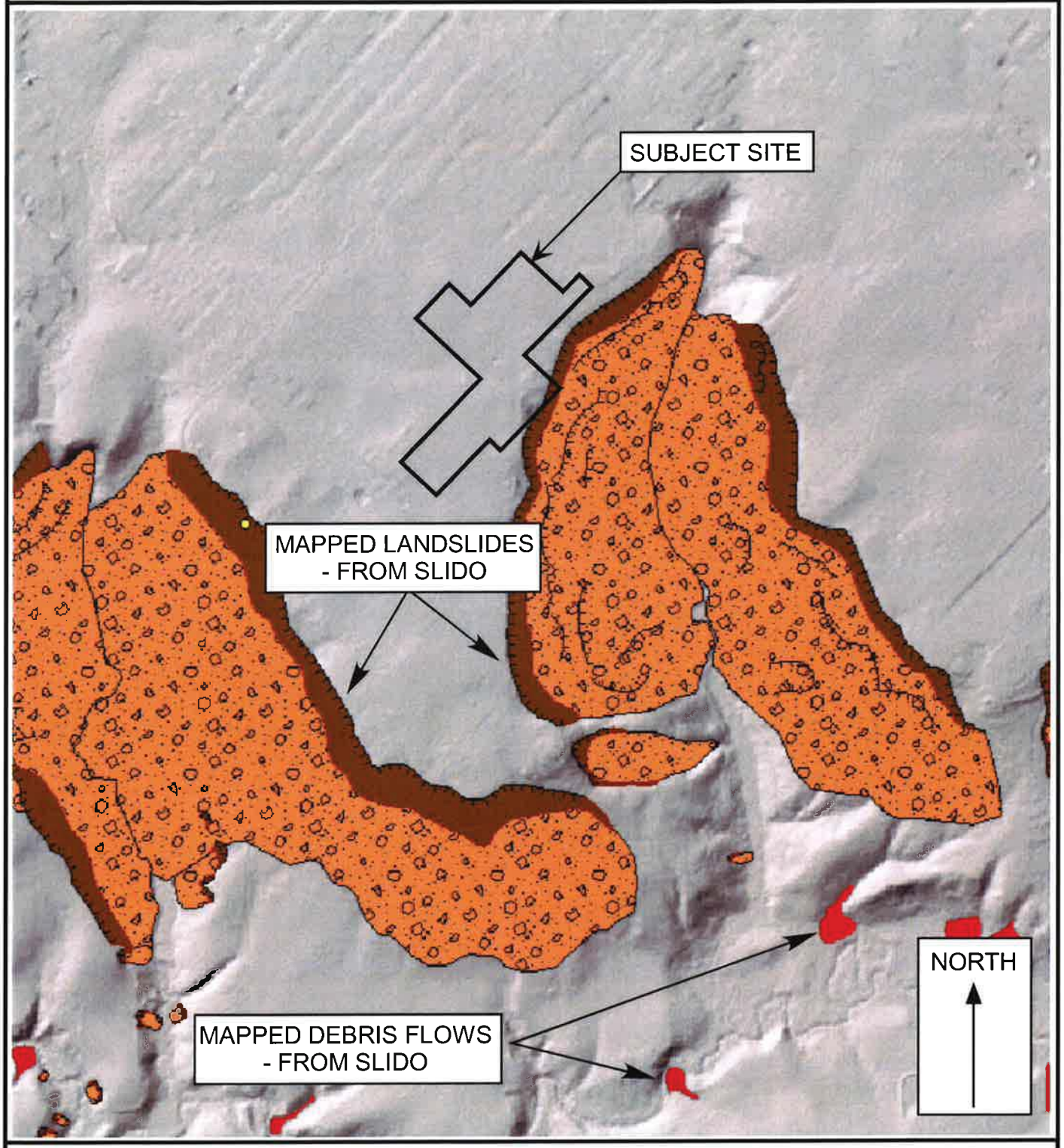
Drawn by: SRS

Base maps: U.S. Geological Survey 7.5 minute Topographic Map Series, Canby, Oregon Quadrangle, 1961 (Photorevised 1985) and Oregon City, Oregon Quadrangle, 1961 (Photorevised 1985).

Project: Wheeler Farms Oregon City, Oregon	Project No. 17-4521	FIGURE 1A

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LIDAR BASED VICINITY MAP - WITH MAPPED LANDSLIDES



Legend

Approximate Scale 1 in = 1000 ft

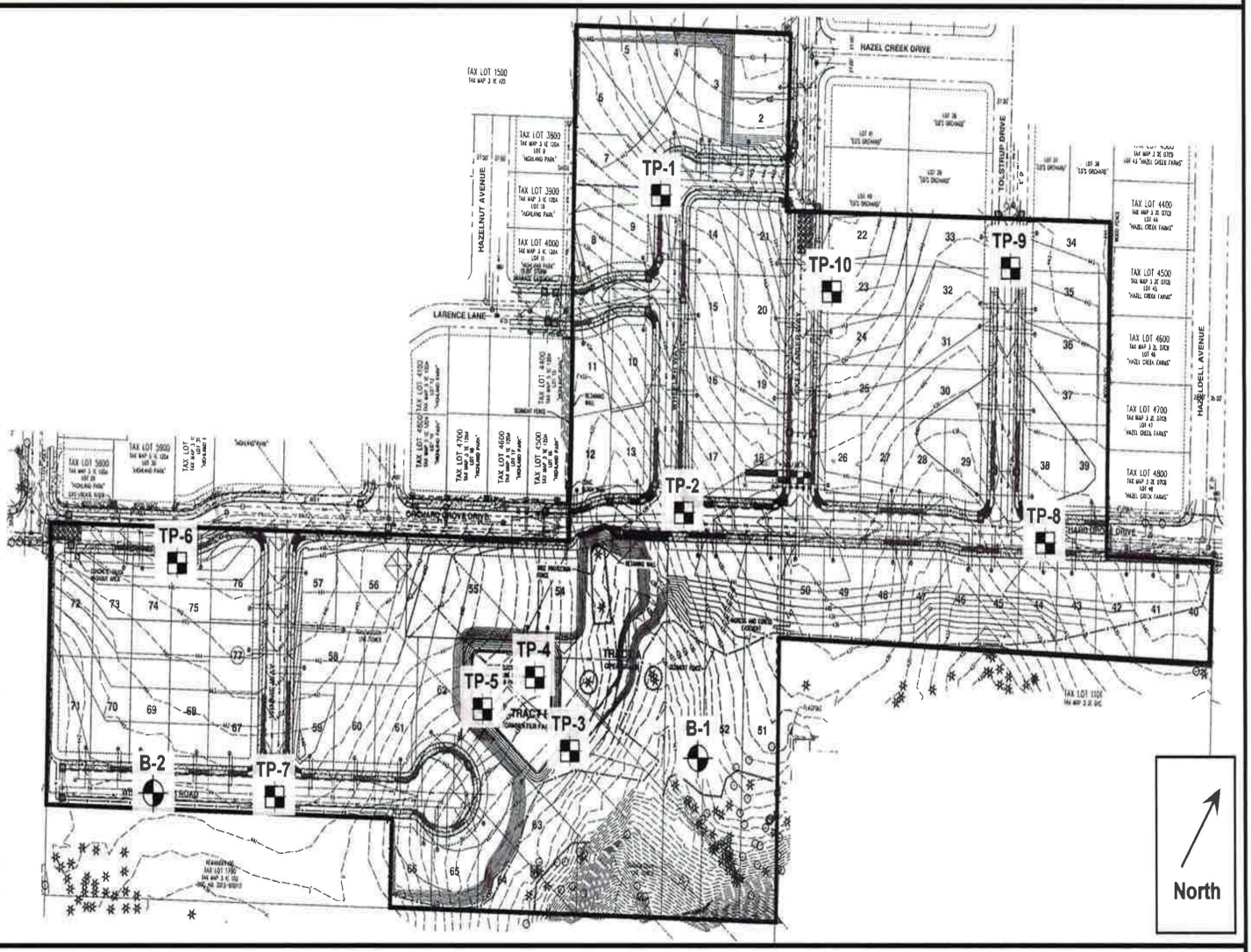
Date: 6/16/2017
Drawn by: SRS

Base map: Oregon Department of Geology and Mineral Industries, 2017, Statewide Landslide Information Database for Oregon (SLIDO): http://www.oregongeology.org/slido/index.html

Project: Wheeler Farms Oregon City, Oregon	Project No. 17-4521	FIGURE 1B

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SITE PLAN AND EXPLORATION LOCATIONS



Legend

TP-1 Test Pit Designation and Approximate Location

B-1 Boring Designation and Approximate Location

Date: 6/16/2017
Drawn by: EKR

0 200'

APPROXIMATE SCALE 1"=200'

Project: Wheeler Farms Oregon City, Oregon	Project No. 17-4521	FIGURE 2

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-1**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.5					Moderately organic SILT (OL-ML), trace clay, brown, loose, 2 inch thick root mat, moist (Topsoil)
2	2.0					Stiff, clayey SILT (ML) to silty CLAY (CL), light brown, moist, (Residual Soil)
3	4.0					
4	3.0					Extremely soft to very soft (R0-R1), highly weathered BASALT, trace light reddish brown silty clay matrix, gray to brown, trace black staining, trace fine roots, moist (Boring Lava Formation)
5						
6						Trace subrounded soft (R2) boulders up to 2 feet in diameter below 5½ feet below ground surface
7						
8						
9						
10						
11						Test Pit Terminated at 10½ Feet.
12						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-2**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.5					Moderately organic SILT (OL-ML), brown, loose, 3 inch thick root mat, trace roots throughout, moist (Topsoil)
2	2.0					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), trace subrounded gray weathered basalt, light brown, trace roots, trace charcoal, moist, (Residual Soil)
3	3.0					
4	3.0					Extremely soft to very soft (R0-R1), highly weathered BASALT, trace light reddish brown silty clay matrix, gray to brown, trace black staining, trace roots to 4 feet below ground surface, moist (Boring Lava Formation)
5						Some soft (R2) zones and boulders below 5 feet below ground surface
6						
7						
8						
9						
10						
11						Test Pit Terminated at 10½ Feet.
12						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-3**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.5					Moderately organic SILT (OL-ML), dark brown, loose, roots throughout, moist (Topsoil)
2	1.5					Stiff to very stiff, silty CLAY (CL), trace highly weathered gray basalt, light reddish brown, trace black staining, trace roots to 2½ feet below ground surface, moist (Residual Soil)
3	2.5					
4	2.5					Extremely soft to very soft (R0-R1), weathered BASALT, light reddish brown silty clay matrix, gray to brown, moist (Boring Lava Formation)
5						
6						
7						
8						
9						
10						Becomes very soft to soft (R1-R2) below 10 feet below ground surface
11						
12						Test Pit Terminated at 12 Feet. Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-4**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
0						Moderately organic SILT (OL-ML), brown, loose, roots throughout, moist (Topsoil)
1	1.5					Stiff to very stiff, silty CLAY (CL), trace weathered gray basalt, light reddish brown, moist (Residual Soil)
2	2.0					
3	3.0					
4	4.0					
5						
6						
7						
8						Extremely soft to very soft (R0-R1), highly weathered BASALT, trace light reddish brown silty clay matrix, gray to brown, moist (Boring Lava Formation)
9						
10						
11						
12						Test Pit Terminated at 12 Feet.
						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-5**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
0						Moderately organic SILT (OL-ML), dark brown, loose, roots throughout, moist (Topsoil)
1	2.0					Stiff to very stiff, silty CLAY (CL), trace weathered gray basalt, light reddish brown, trace black staining, trace roots to 4 feet below ground surface, moist (Residual Soil)
2	2.0					
3	3.5					
4	4.5					
5						
6						Extremely soft to very soft (R0-R1), highly weathered BASALT, light reddish brown silty clay matrix, gray to brown, trace black staining, trace soft (R2) boulders, trace white secondary mineralization, moist (Boring Lava Formation)
7						
8						
9						
10						
11						
12						Test Pit Terminated at 12 Feet.
						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-6**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic SILT (OL-ML), dark brown, loose, 3 inch thick root mat, moist (Topsoil)
1	1.5					Stiff to very stiff, silty CLAY (CL), light reddish brown, trace black staining, trace roots, moist (Residual Soil)
2	2.5					
3	3.5					
4	4.0					
5						
6						
7						Extremely soft (R0), highly weathered BASALT, trace light reddish brown silty clay matrix, gray to brown, moist (Boring Lava Formation)
8						
9						
10						Test Pit Terminated at 10 Feet.
11						Note: No seepage or groundwater encountered.
12						

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-7**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	2.0					Moderately organic SILT (OL-ML), brown, loose, fine roots throughout, moist (Topsoil)
2	2.0					Very stiff, clayey SILT (ML) to silty CLAY (CL), subrounded gray basalt below 4 feet below ground surface, trace light reddish brown, mottled, trace black staining, moist (Residual Soil)
3	4.5					
4	4.5					
5						
6						
7						
8						Extremely soft (R0), highly weathered BASALT, trace clayey silt to silty clay matrix, brown to gray, moist (Boring Lava Formation)
9						
10						
11						Test Pit Terminated at 11 Feet.
12						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-8**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic SILT (OL-ML), dark brown, loose, 3 inch thick root mat, fine roots throughout, moist (Topsoil)
1	1.5					Very stiff, clayey SILT (ML) to silty CLAY (CL), trace gray basalt, light reddish brown, trace black staining, trace roots to 4 feet below ground surface, moist (Residual Soil)
	3.5					
2	1.0					
	2.0					
3	3.0					
4	4.5					Extremely soft to very soft (R0-R1), highly weathered BASALT, trace light reddish brown silty clay matrix, trace soft (R2) boulders at 5 feet below ground surface, moist (Boring Lava Formation)
5						
6						
7						
8						
9						
10						
11						Test Pit Terminated at 11 Feet.
12						Note: No seepage or groundwater encountered.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-9**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic SILT (OL-ML), dark brown, loose, 5 inch thick root mat, trace fine roots, moist (Topsoil)
1	1.0					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), trace gray basalt, light brown, moist (Residual Soil)
	2.0					
2	2.5					
3	4.5					
4	4.5					Extremely soft to very soft (R0-R1), highly weathered, BASALT, trace silty clay matrix, brown to gray, secondary mineralization, moist (Boring Lava Formation)
5						
6						
7						
8						
9						
10						
11						Test Pit Terminated at 10½ Feet.
12						Note: Groundwater seepage encountered at 6 feet. Discharge visually estimated at less than ¼ gallon per minute.

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Wheeler Farms Subdivision
Oregon City, Oregon

Project No. 17-4521

Test Pit No. **TP-10**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic SILT (OL-ML), dark brown, loose, 5 inch thick root mat, trace fine roots, moist (Topsoil)
1	1.0					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), trace weathered basalt, light brown, roots to 2½ feet below ground surface, moist (Residual Soil)
	2.0					
2	2.0					
3	2.5					
4	4.5					Extremely soft (R0), highly weathered, BASALT, trace light reddish brown clayey silt to silty clay matrix, gray brown, secondary mineralization, moist (Boring Lava Formation)
5						
6						
7						
8						
9						
10						Test Pit Terminated at 10 Feet.
11						Note: No seepage or groundwater encountered.
12						

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 4/20/2017
Logged By: B. Rapp
Surface Elevation:

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BORING LOG

Project: Wheeler Farms Subdivision Oregon City, Oregon	Project No. 17-4521	Boring No. **B-1**

Depth (ft)	Sample Type	N-Value	Installation	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic, SILT (OL-ML), brown, trace fine roots, moist (Topsoil)
						Stiff, clayey SILT (ML) to silty CLAY (CL), trace basalt, brown, moist (Residual Soil)
		4				Medium stiff, extremely soft (R0), BASALT, trace light reddish brown silty clay to clayey silt matrix, gray, trace red staining, moist (Boring Lava Formation)
5		8				
		11				Stiff, extremely soft (R0) to very soft (R1), BASALT, trace light reddish brown silty clay to clayey silt matrix, gray, trace red staining, moist (Boring Lava Formation)
10		50 for 1"				Hard, soft (R2) to medium hard (R3), BASALT, trace light reddish brown silty clay to clayey silt matrix, gray, trace red staining, moist (Boring Lava Formation)
15		50 for <1"				
20		18				Very stiff, clayey SILT (ML), trace fine grained sand, light brown, strong dark red mottling, trace waxy texture, dark brown staining, micaceous, uniform, no bedding planes, moist (Residual Soil of Troutdale Formation)
25		14				
30		50 for 4½"				Hard, extremely soft (R0) to very soft (R1) MUDSTONE, brown to brownish gray, trace yellow and green secondary mineralization, micaceous, trace laminar bedding, moist (Troutdale Formation)
35						

LEGEND

Bag Sample (100 to 1,000 g) | Split-Spoon | Shelby Tube Sample | Static Water Table at Drilling | Static Water Table (10-20-99) | Water Bearing Zone

Date Excavated:
5/9/2017 to 5/10-2017
Logged By: B. Rapp
Surface Elevation:

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BORING LOG

Project: Wheeler Farms Subdivision Oregon City, Oregon	Project No. 17-4521	Boring No. **B-1**

Depth (ft)	Sample Type	N-Value	Installation	Moisture Content (%)	Water Bearing Zone	Material Description
		41				
40		50 for 5½"				
45		53				Hard, extremely soft (R0) to very soft (R1) MUDSTONE, brown to brownish gray, trace yellow and green secondary mineralization, micaceous, trace laminar bedding, moist (Troutdale Formation)
50		65				
55		62				
60		70				Very dense, extremely soft (R0), weathered SANDSTONE, trace silt, gray and brown, weathered to fine to medium grained sand, trace yellow secondary mineralization, micaceous, preserved bedding planes, sugary texture, some zones of extremely soft (R0) mudstone, damp to moist (Troutdale Formation)
65		64				
70						

LEGEND

Bag Sample (100 to 1,000 g) | Split-Spoon | Shelby Tube Sample | Static Water Table at Drilling | Static Water Table (10-20-09) | Water Bearing Zone

Date Excavated: 5/9/2017 to 5/10-2017

Logged By: B. Rapp

Surface Elevation:

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Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

BORING LOG

Project: Wheeler Farms Subdivision Oregon City, Oregon	Project No. 17-4521	Boring No. **B-1**

Depth (ft)	Sample Type	N-Value	Installation	Moisture Content (%)	Water Bearing Zone	Material Description
75		56				
		50 for 5¾"				
80		50 for 5"				Very dense, extremely soft (R0), weathered SANDSTONE, trace silt, gray and brown, weathered to fine to medium grained sand, trace yellow secondary mineralization, micaceous, preserved bedding planes, sugary texture, some zones of extremely soft (R0) mudstone, damp to moist (Troutdale Formation)
85		80				
90		58				
95		75				
100		67				
105						Boring Terminated at 101½ Feet. Groundwater could not be determined due to mud rotary techniques.

LEGEND

Bag Sample (100 to 1,000 g) | Split-Spoon | Shelby Tube Sample | Static Water Table at Drilling | Static Water Table (10-20-99) | Water Bearing Zone

Date Excavated: 5/9/2017 to 5/10-2017
Logged By: B. Rapp
Surface Elevation:

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Tel: (503) 598-8445 Fax: (503) 941-9281

BORING LOG

Project: Wheeler Farms Subdivision Oregon City, Oregon	Project No. 17-4521	Boring No. **B-2**

Depth (ft)	Sample Type	N-Value	Installation	Moisture Content (%)	Water Bearing Zone	Material Description
						Moderately organic, SILT (OL-ML), brown, trace fine roots, moist (Topsoil)
						Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), trace weathered basalt, light brown, moist (Residual Soil)
5		17				Stiff to very stiff, extremely soft (R0), highly weathered, BASALT, trace light reddish brown silty clay to clayey silt matrix, gray to brown, strong mottling, trace black staining, moist to very moist (Boring Lava Formation)
10		13				
15		18				Very stiff, extremely soft to very soft (R0-R1), highly weathered, BASALT, trace silty clay to clayey silt matrix, gray, trace black staining, red staining, moist to very moist (Boring Lava Formation)
20		50 for 1"				
25						Hard, soft to medium hard (R2-R3), BASALT, gray, trace silty clay to clayey silt matrix, gray, trace black staining, red staining, moist to very moist (Boring Lava Formation)
30						
35		50 for ½"				Boring Terminated at 35 Feet. Groundwater could not be determined due to mud rotary techniques.

LEGEND

Bag Sample (100 to 1,000 g) | Split-Spoon | Shelby Tube Sample | Static Water Table at Drilling | Static Water Table (10-20-99) | Water Bearing Zone

Date Excavated: 5/10/2017
Logged By: B. Rapp
Surface Elevation:

PRELIMINARY SITE PLAN



AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

ENGINEERING SURVEYING NATURAL RESOURCES
FORESTRY PLANNING LANDSCAPE ARCHITECTURE

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

TAX LOTS 1001, 1100, 1190, AND 1291
TAX LOTS 1100 AND 1790

DESIGNED BY:	VHN/NMC
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	06/19/2017

REVISIONS

JOB NUMBER
5621

SHEET

AKS DRAWING FILE: 5621 ENGR PLOT.DWG | LAYOUT: PLOT

BMP SIZING TOOL REPORT

WES BMP Sizing Software Version 1.6.0.1, August 2015

WES BMP Sizing Report

Project Information

Project Name	Wheeler Farms
Project Type	Subdivision
Location	19566 Central Point Road, Oregon City
Stormwater Management Area	30000
Project Applicant	Rian Park Development, Inc.
Jurisdiction	OutofDistrict

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
Roof (77 Lots)	203,280	Forested	Roofs	C	Pond
Total Pervious Grass	249,972	Forested	Grass	C	Street Swale
Street, Sidewalk and Driveway Approach	186,750	Forested	ConventionalConcrete	C	Street Swale
Total Pervious Landscape	249,971	Forested	LandscapeCsoil	C	Street Swale
Future Roof (7 Lots)	18,480	Forested	Roofs	C	Pond

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
Street Swale	WaterQuality	Vegetated Swale - Filtration	C3	5,763.4	9,500.0	3.5

Pond Sizing Details

Pond ID	Design Criteria(1)	Facility Soil Type	Max Depth (ft)(2)	Top Area (sq-ft)	Side Slope (1:H)	Facility Vol. (cu-ft)(3)	Water Storage Vol. (cu-ft)(4)	Adequate Size?
Pond	FCWQT	D1	5.25	17,900.0	3	73,584.5	51,242.3	Yes

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only

2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation layer and growing media).

3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.

4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.

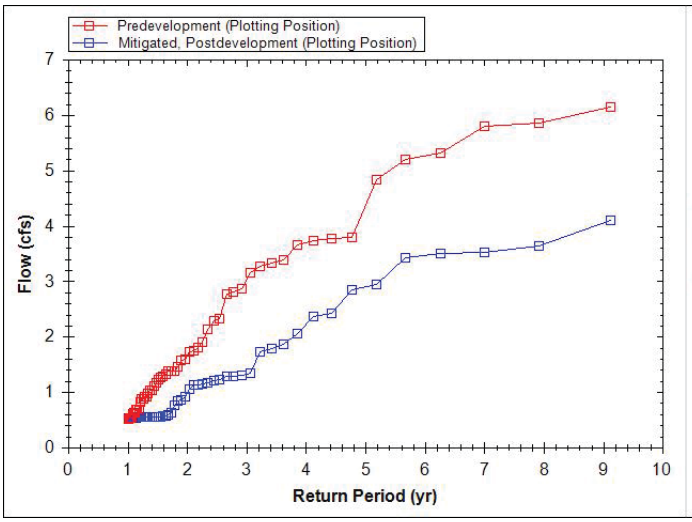
Custom Pond Geometry Configuration

Pond ID: Pond
Design: FlowControlAndTreatment

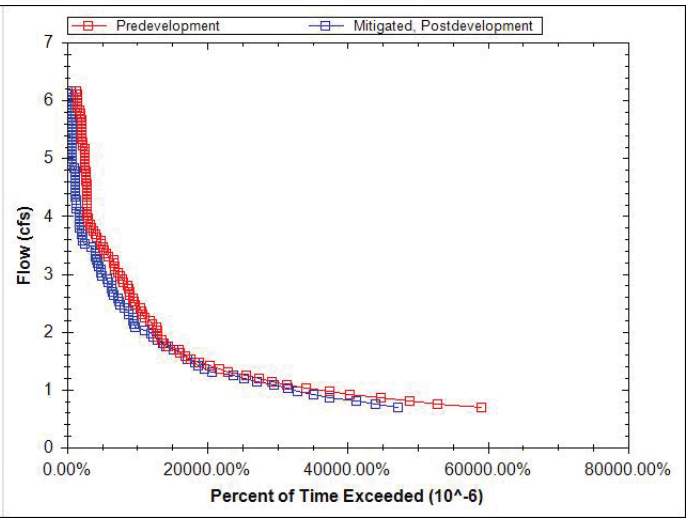
Shape Curve

Depth (ft)	Area (sq ft)	Discharge (cfs)
NaN	NaN	NaN

Flow Frequency Chart



Flow Duration Chart



BMP Sizing Tool

File

Project | Discharge Management Areas | Best Management Practices | Report | Warnings (2)

Add New Best Management Practice

Pond | Street Swale

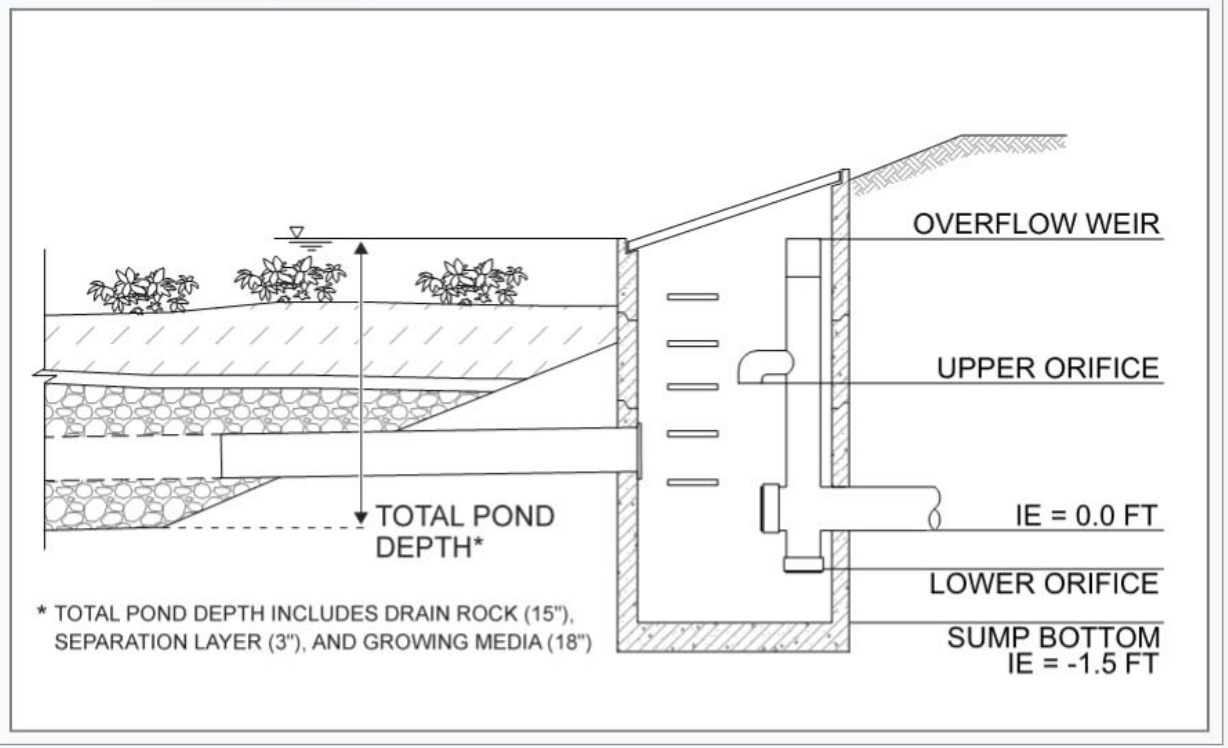
Detention Pond

Name	Pond
Facility Infiltration Rate	D1 (0.02 - 0.07 in/hr)
Treatment Type	Treatment and Flow Control

Geometry | Outlet Structure | Tributary Areas

Lower Orifice Diameter	3.4	in
Lower Orifice Invert	0.0	ft
Upper Orifice Diameter	12.6	in
Upper Orifice Invert	3.5	ft
Weir Length	6.3	ft
Weir Invert	4.3	ft

Facility Schematic | Flow Duration | Peak Flows



STORMWATER FACILITIES LOCATION



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ENGINEERING SURVEYING NATURAL RESOURCES
FORESTRY PLANNING LANDSCAPE ARCHITECTURE

CLACKAMAS COUNTY TAX MAP 3-2E-07C
CLACKAMAS COUNTY TAX MAP 3-1E-12D

TAX LOTS 1001, 1100, 1190, AND 1291
TAX LOTS 1700 AND 1790

DESIGNED BY:	VHN/NMC
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SCALE:	AS NOTED
DATE:	06/19/2017

REVISIONS

JOB NUMBER
5621

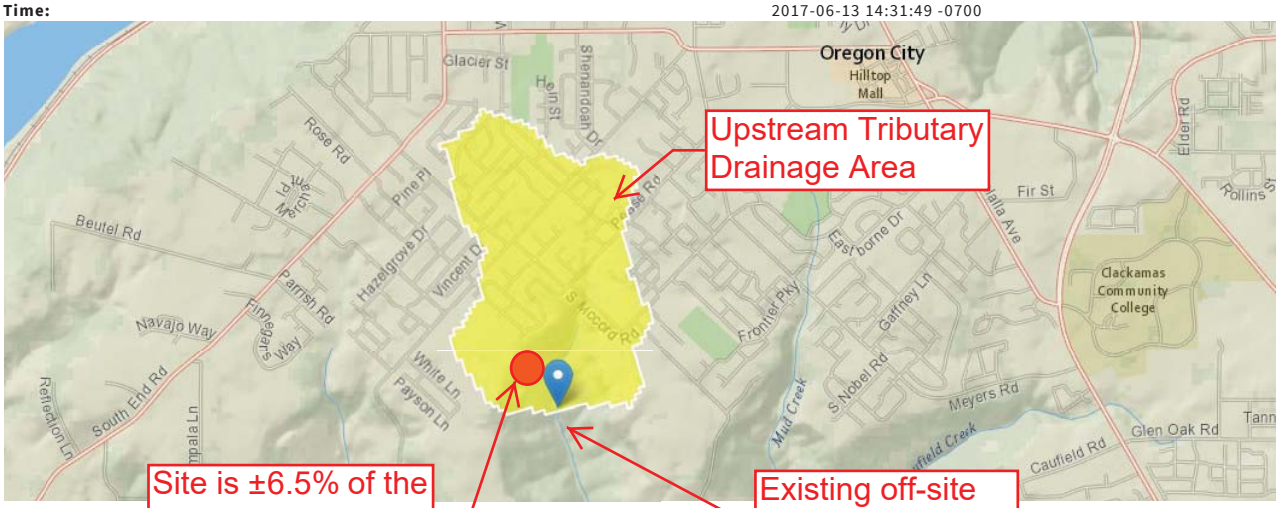
SHEET

AKS DRAWING FILE: S621 ENGR PSTLOW | LAYOUT: LOCATION

DOWNSTREAM ANALYSIS

StreamStats Report

Region ID:	OR
Workspace ID:	OR20170613173107274000
Clicked Point (Latitude, Longitude):	45.31848, -122.61513
Time:	2017-06-13 14:31:49 -0700

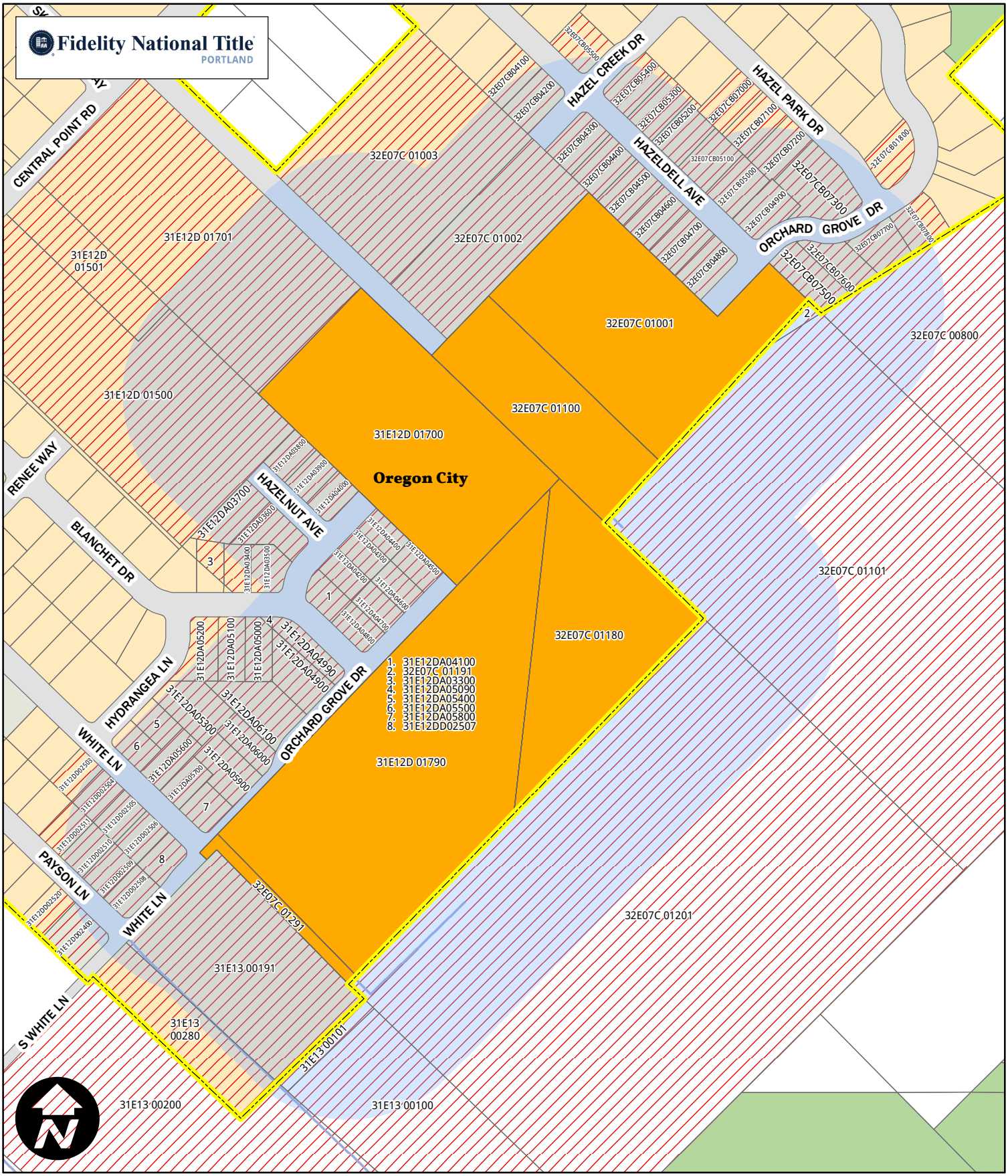


Wheeler Farms

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.55	square miles
I24H2Y	Maximum 24-hour precipitation that occurs on average once in 2 years - Equivalent to precitation intensity index	1.98	inches
SOILPERM	Average Soil Permeability	0.54	inches per hour
WATCAPORC	Available water capacity from STATSGO data using methods from SIR 2005-5116	0.15	inches
JANMAXT2K	Mean Maximum January Temperature from 2K resolution PRISM 1961-1990 data	46.6	degrees F
ORREG2	Oregon Region Number	10001	dimensionless
BSLOPD	Mean basin slope measured in degrees	3.56	degrees
JANMINT2K	Mean Minimum January Temperature from 2K resolution PRISM PRISM 1961-1990 data	34.3	degrees F
ELEV	Mean Basin Elevation	433	feet
PRECIP	Mean Annual Precipitation	49.3	inches
MINTEMP	Mean annual minimum air temperature over basin surface area as defined in SIR 2008-5126	43	degrees F

Exhibit O: Mailing Labels for 300-Foot Radius Owners



Public Notification Search

300 Feet

Subject
Notification
Incorporated city
Radius
Home Owners Association
City limits
Taxlots
Other

Prepared by: Fidelity National Title
Data: CoreLogic, Metro RLIS
Date: 3/14/2017
This information is reliable, but not guaranteed. It is not a survey.

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31E12D 01500
Naomi Lawyer
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31E13 00200
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32E07C 01191
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31E12DD02400
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31E12DD02503
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31E12DD02504
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31E12DD02505
Julie & Tyler Newsome
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31E12DD02506
Bryan Esler
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31E12DD02507
Brian Fosmark
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31E12DD02508
Jo Ann Rose
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31E12DD02509
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31E12DD02510
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Medford, OR 97504

31E12DD02511
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31E12DD02520
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32E07CB01800
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32E07CB04100
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32E07CB04200
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32E07CB04400
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32E07CB04900
Dennis Kennedy
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32E07CB05000
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32E07CB05500
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32E07CB07700
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31E12DA05500
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31E12DA03400
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Lake Oswego, OR 97035

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Lake Oswego, OR 97035

31E12DA03600
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31E12DA03800
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Lake Oswego, OR 97035

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Lake Oswego, OR 97035

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31E12DA04990
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA05090
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

Zone Change Application For Wheeler Family Properties

Date: June 2017

Submitted to:
City of Oregon City
Planning Division
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

Owners:
Wheeler Family Enterprises, LLC
David H. Wheeler Sr. Trust
Donald W. & Roxanne O. Wheeler



AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151

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Chapter 17.68: ZONE CHANGES AND AMENDMENT 3

17.68.020 Criteria 3

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Exhibits

Exhibit A: Preliminary Plans

Exhibit B: City Land Use Application Forms and Checklist

Exhibit C: Property Title Information

Exhibit D: Type I Natural Resource Overlay District Verification (NR 17-03)

Exhibit E: Transportation Impact Study

Exhibit F: Public Facilities Memorandum

Exhibit G: Neighborhood Meeting Documentation

Exhibit H: City Pre-Application Conference Summary

Exhibit I: Clackamas County Assessor's Maps

Exhibit J: Mailing Labels

Zone Change Application
For
Wheeler Family Properties

Submitted to:	City of Oregon City Planning Division 221 Molalla Avenue, Suite 200 Oregon City, OR 97045
Owners:	32E07C Tax Lot 1001 (Wheeler Family Enterprises, LLC) 32E07C Tax Lots 1100, 1180 (David H. Wheeler Sr. Trust) 32E07C Tax Lot 1291 (Donald W. & Roxanne O. Wheeler) 31E12D Tax Lots 1700, 1790 (Wheeler Family Enterprises, LLC)
Applicant:	Rian Park Development, Inc. P.O. Box 2559 Oregon City, OR 97045
Applicant's Consultant:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062 Contact: Monty Hurley (monty@aks-eng.com) Chris Goodell (chrisg@aks-eng.com) Phone: (503) 563-6151 Fax: (503) 563-6152
Clackamas County Assessor's Information:	Tax Map: 32E07C, Tax Lots: 1001, 1100, 1180, & 1291 Tax Map: 31E12D, Tax Lots: 1700 & 1790
Site Size:	±22.56 Acres
Current Zoning Designation:	LR – Low Density Residential / R-10
Planned Zoning Designation:	LR – Low Density Residential / R-8

I. Executive Summary

This application is for a zone change to change the existing R-10 zoning designation of the Wheeler family's six tax lots to an R-8 zoning designation. The Wheeler Family properties are located in an area that is redeveloping. Surrounding residential projects such as Payson Farms No. 2, Highland Park, Central Point Crossing, and Ed's Orchard have all annexed into the City, and successfully changed the zoning from R-10 to R-8.

The Wheeler Family has owned and operated a Christmas tree and hazelnut farm on the subject properties for over 50 years. As development of surrounding properties encroached the farm, new streets and utility infrastructure were extended to the farm's boundary to facilitate future development of the property and complete the intended network for the area. This zone change application is the first step in fulfilling Dave Wheeler Sr.'s vision of passing the farm onto his children for the future subdivision of the property and construction of single-family homes.

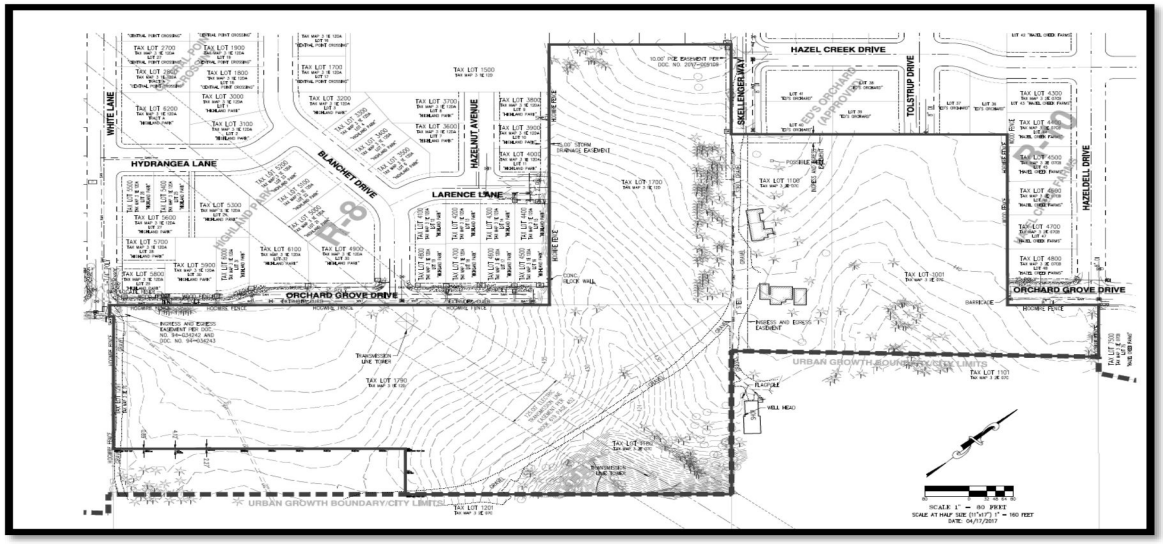
The submittal materials include the required findings and other documentation necessary to establish compliance with all applicable approval criteria.

II. Site Description / Setting

The Wheeler Family owns approximately ±22.56 acres of land that is situated south of the Ed's Orchard Subdivision, west of the Hazel Creek Farms Subdivision, east of the Highland Park Subdivision, and north of the Urban Growth Boundary. The Wheeler Family properties have frontage on Orchard Grove Drive, Larence Lane, Skellenger Way, and Tolstrup Drive. These streets are considered public streets that have recently been constructed as the surrounding area has developed.

Aerial Photo





III. Applicable Review Criteria

City staff's pre-application conference notes outline the review criteria that are relevant to this application. Therefore, those criteria are addressed below.

CITY OF OREGON CITY MUNICIPAL CODE

Chapter 17: ZONING

Chapter 17.68: ZONE CHANGES AND AMENDMENT

17.68.020 Criteria

The criteria for a zone change are set forth as follows:

A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

The planned zone change meets the following applicable goals and policies of the Comprehensive Plan:

Goal 1: Citizen Involvement

Goal 1.2: Ensure that citizens, neighborhood groups and affected property owners are involved in all phases of the comprehensive planning program.

Response:

The Oregon City Comprehensive Plan and Municipal Code include provisions to ensure citizens, neighborhood groups, and affected property owners have an opportunity to participate in the land use process. The City Comprehensive Plan is acknowledged by the State of Oregon as compliant with the Oregon Statewide Planning Goals, including Goal

1. For this application, citizens were able to attend and participate in the South End Neighborhood Association meeting held on May 18, 2017, that was open to the public. In addition to the neighborhood association meeting, citizens have the opportunity to attend and participate in public hearings before the Oregon City Planning Commission and the Oregon City Commission. Future applications involving the subject properties involve additional public processes. Therefore, the application is consistent with this Goal.

Goal 2: Land Use

Goal 2.1: Ensure that property planned for residential, commercial, office and industrial uses is used efficiently and that land is developed following principles of sustainable development.

Response: This application involves a zone change from the R-10 zoning designation to the R-8 zoning designation. This represents an increase in density while still remaining in a single-family zone. Densities corresponding to the R-8 zone represent sustainable development in a more compact form that is able to capitalize on public infrastructure investment within the existing City limits, which eases external pressures to expand and sprawl beyond the current urban growth boundary, which abuts the subject properties to the south. Therefore, the application is consistent with this Goal.

Goal 2.7: Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.

Response: The subject properties are designated Low Density Residential (LR) by the City's Comprehensive Plan. The LR designation includes R-10, R-8, and R-6 zoning districts. This application involves a zone change from the R-10 zoning designation to the R-8 zoning designation. A change to the Comprehensive Plan designation of the site is not necessary. The subject properties are adjacent to other properties within the Low Density Residential Comprehensive Plan designation (R-8 and R-10). Therefore, the R-8 zoning designation is consistent with and maintains the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development. The application is consistent with this Goal.

Goal 5: Natural Resources

Policy 5.4.4: Consider natural resources and their contribution to quality of life as a key community value when planning, evaluating and assessing costs of City actions.

Response: According to City maps, A Natural Resource Overlay District (NROD) extends onto a portion of three of the six tax lots included in this application (Tax Lots 1180, 1790, and 1700). A Natural Resource Assessment (NRA), was prepared and included in an application for a Type I NROD Verification which was approved by the City on May 19, 2017 (NR 17-03), verifying that no natural resources exist on the Wheeler family properties and that these properties are exempt from further NROD review. A copy of the City's NROD Verification Decision that includes the project's NRA are planned to be included with any future development application(s) associated with the subject properties as documentation for the verification as is typical and appropriate. Therefore, the application is consistent with this Goal.

Goal 6: Quality of Air, Water and Land Resources

Goal 6.1.1: Promote land-use patterns that reduce the need for distance travel by single-occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.

Response: The planned R-8 zoning designation promotes a compact land use pattern that reduces the amount of land dedicated to public streets, and other public infrastructure per dwelling unit. Compact land use patterns reduce travel distance by single-occupancy vehicles and increases opportunities for alternative modes of transportation including walking, biking, and transit.

The properties represented in this application are located approximately one (±1) mile from John McLoughlin Elementary School and approximately one and a half (±1½) miles from lands being considered for Neighborhood Commercial designations (along South End Road) in the South End Concept Plan. Thus, the R-8 zoning for these properties strategically increases opportunities for greater populations to walk and bike to places of education, shopping, and employment. Therefore, the R-8 zoning designation is consistent with this Goal.

Policy 6.2.1: Prevent erosion and restrict the discharge of sediments into surface and groundwater by requiring erosion prevention measures and sediment control practices.

Response: This application does not involve any physical disturbance to land or property. In the future, applications may be submitted that involve physical changes to the property. Those types of applications are subject to City grading, drainage, and erosion control standards. Therefore, those applications are planned to include preliminary plans that ensure erosion and sedimentation control standards are satisfied. To the extent this Goal is relevant to the application, it is satisfied.

Goal 10: Housing

Goal 10.1.3: Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.

Response: The R-8 zoning will preserve the property's existing Low Density Residential Comprehensive Plan designation while also maintaining the single-family residential nature of the area, albeit in a more compact form. The R-8 density is most conducive to single-family detached development patterns rather than multi-family or single-family attached, and this is indicative as those uses are not permitted in the R-8 zone. Those types of uses would require a Comprehensive Plan Map Amendment, which is not included in this application. It is clear that R-8 densities will allow for a greater number of residential units on the site, thereby increasing the number and variety of housing choices in the area. Therefore, the application is consistent with this Goal.

Goal 11: Public Facilities

Goal 11.1: Serve the health, safety, education, welfare and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.

Response: The applicant met with City and School District staff in a pre-application conference and discussed the zone change. At the pre-application conference and in subsequent correspondence with City staff, no deficiencies in terms of the adequacy of public facilities (water, sanitary sewer, storm drainage, streets) were identified. This is in part because a change from R-10 to R-8 is a shift within the Low Density Residential Comprehensive Plan Map designation and these impacts have been previously evaluated with the adoption of the City's Comprehensive Plan. School District staff did not identify concerns with this zone change application due to the small size of the subject property. Please also refer to the memorandum from a professional engineer included in the application materials discussing the adequacy of public facilities for further information.

In addition, as part of any future application (including subdivision review), detailed preliminary plans are planned to be submitted for review by the City, Clackamas Fire District No.1, as well as the School District. The applicant will be required to sign a Non-Remonstrance Agreement for the purpose of ensuring sanitary sewer, storm drainage, water, and/or street improvements are extended in the future that benefit the project site. This Goal is met.

Goal 12: Transportation

Goal 12.6: Develop and maintain a transportation system that has enough capacity of meet users' needs.

Response: A Transportation Planning Rule (TPR) analysis has been included in the attached Transportation Impact Study (TIS), prepared by Lancaster Engineering based upon a scope of work provided by the City's traffic engineering consultant. The TIS includes trip generation estimates for the existing R-10 zone and the planned R-8 zone, traffic count data, trip distribution and assignments, operational analysis, crash data analysis, and capacity analysis for the 20-year planning horizon consistent with the requirements of the State Transportation Planning Rule (OAR 660-012-060).

Written findings are contained within the TPR analysis that demonstrate that the TPR is satisfied by the application. Therefore, the application is consistent with this Goal.

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

Response: As detailed above in the response to Goal 11.1, the applicant met with City and School District staff in a pre-application conference and discussed the zone change from R-10 to R-8. At the pre-application conference and in subsequent correspondence with City staff, no deficiencies in terms of the adequacy of public facilities (sanitary sewer, storm drainage, water, and streets) were identified. This is in part because a change from R-10 to R-8 is a shift within the Low Density Residential Comprehensive Plan Map designation and these impacts have been previously evaluated with the adoption of the City's

Comprehensive Plan. School District staff did not identify concerns with this zone change application due to the small size of the subject property. Please refer to the memorandum from a professional engineer discussing the adequacy of public facilities for further information.

In addition, as part of any future application (including subdivision review), detailed preliminary plans are planned to be submitted for review by the City, Clackamas Fire District No.1, as well as the School District. The applicant will be required to sign a Non-Remonstrance Agreement for the purpose of ensuring sanitary sewer, storm drainage, water, and/or street improvements are extended in the future that benefit the project site. This Goal is met.

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

Response: A TPR analysis has been prepared by a registered professional traffic engineer and included in the project's TIS based upon a scope of work provided by the City's traffic engineering consultant. The TIS includes trip generation estimates for the existing R-10 zone and the planned R-8 zone, traffic count data, trip distribution and assignments, operational analysis, crash data analysis, and capacity analysis for the 20-year planning horizon consistent with the requirements of the State Transportation Planning Rule (OAR 660-012-060).

Written findings are contained within the TIS that demonstrate that the TPR is satisfied by the application. Therefore, the application is consistent with this standard.

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

Response: The Oregon City Comprehensive Plan is acknowledged by LCDC and contains specific policies and provisions that address zone change applications. These criteria are listed above and as described in this written statement are satisfied by the application. Therefore, this criterion is met.

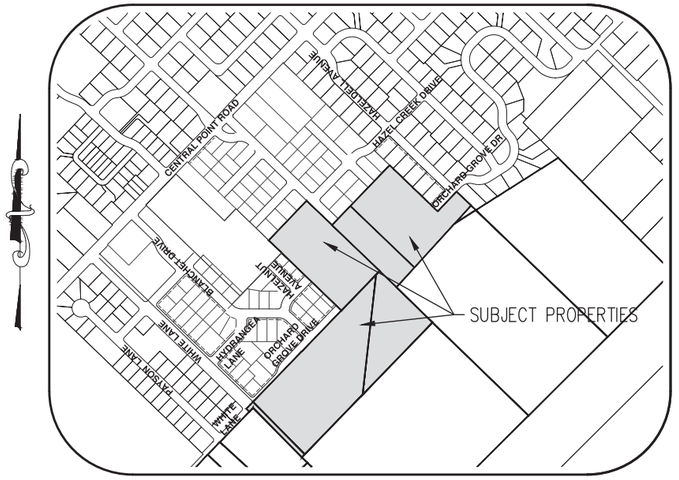
IV. Conclusion

The above listed findings and accompanying documentation demonstrate that the planned zone change application complies with all applicable approval criteria found in the Oregon City Municipal Code, including consistency with relevant provisions of the City's Comprehensive Plan and availability of adequate public facilities, services, and transportation systems. The evidence in the record is substantial and supports approval of the zone change to the R-8 zoning district. The City can rely upon this information in its approval of the application.

Exhibit A: Preliminary Plans

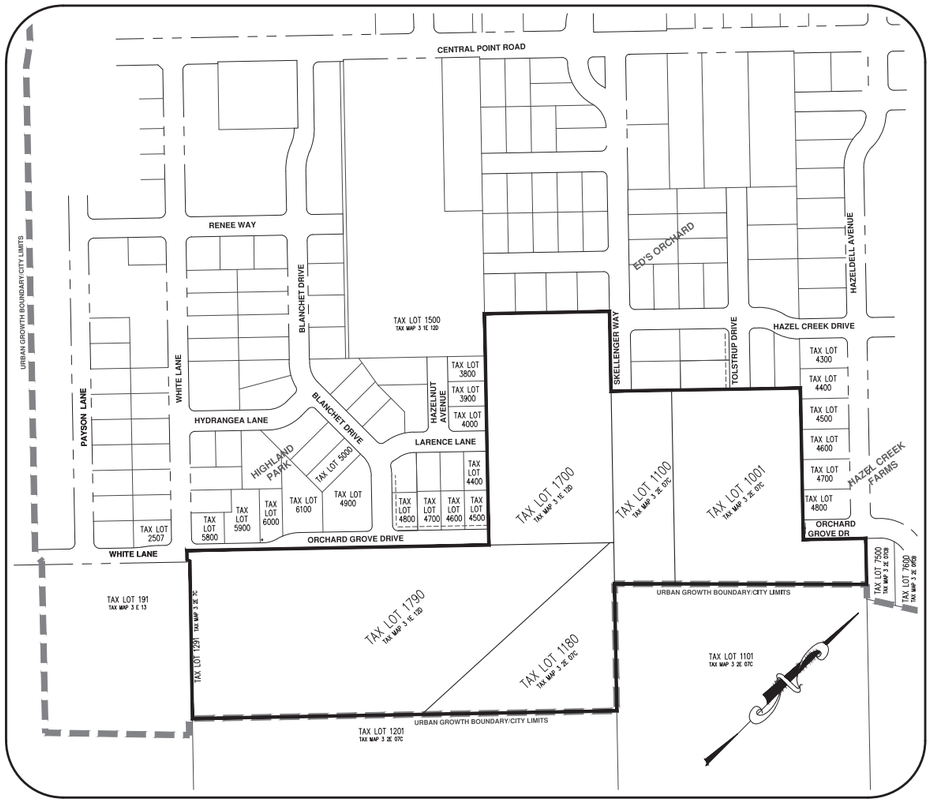
WHEELER FAMILY PROPERTIES

ZONE CHANGE APPLICATION PLANS



VICINITY MAP

SCALE: NTS



SITE MAP

SCALE: 1"=200'

SHEET INDEX

1 COVER SHEET WITH VICINITY AND SITE MAPS
2 EXISTING CONDITIONS PLAN
3 AERIAL PHOTO AND CONCEPTUAL SHADOW PLAT

APPLICANT:
RIAN PARK DEVELOPMENT, INC.
PO BOX 2559 OREGON CITY,
OR 97045

OWNERS:
WHEELER FAMILY ENTERPRISES, LLC
(TAX LOT 1001, 1700, & 1790)
(32E07C & 31E12D)
DAVID H. WHEELER SR. TRUST
(TAX LOT 1100 & 1180) (32E07C)
DONALD W. & ROXANNE O. WHEELER
(TAX LOT 1291) (32E07C)

CONSULTING FIRM:
AKS ENGINEERING & FORESTRY, LLC.
CONTACT:
MONTY HURLEY (MONTY@AKS-ENG.COM)
CHRIS GOODELL (CHRISG@AKS-ENG.COM)
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151
FAX: 503-563-6152

PROJECT LOCATION:
19566 CENTRAL POINT ROAD
OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION:
TAX LOTS 1700 & 1790 OF CLACKAMAS COUNTY TAX MAP 3S-1E-12D, LOCATED IN THE SOUTHEAST ONE-QUARTER OF TOWNSHIP 3 SOUTH, RANGE 1 EAST, SECTION 12; AND TAX LOT 1001, 1291, 1100 & 1180 OF TAX MAP 3S-2E-07C, LOCATED IN THE SOUTHWEST ONE-QUARTER OF TOWNSHIP 3 SOUTH, RANGE 2 EAST, SECTION 7, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON.

EXISTING LAND USE:
EXISTING SINGLE FAMILY RESIDENTIAL AND ACCESSORY BUILDINGS WITH FARMLAND/FIELD.

PROJECT PURPOSE:
ZONE CHANGE FROM R-10 LOW DENSITY RESIDENTIAL TO R-8 LOW DENSITY RESIDENTIAL.

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

WHEELER FAMILY PROPERTIES
OREGON CITY OREGON
TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

COVER SHEET WITH VICINITY AND SITE MAPS

DESIGNED BY:	MCH
DRAWN BY:	MCH
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 06/15/2017

REGISTERED PROFESSIONAL ENGINEER
58542PE
OREGON
JULY 9, 2002
MONTGOMERY B. HURLEY
PRELIMINARY
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
1

AKS DRAWING FILE: 5621-1-COVER.DWG | LAYOUT: 1

SCALE 1" = 80 FEET

SCALE AT HALF SIZE (11"x17") 1" = 160 FEET

DATE: 04/17/2017

NOTES:

1. SURVEY PERFORMED BY AKS ENGINEERING & FORESTRY, LLC FIELD WORK WAS CONDUCTED MARCH 15–24, 2017
2. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 17053695. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

AKS

ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

WHEELER FAMILY PROPERTIES

OREGON CITY OREGON

TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

EXSITING CONDITIONS PLAN

DESIGNED BY: MCH
DRAWN BY: MCH
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 06/15/2017

REGISTERED PROFESSIONAL ENGINEER
58542PE
OREGON
MAY 9, 2006
MONTGOMERY B. HURLEY
PRELIMINARY
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5621

SHEET
2

AKS DRAWING FILE: 5621-2-EXCOND.DWG | LAYOUT: 2



SCALE: 1" = 100 FEET

SCALE AT HALF SIZE (11"x17"): 1" = 200'

NOTES:

1. INFORMATION SHOWN IS BASED ON A VARIETY OF SOURCES, INCLUDING GEOGRAPHIC INFORMATION SYSTEMS (GIS), AERIAL PHOTOGRAPHS, AS-BUILT INFORMATION, TAX MAPS, RECORD MAPS, AND FIELD SURVEY. AKS ENGINEERING & FORESTRY, LLC, SURVEY.

JOB NUMBER	5621
SHEET	3
REVISIONS	
DESIGNED BY:	MCH
DRAWN BY:	MCH
CHECKED BY:	MRH
SCALE:	AS NOTED
DATE:	06/15/2017

REGISTERED PROFESSIONAL ENGINEER OREGON 58542 MICHAEL C. HARTLEY RENEWAL DATE: 6/30/19

PRELIMINARY

AERIAL PHOTO AND CONCEPTUAL SHADOW PLAT

WHEELER FAMILY PROPERTIES

OREGON CITY OREGON

TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

AKS ENGINEERING & FORESTRY, LLC
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TUALATIN, OR 97062
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FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE

Exhibit B: City Land Use Application Forms and Checklist

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
❑ Compatibility Review	❑ Extension	❑ Annexation
❑ Lot Line Adjustment	❑ Detailed Development Review	❑ Code Interpretation / Similar Use
❑ Non-Conforming Use Review	❑ Geotechnical Hazards	❑ Concept Development Plan
❑ Natural Resource (NROD) Verification	❑ Minor Partition (<4 lots)	❑ Conditional Use
❑ Site Plan and Design Review	❑ Minor Site Plan & Design Review	❑ Comprehensive Plan Amendment (Text/Map)
	❑ Non-Conforming Use Review	❑ Detailed Development Plan
	❑ Site Plan and Design Review	❑ Historic Review
	❑ Subdivision (4+ lots)	❑ Municipal Code Amendment
	❑ Minor Variance	❑ Variance
	❑ Natural Resource (NROD) Review	☑ Zone Change

File Number(s): PA 16-54 (Pre-Application Conference)

Proposed Land Use or Activity: Zone Change Application for the Wheeler family properties within the Low Density Residential Plan Designation (from R-10 to R-8).

Project Name: Wheeler Family Properties Number of Lots Proposed (If Applicable): N/A

Physical Address of Site: 19566 S Central Point Road

Clackamas County Map and Tax Lot Number(s): Map: 32E07C Tax Lots: 1001, 1100, 1180, & 1291
Map: 31E12D Tax Lots: 1700 & 1790

Applicant(s):

Applicant(s) Signature: _____

Applicant(s) Name Printed: Rian Park Development, Inc. Date: _____

Mailing Address: P.O. Box 2559, Oregon City, OR 97045

Phone: Contact Applicant's Consultant Fax: Contact Applicant's Consultant Email: Contact Applicant's Consultant

Property Owner(s):

Property Owner(s) Signature: David H. Wheeler Jr.

Property Owner(s) Name Printed: Wheeler Family Enterprises, LLC (Tax Lots: 1001, 1700, 1790) Date: 6/15/17

Mailing Address: _____

Phone: Contact Applicant's Consultant Fax: Contact Applicant's Consultant Email: Contact Applicant's Consultant

Representative(s):

Representative(s) Signature: Monty B Hurley

Representative (s) Name Printed: AKS Engineering & Forestry, LLC (Monty Hurley) Date: May 22, 2017

Mailing Address: 12965 SW Herman Road, Suite 100, Tualatin, OR 97062

Phone: 503-563-6151 Fax: 503-563-6152 Email: monty@aks-eng.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

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Applicant(s):

Applicant(s) Signature: _____

Applicant(s) Name Printed: Rian Park Development, Inc. Date: _____

Mailing Address: P.O. Box 2559, Oregon City, OR 97045

Phone: Contact Applicant's Consultant Fax: Contact Applicant's Consultant Email: Contact Applicant's Consultant

Property Owner(s):

Property Owner(s) Signature: David H. Wheeler Sr.

Property Owner(s) Name Printed: David H. Wheeler Sr. Trust (Tax Lots: 1100, 1180) Date: 6/15/17

Mailing Address: _____

Phone: Contact Applicant's Consultant Fax: Contact Applicant's Consultant Email: Contact Applicant's Consultant

Representative(s):

Representative(s) Signature: Monty B Hurley

Representative (s) Name Printed: AKS Engineering & Forestry, LLC (Monty Hurley) Date: May 22, 2017

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Applicant(s) Signature: _____

Applicant(s) Name Printed: Rian Park Development, Inc. Date: _____

Mailing Address: P.O. Box 2559, Oregon City, OR 97045

Phone: Contact Applicant's Consultant Fax: Contact Applicant's Consultant Email: Contact Applicant's Consultant

Property Owner(s):

Property Owner(s) Signature: Donald W. Wheeler

Property Owner(s) Name Printed: Donald W. Wheeler and Roxanne O. Wheeler (Tax Lot: 1291) Date: 6/15/17

Mailing Address: 19898 S White Lane, Oregon City, OR 97045

Phone: Contact Applicant's Consultant Fax: Contact Applicant's Consultant Email: Contact Applicant's Consultant

Representative(s):

Representative(s) Signature: Montgomery B Hurley

Representative (s) Name Printed: AKS Engineering & Forestry, LLC (Monty Hurley) Date: May 22, 2017

Mailing Address: 12965 SW Herman Road, Suite 100, Tualatin, OR 97062

Phone: 503-563-6151 Fax: 503-563-6152 Email: monty@aks-eng.com

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Applicant(s) Signature:

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Phone: Contact Applicant's Consultant Fax: Contact Applicant's Consultant Email: Contact Applicant's Consultant

Property Owner(s):

Property Owner(s) Signature:

Property Owner(s) Name Printed: Date:

Mailing Address:

Phone: Fax: Email:

Representative(s):

Representative(s) Signature: Monty B Hurley

Representative (s) Name Printed: AKS Engineering & Forestry, LLC (Monty Hurley) Date: May 22, 2017

Mailing Address: 12965 SW Herman Road, Suite 100, Tualatin, OR 97062

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OREGON CITY

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Comprehensive Plan Amendment / Zone Change Checklist

The following information is required for a complete Zone Change application. Incomplete applications will be rejected.

1. ✓ **A Completed Application Form with Contact Information and All Property Owner Signatures**
2. ✓ **Narrative**
   A complete and detailed narrative description of the proposed development and an explanation addressing all applicable approval criteria. A template is provided by the City at the Pre-Application Conference.
3. ✓ **Pre-Application Conference Summary Sheet**
4. ✓ **Traffic Study or Analysis Letter**
5. ✓ **Neighborhood Association Meeting Documentation**
   - **a.** A sign-in sheet of meeting attendees
   - **b.** A summary of issues discussed, and
   - **c.** A letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.
6. N/A **Annexation Agreement, if Applicable**
7. ✓ **A Current Preliminary Title Report or Trio for the Subject Property(ies)**
8. ✓ **Mailing Labels for Owners Within 300 Feet of the Subject Site**
   The names and addresses of property owners within 300 feet of the site indicated on the most recent property tax rolls. The Planning Division can produce the mailing labels for a fee.
9. ✓ **Copies**
   Three (3) copies of all information, reports, and drawings (full-sized and 8.5” by 11”) pertaining to this application. Additional copies may be required during the review process.
10. ✓ **Electronic Version of All Application Materials**
11. ✓ **All Required Application Fees**
12. ✓ **Additional Information or Reports**

Exhibit C: Property Title Information

Fidelity National Title
OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	32E07C/01001
Account Num:	00862748	Owner Occ.:	No
Land Use:	540-	Census:	
Map Grid:	717-B5		
Subdivision:			

Legal Description: Section 07 Township 3S Range 2E Quarter C TAX LOT 01001

Property Characteristics

Property Type:	AGRICULTURAL	Building SF:		Pool:	No
House Style:		Living Area SF:		Deck SF:	
Year Built:		Square Feet:	0	Deck Desc:	
Bedrooms:		1st Floor SF:		Patio SF:	
Bathrooms:		2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	188,065	Bsmnt SF:		Ext. Finish:	
Acres:	4.21	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 557,432	Land Value:	$ 557,432	Imp. Value:	$ 0
Total Assessed Value:	$ 3,406	Levy Code:	062064	M-5 Rate:	.0182
Taxes:	$ 61.88	Tax Year:	15-16		

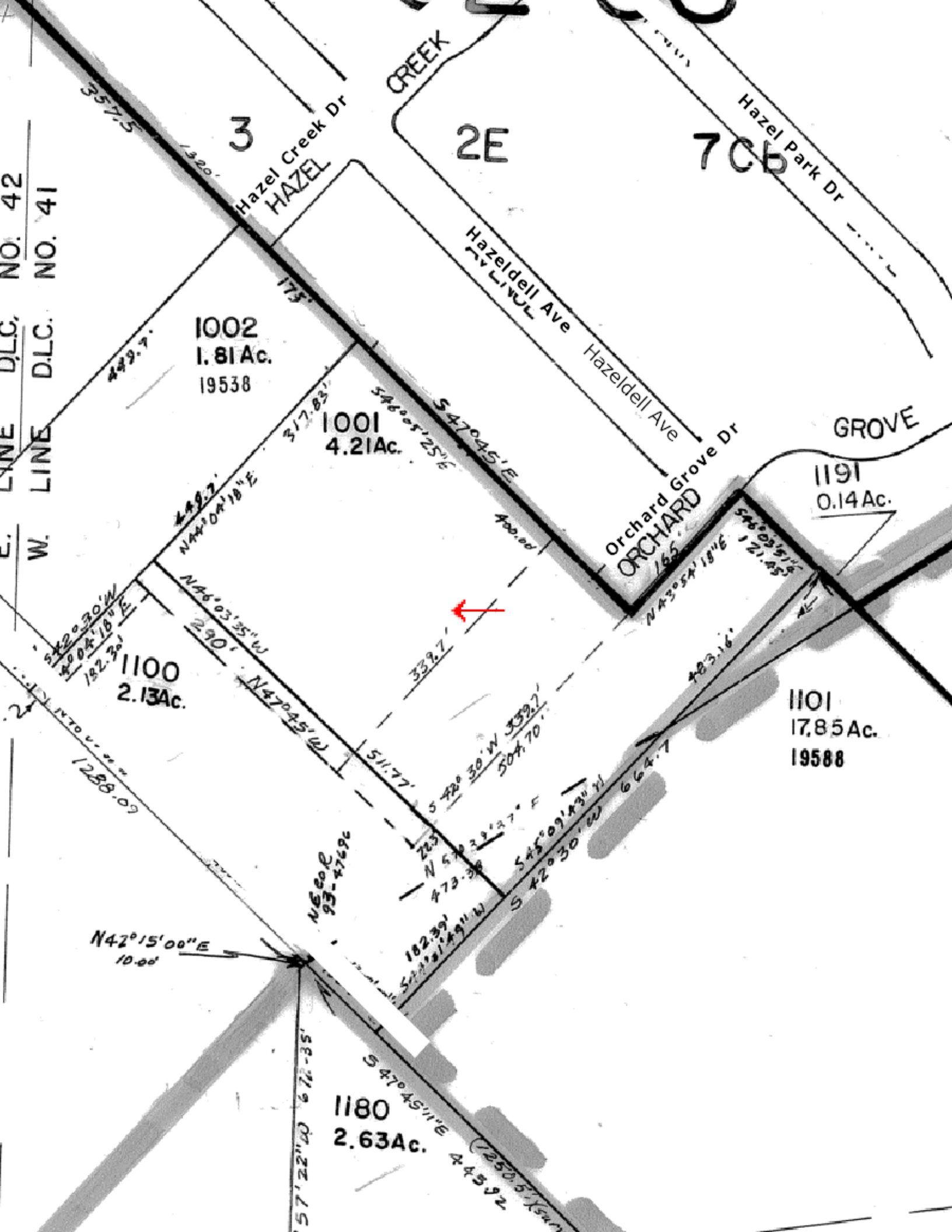
Previous Sale Information

Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
3/8/2013	$ 0		S	2013-016299	/
5/21/2007	$ 1		S	2007-043768	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
Accuracy of the information may vary by county.


CREEK
3
2E
7Cb
Hazel Creek Dr
HAZEL
Hazel Park Dr
Hazeldell Ave
Hazeldell Ave
Orchard Grove Dr
ORCHARD
GROVE
NO. 42
NO. 41
D.L.C.
D.L.C.
LINE
LINE
W.
1002
1.81 Ac.
19538
1001
4.21Ac.
1100
2.13Ac.
1191
0.14 Ac.
1101
17.85 Ac.
19588
1180
2.63Ac.
S46°05'25"E
S47°45'E
N44°04'18"E
N46°03'35"W
290'
N47°45'W
511.77'
S42°30'W
339.2'
504.70'
S45°09'43"W
664.1
N43°54'18"E
483.16'
S46°03'51"E
121.45'
N42°15'00"E
10.00'
S47°45'11"E
445.92'
1250.51'
317.83'
449.7'
400.00'
165'
175'
1320'
357.5'
182.39'
182.30'
1258.09'

STATUTORY BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTORS

TO
Wheeler Family Enterprises, LLC
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:
Jaylin Palacio
Tyler Smith
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013

Clackamas County Official Records
Sherry Hall, County Clerk

2013-016299

01662995201300162990030032

$58.00

03/08/2013 1:39:52 PM

D-D Cnt=1 Stn=2 TINAJAR
$15.00 $10.00 $16.00 $17.00

Until a change is requested, all tax statements shall be sent to:
Wheeler Family Enterprises, LLC
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY BARGAIN AND SALE DEED

The Wheeler Family Investment Limited Partnership, **GRANTOR**, hereby conveys to Wheeler Family Enterprises, LLC, as **GRANTEE**, the following described real property:

Tract 1 being fully described in the attached Exhibit A.

No monetary consideration for this conveyance exchange was all or part of the consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009

Dated: March 8, 2013, 2013.

David H. Wheeler, Sr.

David H. Wheeler Sr., General Partner, The Wheeler Family Investments Limited Partnership

STATE OF OREGON,)
County of Clackamas) ss.
This instrument was signed or acknowledged before me on March 8, 2013.

By:

OFFICIAL SEAL
JAYLIN D PALACIO
NOTARY PUBLIC - OREGON
COMMISSION NO. 458146
MY COMMISSION EXPIRES MAY 02, 2015

Jaylin D. Palacio

Notary Public for State of Oregon
My commission expires: May 2, 2015

Delivered to and accepted by:

David H. Wheeler Sr.

David H. Wheeler Sr., Member, Wheeler Family Enterprises, LLC.

ENGINEERING PLANNING
FORESTRY
13910 S.W. Galbreath Dr., Suite 100
Sherwood, Oregon 97140
Phone: (503) 925-8799
Fax: (503) 925-8969

AKS JOB No. 2142

LANDSCAPE ARCHITECTURE
SURVEYING
AKS Group of Companies:
SHERWOOD, OREGON
SALEM, OREGON
VANCOUVER, WASHINGTON
www.aks-eng.com

EXHIBIT A

Tract 1
City of Oregon City Planning File No. LL 12-01

A tract of land located in the Southwest One-Quarter of Section 7, Township 3 South, Range 2 East, Willamette Meridian, City of Oregon City, Clackamas County, Oregon, being more particularly described as follows:

Commencing at a 5/8 inch iron rod with a red plastic cap inscribed "AKS ENGR." at the southerly corner of Lot 75 of the plat "Hazel Creek Farms"; thence along the southwest line of said Lot 75, North 46°03'51" West 38.92 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." and the Point of Beginning; thence along the northwest line of that tract of land conveyed to David H. Wheeler Jr. and Carol A. Wheeler in Document Number 2004-103478 and clarified in Boundary Line Agreement Document Number 2012-039420, Clackamas County Deed Records, South 45°09'43" West 483.16 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR."; thence leaving said northwest line, North 46°03'35" West 511.77 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." on the southeast line of that tract of land conveyed to David H. Wheeler, Sr. Trustee of the David H. Wheeler Sr. Trust per Document Number 2002-068860, Clackamas County Deed Records; thence along said southeast line, North 44°04'18" East 317.83 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." on the southwest line of Lot 44 of the plat "Hazel Creek Farms"; thence along the westerly southwest line of "Hazel Creek Farms", South 46°05'25" East 400.00 feet to a 12 inch by 18 inch stone with a "X" scribed on top on the southeast right-of-way line of Orchard Grove Drive (26.00 feet from centerline); thence along said southeast right-of-way line, North 43°54'18" East 165.00 feet to the westerly corner of said Lot 75; thence along the westerly line of said Lot 75, South 46°03'51" East 121.45 feet to the Point of Beginning.

The above described tract of land contains 4.21 acres, more or less.

06-25-12
REGISTERED
PROFESSIONAL
LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/12

Fidelity National Title
OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	32E07C/01100
Account Num:	00862828	Owner Occ.:	No
Land Use:	541-	Census:	
Map Grid:	717-B5		
Subdivision:			

Legal Description: Township 3S Range 2E Section 07 Quarter C TAX LOT 01100 SEE SPLIT CODE ACCT 01180

Property Characteristics

Property Type:	SINGLE FAMILY	Building SF:	1,712	Pool:	No
House Style:		Living Area SF:	1,712	Deck SF:	
Year Built:	1926	Square Feet:	1,712	Deck Desc:	
Bedrooms:	5	1st Floor SF:		Patio SF:	
Bathrooms:	1.50	2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	96,907	Bsmnt SF:		Ext. Finish:	
Acres:	2.13	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 271,977	Land Value:	$ 179,617	Imp. Value:	$ 92,360
Total Assessed Value:	$ 132,652	Levy Code:	062064	M-5 Rate:	.0182
Taxes:	$ 2,409.93	Tax Year:	15-16		

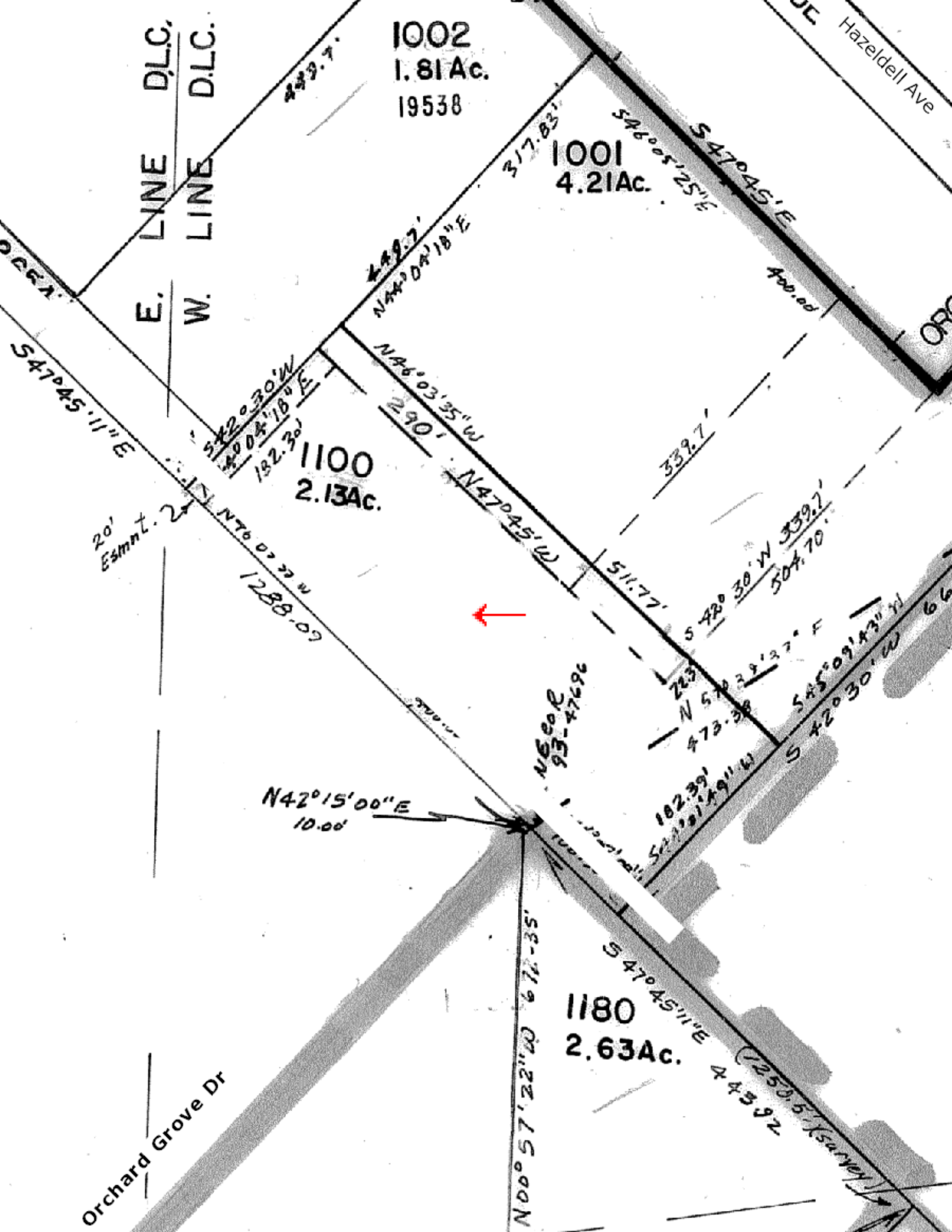
Previous Sale Information

Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
5/21/2007	$ 0	$ 0	X	2007-043769	/
11/9/2004	$ 1	$ 0	X	2004-103476	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
Accuracy of the information may vary by county.


1002
1.81 Ac.
19538
1001
4.21Ac.
1100
2.13Ac.
1180
2.63Ac.
E. W. LINE D.L.C.
E. W. LINE D.L.C.
449.7'
317.83'
S48°05'25"E
S47°45'E
400.00'
N44°04'18"E
449.7'
S42°30'W
N44°04'18"E
132.30'
N46°03'35"W
290'
N47°45'W
339.7'
S47°45'11"E
20' Esmnt. 2
N70°07'22"W
1288.09
511.77'
S 42° 30' W 339.7'
504.70'
N 47° 23' 37" E
223.
473.38
S45°09'43"W
182.39'
S 42°30'W
NE cor 93-47696
N42°15'00"E
10.00'
N00°57'22"W 671.35'
S47°45'11"E
1250.57' (survey)
443.92
Hazeldell Ave
Orchard Grove Dr

3P

STATUTORY QUIT CLAIM DEED

David H. Wheeler Jr.
19588 S Central Point Rd.
Oregon City, OR 97045

GRANTOR

TO
David H. Wheeler Sr. as Trustee
David H. Wheeler Sr. Trust
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:

Jaylin Palacio
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013
Anna Adams

Clackamas County Official Records
Sherry Hall, County Clerk
2013-007511
$58.00
01653157201300075110030034
02/01/2013 10:15:48 AM
D-D Cnt=1 Stn=1 JANISKEL
$15.00 $10.00 $16.00 $17.00

Until a change is requested, all tax statements shall be sent to:
The David H. Wheeler Sr. Trust
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY QUITCLAIM DEED

David H. Wheeler Jr., **GRANTOR**, hereby releases and quitclaim to the David H. Wheeler Sr. as Trustee of the David H. Wheeler Sr. Trust, as **GRANTEE**, all right, title, and interest in and to the Property described as:

All real property, if any, BETWEEN: the northwestern boundary of the lot conveyed to David H Wheeler Jr. and Carol Wheeler, with the established legal description in the recorded Document Number 2004-103478, and furthermore with a legal description of said Boundary Line being described in the Boundary Line Agreement recorded in the real property records of Clackamas County as document number 2012-039420;
AND
the southeastern boundary line of the adjacent lot to the northwest, with said adjacent lot (also known as Tract 2) being recorded as Clackamas County record number 2004-103477 as amended by Property Line Adjustment Oregon City Planning File 12-01and shown Survey Number SN2012-080, with said survey recorded as Clackamas County record 2012-058983. The full legal description of the entire Tract 2 is described in Attachment A.

No monetary consideration for this conveyance was all or part of the consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009

Dated: January 30, 2013.

David H. Wheeler Jr.

David H. Wheeler Jr., Grantor

STATE OF OREGON, County of Clackamas) ss.
This instrument was signed or acknowledged before me on January 30, 2013.

By:

OFFICIAL SEAL
JAYLIN D PALACIO
NOTARY PUBLIC - OREGON
COMMISSION NO. 458146
MY COMMISSION EXPIRES MAY 02, 2015

Jaylin D Palacio

Notary Public for State of Oregon
My commission expires: May 2, 2015

Delivered to and accepted by:

David H. Wheeler Sr.

David H. Wheeler Sr., Trustee, the David H. Wheeler Sr. Trust

ENGINEERING PLANNING
FORESTRY
13910 S.W. Galbreath Dr., Suite 100
Sherwood, Oregon 97140
Phone: (503) 925-8799
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AKS JOB No. 2142

LANDSCAPE ARCHITECTURE
SURVEYING
AKS Group of Companies:
SHERWOOD, OREGON
SALEM, OREGON
VANCOUVER, WASHINGTON
www.aks-eng.com

EXHIBIT A

Tract 2
City of Oregon City Planning File No. LL 12-01

A tract of land located in the Southwest One-Quarter of Section 7, Township 3 South, Range 2 East, Willamette Meridian, City of Oregon City, Clackamas County, Oregon, being more particularly described as follows:

Commencing at a 5/8 inch iron rod with a red plastic cap inscribed "AKS ENGR." at the southerly corner of Lot 75 of the plat "Hazel Creek Farms"; thence along the southwest line of said Lot 75, North 46°03'51" West 38.92 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR."; thence along the northwest line of that tract of land conveyed to David H. Wheeler Jr. and Carol A. Wheeler in Document Number 2004-103478 and clarified in Boundary Line Agreement Document Number 2012-039420, Clackamas County Deed Records, South 45°09'43" West 483.16 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." and the Point of Beginning; thence South 44°01'49" West 182.39 feet to a point on the northeasterly line of that tract of land conveyed to The Wheeler Family Investment Limited Partnership, an Oregon Limited Partnership in Document Number 2007-043768, Clackamas County Deed Records; thence along said northeasterly line and the northeasterly line, North 46°02'08" West 108.30 feet to a 6 inch by 6 inch stone with a "X" at the northerly corner thereof; thence along the northeasterly line of that tract of land conveyed to Edwin M. Tolstrup and Reitha M. Tolstrup in Document Number 2001-067656, Clackamas County Deed Records, North 46°03'35" West 400.00 feet to a 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR." at the southerly corner of that tract of land conveyed to David H. Wheeler Sr. Trust per Document Number 2002-068860, Clackamas County Deed Records; thence along the David H. Wheeler Sr. Trust tract, North 44°04'18" East 182.30 feet to a set 5/8 inch iron rod with a yellow plastic cap inscribed "AKS ENGR."; thence South 46°03'35" East 511.77 feet to the Point of Beginning.

The above described tract of land contains 2.13 acres, more or less.

06-25-12
REGISTERED
PROFESSIONAL
LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/12

Fidelity National Title OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	32E07C/01180
Account Num:	00862837	Owner Occ.:	No
Land Use:	680-	Census:	
Map Grid:	717-B5		
Subdivision:			

Legal Description: Township 3S Range 2E Section 07 Quarter C TAX LOT 01180 SEE SPLIT CODE ACCT 01100

Property Characteristics

Property Type:	OTHER	Building SF:		Pool:	No
House Style:		Living Area SF:		Deck SF:	
Year Built:		Square Feet:	0	Deck Desc:	
Bedrooms:		1st Floor SF:		Patio SF:	
Bathrooms:		2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	140,812	Bsmnt SF:		Ext. Finish:	
Acres:	2.63	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 236,355	Land Value:	$ 236,355	Imp. Value:	$ 0
Total Assessed Value:	$ 1,914	Levy Code:	062002	M-5 Rate:	.0182
Taxes:	$ 34.78	Tax Year:	15-16		

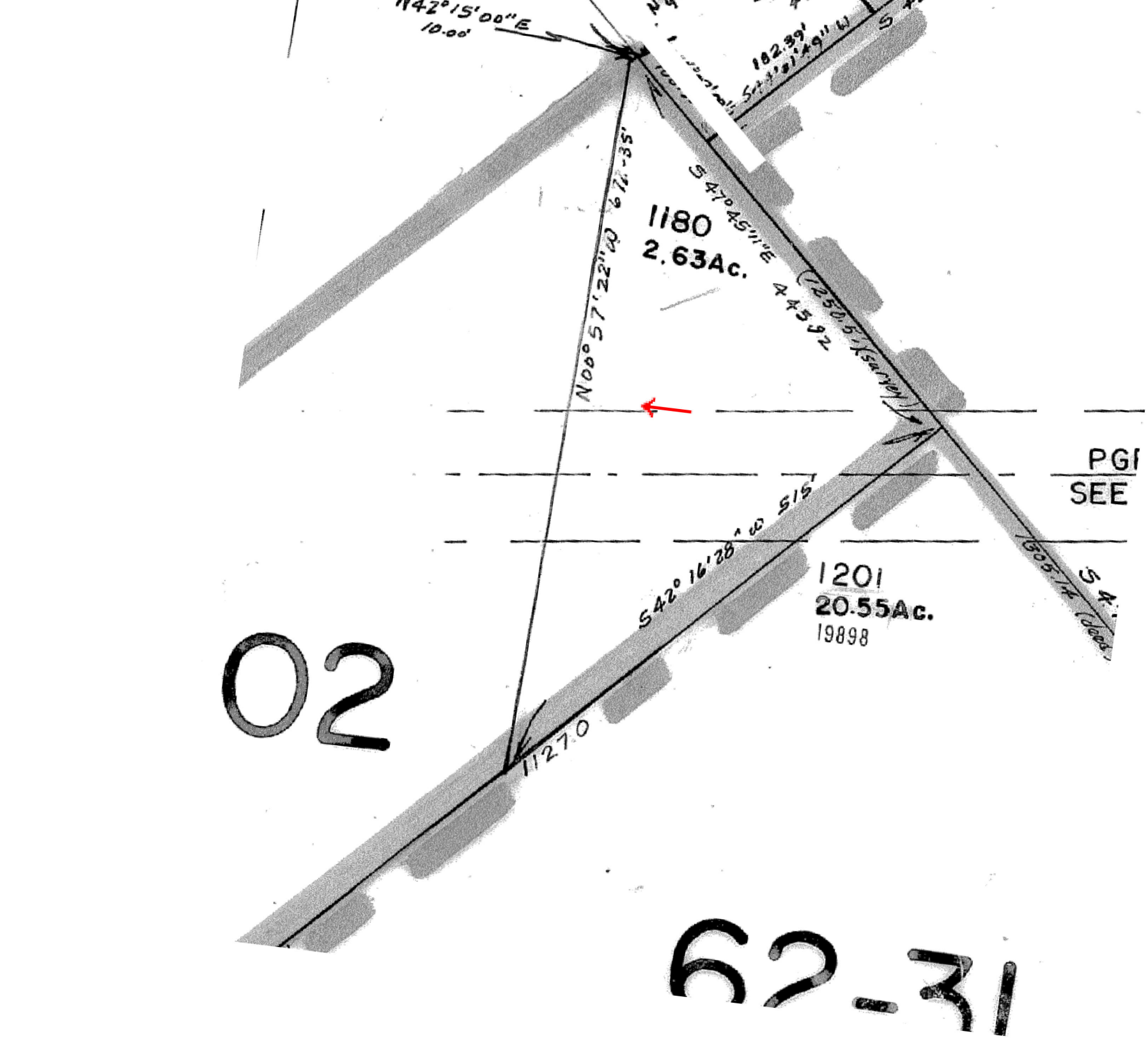
Previous Sale Information

Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
5/21/2007	$ 0		M	2007-043769	/
11/9/2004	$ 1		M	2004-103476	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
Accuracy of the information may vary by county.


N42°15'00"E
10.00'
182.39'
S47°45'49"W
N00°57'22"W 672.35'
1180
2.63Ac.
S47°45'11"E 445.92'
(1250.51' (Survey))
PGI
SEE
S42°16'28"W 515'
1201
20.55Ac.
19898
1305.14' (Meas.)
S 4
02
11270
62-31

3P

STATUTORY QUIT CLAIM DEED

David H. Wheeler Jr.
19588 S Central Point Rd.
Oregon City, OR 97045

GRANTOR

TO
David H. Wheeler Sr. as Trustee
David H. Wheeler Sr. Trust
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:

Jaylin Palacio
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013
Anna Adams

Clackamas County Official Records
Sherry Hall, County Clerk
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01653157201300075110030034
02/01/2013 10:15:48 AM
D-D Cnt=1 Stn=1 JANISKEL
$15.00 $10.00 $16.00 $17.00

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The David H. Wheeler Sr. Trust
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY QUITCLAIM DEED

David H. Wheeler Jr., **GRANTOR**, hereby releases and quitclaim to the David H. Wheeler Sr. as Trustee of the David H. Wheeler Sr. Trust, as **GRANTEE**, all right, title, and interest in and to the Property described as:

All real property, if any, BETWEEN: the northwestern boundary of the lot conveyed to David H Wheeler Jr. and Carol Wheeler, with the established legal description in the recorded Document Number 2004-103478, and furthermore with a legal description of said Boundary Line being described in the Boundary Line Agreement recorded in the real property records of Clackamas County as document number 2012-039420;
AND
the southeastern boundary line of the adjacent lot to the northwest, with said adjacent lot (also known as Tract 2) being recorded as Clackamas County record number 2004-103477 as amended by Property Line Adjustment Oregon City Planning File 12-01and shown Survey Number SN2012-080, with said survey recorded as Clackamas County record 2012-058983. The full legal description of the entire Tract 2 is described in Attachment A.

No monetary consideration for this conveyance was all or part of the consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009

Dated: January 30, 2013.

David H. Wheeler Jr.

David H. Wheeler Jr., Grantor

STATE OF OREGON, County of Clackamas) ss.
This instrument was signed or acknowledged before me on January 30, 2013.

By:

OFFICIAL SEAL
JAYLIN D PALACIO
NOTARY PUBLIC - OREGON
COMMISSION NO. 458146
MY COMMISSION EXPIRES MAY 02, 2015

Jaylin D Palacio

Notary Public for State of Oregon
My commission expires: May 2, 2015

Delivered to and accepted by:

David H. Wheeler Sr.

David H. Wheeler Sr., Trustee, the David H. Wheeler Sr. Trust

ENGINEERING PLANNING
FORESTRY
13910 S.W. Galbreath Dr., Suite 100
Sherwood, Oregon 97140
Phone: (503) 925-8799
Fax: (503) 925-8969

AKS JOB No. 2142

LANDSCAPE ARCHITECTURE
SURVEYING
AKS Group of Companies:
SHERWOOD, OREGON
SALEM, OREGON
VANCOUVER, WASHINGTON
www.aks-eng.com

EXHIBIT A

Tract 2
City of Oregon City Planning File No. LL 12-01

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The above described tract of land contains 2.13 acres, more or less.

06-25-12
REGISTERED
PROFESSIONAL
LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/12

5
30

FORM No. 961 – BARGAIN AND SALE DEED – STATUTORY FORM (Individual Grantor). STEVENS-NESS LAW PUBLISHING CO., PORTLAND, OR 97204

NA

BARGAIN AND SALE DEED — STATUTORY FORM

INDIVIDUAL GRANTOR

David H. Wheeler and Winifred L. Wheeler, husband and wife

, Grantor,

conveys to Donald W. Wheeler and Roxanne O. Wheeler, husband and wife

, Grantee, the following real property situated in Clackamas

County, Oregon, to-wit:

Beginning at a point which is North 42°15' East 57.36 Feet from the most Northerly corner of a tract of land conveyed to Frank Rotter and Anna Rotter as described in Vol. 133 Pg. 629 in the deed records for Clackamas County, Oregon; Thence South 47°36'06" East 443.46 Feet; Thence South 42°16'28" West 25.00 Feet; Thence North 47°36'06" West 417.45 Feet; Thence South 42°15' West 7.41 Feet; Thence North 47°30' West 26.00 Feet; Thence north 42°15' East 32.36 Feet to the point of beginning.

Recorded By First American Title Insurance Company of Oregon 74751

IIF SPACE INSUFFICIENT, CONTINUE DESCRIPTION ON REVERSE SIDE

No The true consideration for this conveyance is $ ** 0 . (Here comply with the requirements of ORS 93.030)

** Lot Line Adjustment

Dated this 19 day of April, 19 94

David H. Wheeler

Winifred L. Wheeler

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

STATE OF OREGON, County of Clackamas) ss.

This instrument was acknowledged before me on April 19, 19 94,

by David H. Wheeler and Winifred L. Wheeler

OFFICIAL SEAL
SUSAN R. SEAWARD
NOTARY PUBLIC-OREGON
COMMISSION NO. 015780
MY COMMISSION EXPIRES MAY 31, 1996

Susan R. Seaward
Notary Public for Oregon

My commission expires 5/31/96

BARGAIN AND SALE DEED

David H. & Winifred L. Wheeler, GRANTOR
Donald W. & Roxanne O. Wheeler, GRANTEE

GRANTEE'S ADDRESS, ZIP

After recording return to:

A. Gregory McKenzie
1600 Willamette Falls Drive
West Linn, OR 97068

NAME, ADDRESS, ZIP

Until a change is requested, all tax statements shall be sent to the following address:

Donald W. Wheeler
Roxanne O. Wheeler
19898 S. White Lane
Oregon City, OR 97045

NAME, ADDRESS, ZIP

STATE OF OREGON
County of Clackamas } ss

I, John Kauffman, County Clerk, for the County of Clackamas, do hereby certify that the instrument of writing was received for recording in the records of said county at

94 APR 22 PM 3:20

COUNTY OF CLACKAMAS * STATE OF OREGON *

Witness my hand and seal affixed

JOHN KAUFFMAN
County Clerk

Deputy

Recording Certificate
CCP-R4 (Rev 6/91)

94 34241

94 34241

Fidelity National Title OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	31E12D/01700
Account Num:	00763276	Owner Occ.:	No
Land Use:	540-	Census:	
Map Grid:	717-B5		
Subdivision:			

Legal Description: Section 12 Township 3S Range 1E Quarter D TAX LOT 01700 SEE SPLIT CODE ACCT 01790

Property Characteristics

Property Type:	AGRICULTURAL	Building SF:		Pool:	No
House Style:		Living Area SF:		Deck SF:	
Year Built:		Square Feet:	0	Deck Desc:	
Bedrooms:		1st Floor SF:		Patio SF:	
Bathrooms:		2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	190,697	Bsmnt SF:		Ext. Finish:	
Acres:	4.62	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 270,495	Land Value:	$ 270,495	Imp. Value:	$ 0
Total Assessed Value:	$ 3,738	Levy Code:	062064	M-5 Rate:	.0182
Taxes:	$ 67.91	Tax Year:	15-16		

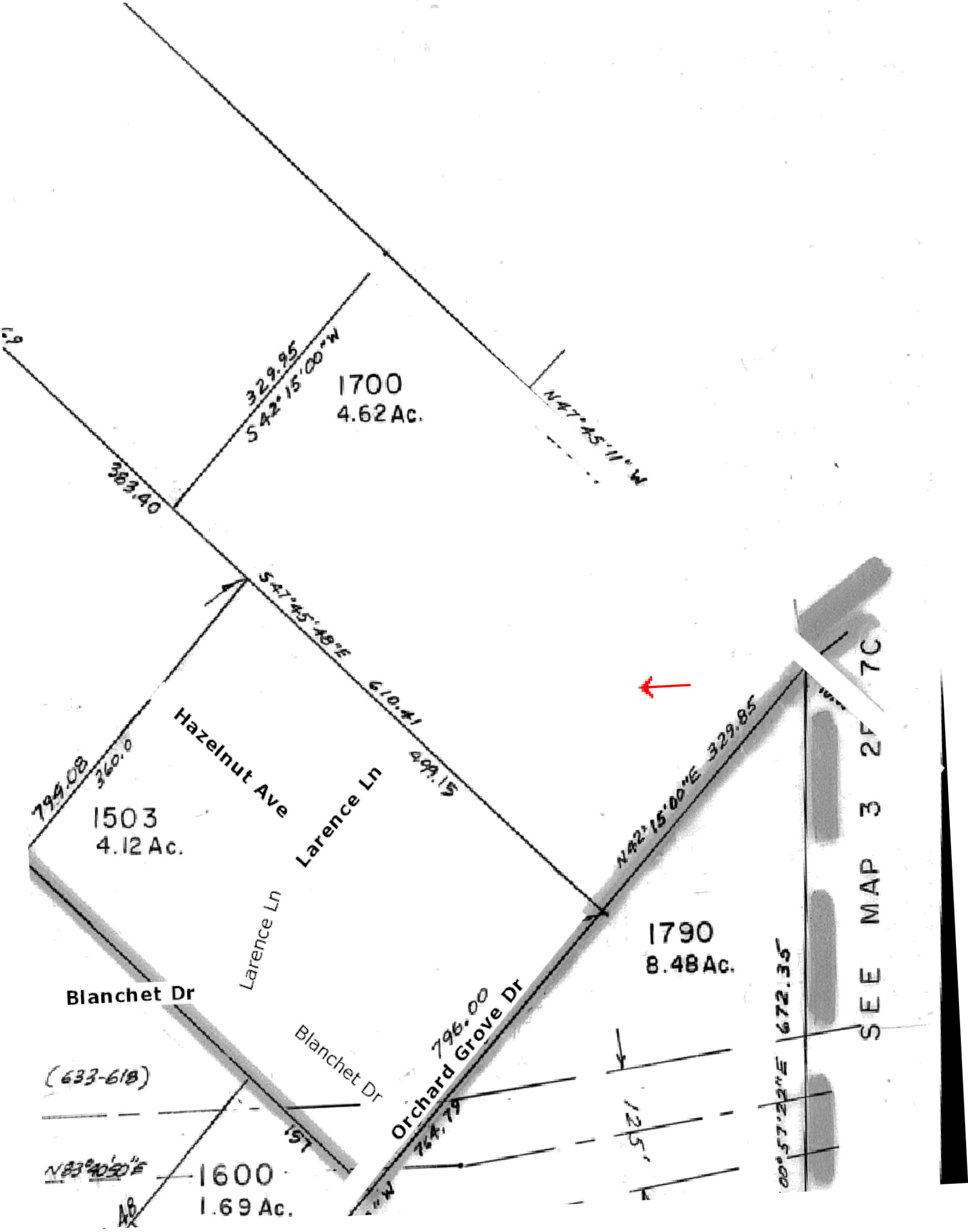
Previous Sale Information

Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
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7/1/1993	$ 0			1993-047696	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
Accuracy of the information may vary by county.


1700
4.62 Ac.
329.95
S 42° 15' 00" W
N 47° 45' 11" W
383.40
S 47° 45' 48" E
610.41
499.15
794.08
360.0
1503
4.12 Ac.
Hazelnut Ave
Larence Ln
Larence Ln
Blanchet Dr
Blanchet Dr
N 42° 15' 00" E 329.85
1790
8.48 Ac.
796.00
Orchard Grove Dr
764.79
(633-618)
151
N 83° 40' 50" E
1600
1.69 Ac.
125.
672.35
SEE MAP 3 2

3P

BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTORS

TO
Wheeler Family, Enterprises LLC
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:

Tayda Ross
Tyler Smith
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013

Clackamas County Official Records
Sherry Hall, County Clerk
2013-070116

01723548201300701160030033
$58.00
10/08/2013 01:29:11 PM

D-D Cnt=1 Stn=9 COUNTER1
$15.00 $10.00 $16.00 $17.00

Until a change is requested, all tax statements shall be sent to:
Wheeler Family Enterprises, LLC
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership, **GRANTOR**, herby conveys to Wheeler Family Enterprises, LLC, as **GRANTEE**, the following described real property:

See attachment Exhibit A, (lot to be conveyed commonly known as Tax Lot 1700, T3S R1E Section 12D).

No monetary consideration for this conveyance was all or part of the consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE

UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009

Dated: October 8, 2013.

David H. Wheeler, Sr

David H. Wheeler Sr., General Partner Wheeler Family Investments Limited Partnership

STATE OF OREGON,)
County of Clackamas) ss.
This instrument was signed or acknowledged by David Wheeler, before me on October 8, 2013.

Sherry B Smith

Notary Public for State of Oregon
My commission expires: July 14, 2016

OFFICIAL SEAL
SHERRY B SMITH
NOTARY PUBLIC - OREGON
COMMISSION NO. 469538
MY COMMISSION EXPIRES JULY 14, 2016

Delivered to and accepted by:

David H. Wheeler Sr.

David H. Wheeler Sr., Member Wheeler Family Enterprises, LLC

EXHIBIT A

Beginning at a point on the northeasterly line of that tract of land described in Recorders Fee 93-47696, Clackamas County Deed Records, located in the S.E. 1/4 of Section 12, T.3S., R.1E., and the S.W. 1/4 of Section 7, T.3S., R.2E., W.M., Clackamas County, Oregon, said point being S42°41'31"W 65.05 feet and S47°45'11"E 677.68 feet from a 5/8 inch iron rod marking the most northerly curve point of Lot 1, "Filbert Orchard"; thence, leaving said northeasterly line, S42° 15'00"W 329.95 feet to the southwesterly line of said tract; thence, on the southwesterly line S47°45'48"E 610.41 feet to the most southerly corner of said track; thence, on the southeasterly line of said tract, N42°15'00"E 329.85 feet to the most easterly corner of said tract; thence, on the northeasterly line of said tract N47°45'11"W 610.41 feet to the POINT OF BEGINNING.

The tract known as tax lot 1700 conveyed herein contains 4.62 acres, more or less.

Subject to any easements of record.

Fidelity National Title OREGON

Property Profile Report

Address Not Available

Ownership Information

Owner Name:	Please see attached vesting deed for current ownership.
Mailing Address:	19566 CENTRAL POINT RD OREGON CITY, OR 97045

Property Description

County:	Clackamas	Map / Tax Lot:	31E12D/01790
Account Num:	01655729	Owner Occ.:	No
Land Use:	640-	Census:	
Map Grid:	717-A6		
Subdivision:			

Legal Description: Section 12 Township 3S Range 1E Quarter D TAX LOT 01790 SEE SPLIT CODE ACCT 01700

Property Characteristics

Property Type:	VACANT LAND	Building SF:		Pool:	No
House Style:		Living Area SF:		Deck SF:	
Year Built:		Square Feet:	0	Deck Desc:	
Bedrooms:		1st Floor SF:		Patio SF:	
Bathrooms:		2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	346,764	Bsmnt SF:		Ext. Finish:	
Acres:	8.48	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

Real Market Value:	$ 376,049	Land Value:	$ 376,049	Imp. Value:	$ 0
Total Assessed Value:	$ 2,985	Levy Code:	062002	M-5 Rate:	.0182
Taxes:	$ 54.23	Tax Year:	15-16		

Previous Sale Information

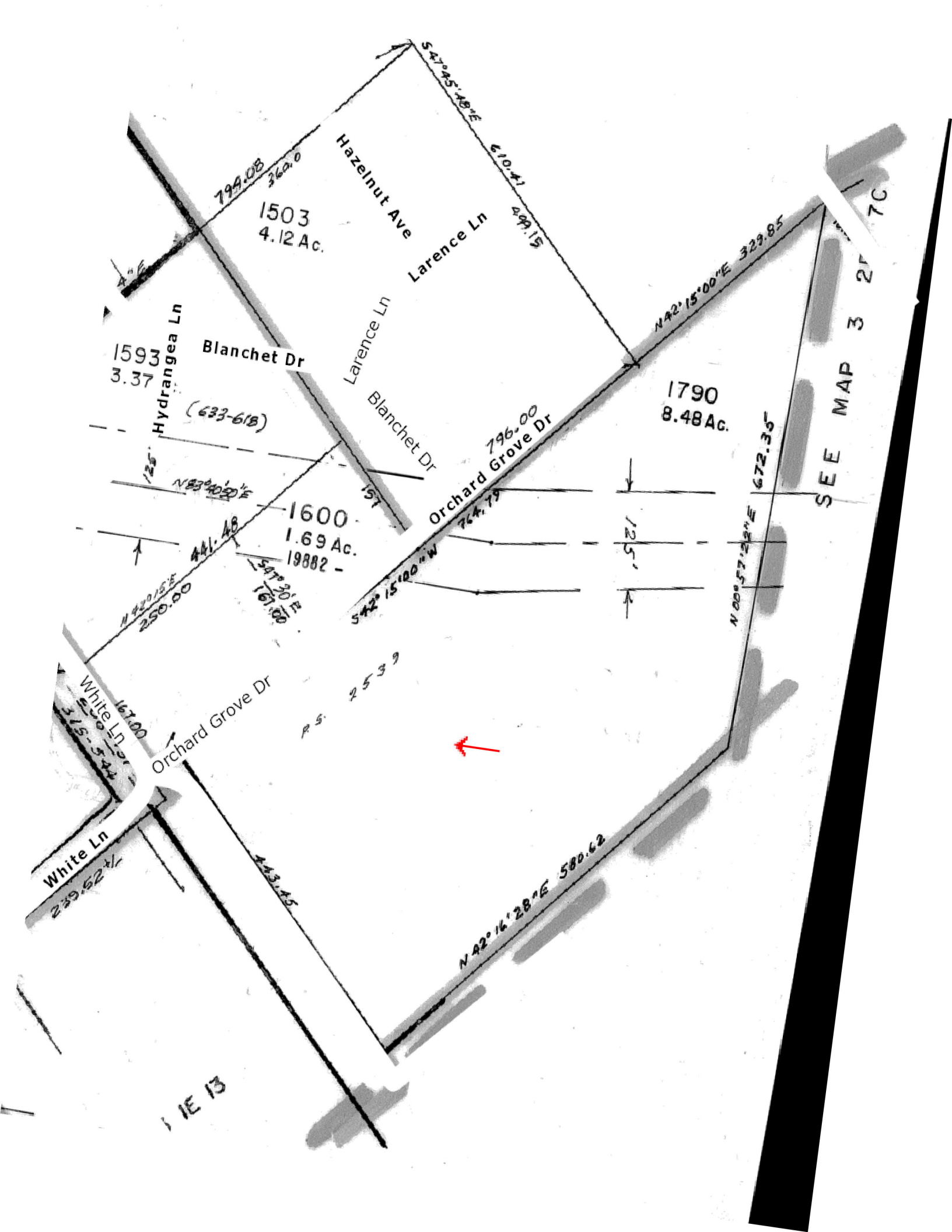
Sale Amount:	Sale Date:	Document Num:

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
10/8/2013	$ 0		S	2013-070117	/

All information provided by ValueCheck, Inc is deemed reliable, but not guaranteed.
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1503
4.12 Ac.
Hazelnut Ave
Larence Ln
Larence Ln
Blanchet Dr
1593
3.37
Hydrangea Ln
Blanchet Dr
(633-618)
1600
1.69 Ac.
19882
1790
8.48 Ac.
Orchard Grove Dr
Orchard Grove Dr
White Ln
White Ln
SEE MAP
799.08
360.0
S47°45'48"E 610.41
499.15
N42°15'00"E 329.85
796.00
764.79
672.35'
441.48
250.00
N42°15'E
S47°30'E 161.00
S42°15'00"W
N 88°57'12"E
125'
N83°40'20"E
157'
167.00
239.52±
443.45
N 42°16'28"E 580.62
PS 4539

3P

BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTORS

TO

Wheeler Family, Enterprises LLC
19566 S Central Point Rd.
Oregon City, OR 97045

GRANTEE

After recording, return to:

Fayda Ross

Tyler Smith
Tyler Smith & Associates P.C.
181 N Grant St. STE 212
Canby, OR 97013

Clackamas County Official Records
Sherry Hall, County Clerk

2013-070117

$58.00

01723549201300701170030030

10/08/2013 01:29:11 PM

D-D Cnt=1 Stn=9 COUNTER1
$15.00 $10.00 $16.00 $17.00

Until a change is requested, all tax statements shall be sent to:
Wheeler Family Enterprises, LLC
19566 S Central Point Rd.
Oregon City, OR 97045

STATUTORY BARGAIN AND SALE DEED

Wheeler Family Investment Limited Partnership, **GRANTOR**, herby conveys to Wheeler Family Enterprises, LLC, as **GRANTEE**, the following described real property:

See attachment Exhibit A, (lot to be conveyed commonly known as Tax Lot 1790, T3S R1E Section 12D).

No monetary consideration for this conveyance was all or part of the consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE

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Dated: October 8, 2013.

David H. Wheeler Sr

David H. Wheeler Sr., General Partner Wheeler Family Investments Limited Partnership

STATE OF OREGON,)
County of Clackamas) ss.
This instrument was signed or acknowledged by David Wheeler, before me on October 8, 2013.

OFFICIAL SEAL
SHERRY B SMITH
NOTARY PUBLIC - OREGON
COMMISSION NO. 469538
MY COMMISSION EXPIRES JULY 14, 2016

Sherry B Smith

Notary Public for State of Oregon
My commission expires: July 14, 2016

Delivered to and accepted by:

David H Wheeler Sr.

David H. Wheeler Sr., Member, Wheeler Enterprises LLC

EXHIBIT A

Beginning at a point on the northeasterly line of that tract of land described in Recorders Fee 93-47696, Clackamas County Deed Records, located in the S.E. 1/4 of Section 12, T.3S., R.1E., and the S.W. 1/4 of Section 7, T.3S., R.2E., W.M., Clackamas County, Oregon, said point being S42° 41'31"W 65.05 feet and S47° 45'11" E 677.68 feet from a 5/8 inch rod marking the most northerly curve point of Lot 1, "Filbert Orchard"; thence, leaving said northeasterly line, S42° 150' 0"W 329.95 feet to the southwesterly line of said tract; thence, on said southwesterly line S47°45' 48"E 610.41 feet to the most southerly corner of said tract, said corner being on the northwesterly line of that tract of land described in Recorders Fee No. 83-11698, Clackamas County deed Records; thence, on said northwesterly line S42°15' 00" W 764.79 feet to the most westerly corner of said tract; thence, on the southwesterly line of said tract S47°36' 06"E 443.45 feet; thence N42° 16' 28"E 580.62 feet; thence, N00°57'22"E 672.35 feet to the northwesterly line of said tract (Fee 83-11698); thence, on said northwesterly line N42°15'00"E 10.00 feet to the most easterly corner of said tract (Fee No. 93-47696); thence, on the northeasterly line of said tract N47°45'11"W 610.41 feet to the POINT OF BEGINNING.

(Above description includes both tax lot 1700 and 1790 as recorded and described in the boundary line agreement recorded in Clackamas County Records document number 2003-085041, Exhibit C).

EXCLUDING that portion of above description known as tax lot 1700 which is being conveyed by separate document, with full description of excluded portion being:

Beginning at a point on the northeasterly line of that tract of land described in Recorders Fee 93-47696, Clackamas County Deed Records, located in the S.E. 1/4 of Section 12, T.3S., R.1E., and the S.W. 1/4 of Section 7, T.3S., R.2E., W.M., Clackamas County, Oregon, said point being S42°41'31"W 65.05 feet and S47°45'11"E 677.68 feet from a 5/8 inch iron rod marking the most northerly curve point of Lot 1, "Filbert Orchard"; thence, leaving said northeasterly line, S42° 15'00"W 329.95 feet to the southwesterly line of said tract; thence, on the southwesterly line S47°45'48"E 610.41 feet to the most southerly corner of said track; thence, on the southeasterly line of said tract, N42°15'00"E 329.85 feet to the most easterly corner of said tract; thence, on the northeasterly line of said tract N47°45'45'11"W 610.41 feet to the POINT OF BEGINNING. (The tract known as tax lot 1700 contains 4.62 acres, more or less).

With the parcel being conveyed under this document consisting of 8.48 acres more or less.

Subject to any easements of record.

Exhibit D: Type I Natural Resource Overlay District Verification (NR 17-03)

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE I NATURAL RESOURCE OVERLAY DISTRICT VERIFICATION
May 19, 2017

FILE NUMBER:	NR 17-03: Type I Natural Resource Overlay District Verification
APPLICANT:	Rian Park Development, Inc. P.O. Box 2559 Oregon City, OR 97045
OWNERS:	32E07C Tax Lot 1001 (Wheeler Family Enterprises, LLC) 32E07C Tax Lots 1100, 1180 (David H. Wheeler Sr. Trust) 32E07C Tax Lot 1291 (Donald W. & Roxanne O. Wheeler) 31E12D Tax Lots 1700, 1790 (Wheeler Family Enterprises, LLC)
CONSULTANT:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062
REQUEST:	The applicant submitted a request for a Type I Natural Resource Overlay District Verification with a professionally prepared assessment to demonstrate that the subject site is not within the Natural Resource Overlay District.
LOCATION:	NO SITUS ADDRESS: Clackamas County Tax Map: 32E07C, Tax Lots: 1001, 1180, & 1291 / 31E12D, Tax Lots: 1700 & 1790; and 19566 Central Point Rd, Oregon City, OR 97045, Clackamas County Tax Map: 32E07C, Tax Lot 1100
ZONING:	"R-10", Single Family Residential District
DECISION:	Approval
REVIEWER:	Pete Walter, AICP, Planner
CRITERIA:	OCMC Chapter 17.49 – Natural Resource Overlay District OCMC Chapter 17.50 – Administration and Procedures

Type I decisions do not require interpretation or the exercise of policy or legal judgment in evaluating approval criteria and include lot line adjustments, zone changes upon annexation as provided in Section 17.06.050 for which there is no discretion provided, final plats, and final planned unit development plans where there are no material deviations from the approved preliminary plans. Because no discretion is involved, Type I decisions do not qualify as a land use, or limited land use, decision. The decision-making process requires no notice to any party other than the applicant. One representative from each of the city-recognized neighborhood associations, who has been identified by the neighborhood coordinator, will be distributed a monthly compilation of all Type I activities. The Community Development Director's decision is final and not appealable by any party through the normal city land use process. IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722.3789.

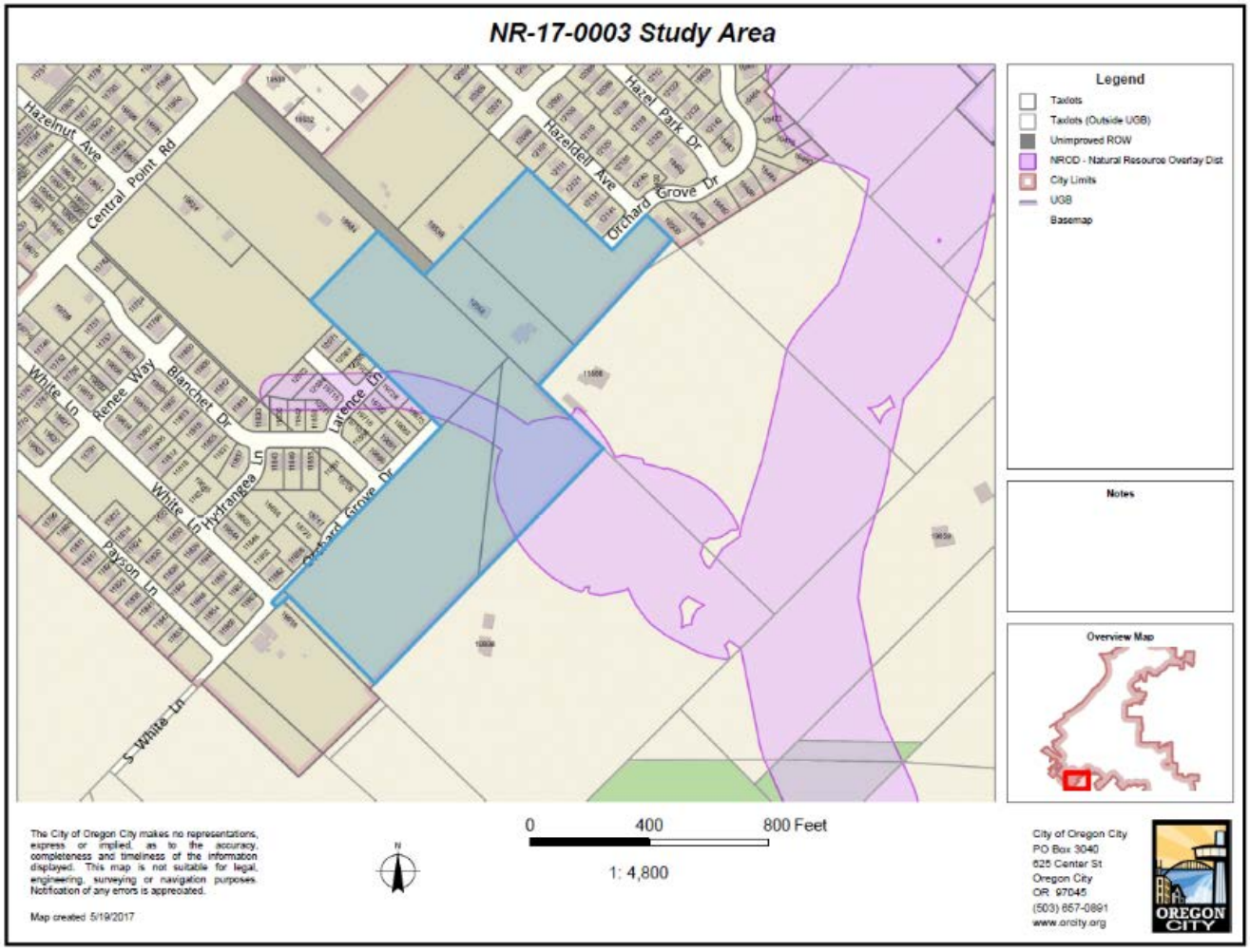
I. BACKGROUND

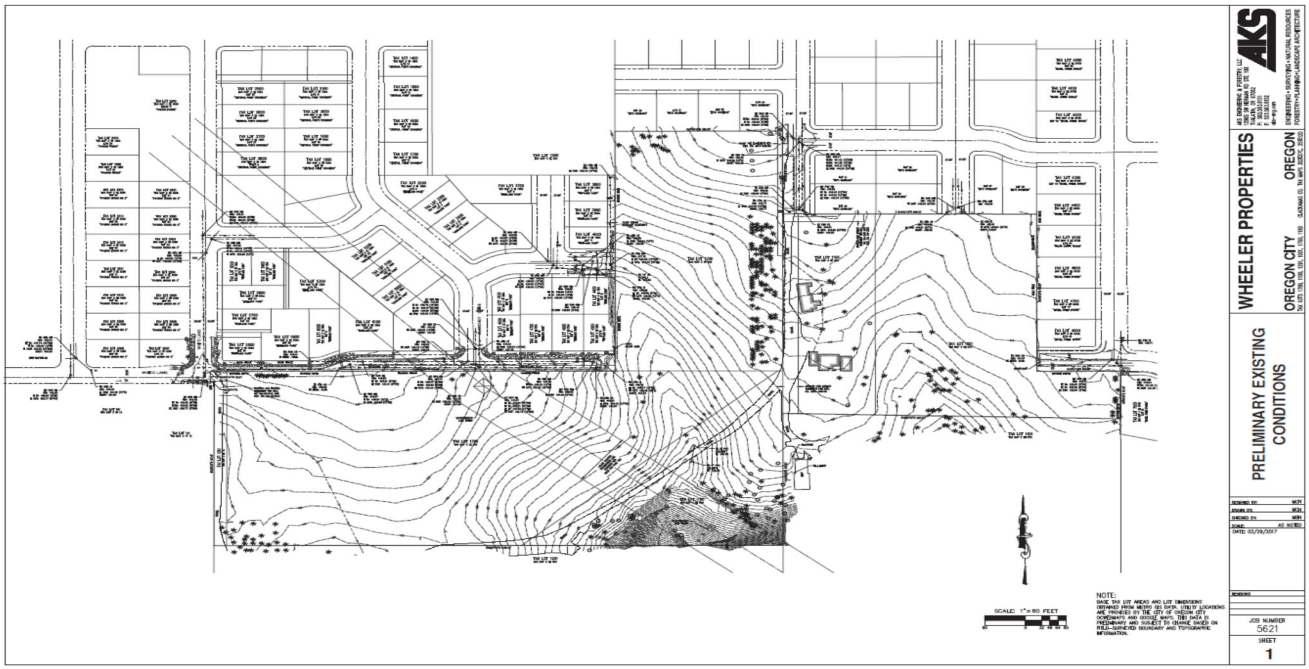
The subject properties are located southeast of Central Point Road on the southern boundary of the City. The area was historically pastureland, Christmas trees and orchard land that was brought into the Metro Urban Growth Boundary in 2001 or earlier in 1979. The lands in question were annexed to Oregon City in 2006 (File AN 16-02) and have a zoning designation of R-10 Single Family Residential. There has been a lot of recent subdivision and home construction in the area over the last 10 years abutting the site to the northwest, and it is anticipated that this land will be used in the same manner.

As shown in Figure 1, the subject site is partially located within the mapped Natural Resource Overlay District (NROD), and is thus subject to review by the City of Oregon City to ensure adequate protection of nearby water features and associated vegetated corridors.

The Oregon City Municipal Code protects degradation of water features enforcing a vegetated corridor consisting of native plantings adjacent to the identified feature (e.g. stream or wetland) to improve water quality and functions. The applicant has requested an exemption from the Natural Resource Overlay District. Approval of this verification application would exempt the property from further NROD review pursuant with Chapter 17.49 of the Oregon City Municipal Code.

Figure 1: Subject Site and Mapped NROD





II. ANALYSIS AND FINDINGS

CHAPTER 17.49 NATURAL RESOURCE OVERLAY DISTRICT

17.49.250 Verification of NROD Boundary

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

Finding: Applicable. The City of Oregon City's maps show a perennial stream that originates off-site to the west and flows into the center of the subject site. A Natural Resource Assessment dated April 3, 2017 has been prepared concluding that no potentially jurisdictional Title 3 wetlands or waters, or associated vegetated corridors were documented on-site and that the stream identified in the City's mapping is not present on the subject property. No development is associated with this application and it has been determined that a Type I NROD Verification application can accomplish the requested concurrence that the subject property is not in an NROD area.

17.49.255 - Type I verification.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.

Finding: Complies as Proposed. The applicant submitted a Natural Resource Assessment prepared by Lindsey Obermiller, Natural Resource Specialist, including site plans in accordance with Section 17.49.220, as applicable. The Natural Resource Assessment included in the application materials includes site plans and conclusions that no evidence of the characteristics found in criteria B.1. – B.6. exist on the subject site.

B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:
1. No soil, vegetation, hydrologic features have been disturbed;
2. No hydrologic features have been changed;
Finding: Complies as proposed. The applicant has not requested that the Community Development Director make this determination. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant provides the necessary evidence that the criteria for exemption are met.

3 There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.
Finding: Complies as Proposed. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant identify that the site did not have any observable water marks, swash lines, drift lines on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation in the vicinity of the steel building onsite.

4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.
Finding: Complies as Proposed. The City's local wetland inventory and NROD map do not identify a wetland at the property. The Natural Resources Assessment and Wetland Delineation Data Forms submitted by the applicant also conclude that the site and adjacent locations do not possess any jurisdictional Title 3 wetlands or waters, or associated vegetated corridors.

5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.
Finding: Complies as Proposed. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant identify that the site did not contain evidence of perennial or intermittent stream or other protected water features.

6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.
There is an existing physical barrier between the site and a protected water feature, including:
a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.
b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.
Finding: Complies as proposed. The Highland Park subdivision uphill and abutting the property received land use approval which included a prior NROD exemption regarding the subject mapped resource (Planning File TP 15-01, NR 14-08).

C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.6. above are met the verification application shall be denied. An applicant may then opt to apply for a verification through the Type II process defined below.
Finding: Not Applicable. The applicant's submittal adequately demonstrates that a protected feature and associated vegetated buffer are not present onsite, and that the criteria in subsections B.1-B.6 are met. A Type II verification is not required.

17.49.260. Type II Verification
Finding: Not Applicable. The application does not include a Type II Verification request.

17.49.265 - Corrections to violations.
For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met then the applicant's remediation plan shall demonstrate that there will be:
A. No permanent loss of any type of resource or functional value listed in Section 17.49.10, as determined by a qualified environmental professional;
B. A significant improvement of at least one functional value listed in section 17.49.10, as determined by a qualified environmental professional; and
C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.
Finding: Not Applicable. No violations have been reported. Therefore, a remediation plan for the violation is not required.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES
17.50.030 Summary of the City's Decision-Making Processes.
Finding: Complies as Proposed. The Natural Resource Overlay District verification application is being reviewed pursuant to the Type I process.

III. CONCLUSION AND DECISION

Based on the analysis and findings presented in this report, and the substantial evidence in the application materials, the properties identified are exempt from further review under Chapter 17.49 of the Oregon City Municipal Code. Though the site is exempt from further NROD review, portions of the property also fall within the Geologic Hazards Overlay District and development is subject to compliance with OCMC Chapter 17.44, *Geologic Hazards* at the time of land division application.

EXHIBITS

1. Vicinity Map (On File)
2. Map of the Site and Natural Resources Overlay District (On File)
2. Applicant's Submittal (On File)

TUALATIN · VANCOUVER · SALEM-KEIZER
12965 SW HERMAN RD., SUITE 100 · TUALATIN, OR 97062
AKS ENGINEERING & FORESTRY
WWW.AKS-ENG.COM
P: (503) 563-6151 F: (503) 563-6152

Natural Resource Assessment

DATE: April 3, 2017

TO: Oregon City Planning Department, Oregon

FROM: Kayla Katkin, Natural Resource Specialist – AKS Engineering & Forestry, LLC

SUBJECT: Type 1 Verification - Natural Resource Assessment

PROJECT: Wheeler Farms

Introduction and Background

Rian Park Development contracted AKS Engineering and Forestry, LLC (AKS) to conduct a map verification at 19566 South Central Point Road in Oregon City, Clackamas County, Oregon (Tax Lots 1001, 1291, 1180, and 1100 of Tax Map 3 2E 7C and Tax Lots 1700 and 1790 of Tax Map 3 1E 12D) as seen on the attached Figures 1 and 2A and 2B. The Oregon City Natural Resource Overlay District (NROD) Map shows a perennial stream that originates off site to the west and flows through the project area (Figure 5). Our site visit determined this resource is not present on the site or immediately off-site to the west.

This memo has been prepared to meet the Oregon City Code of Ordinances application requirements listed under Chapter 17.49.250 Type 1 Verification, to request a determination that the project area does not include an NROD area and is therefore not subject to the NROD standards.

Existing Conditions

The methodology used to determine the presence of wetlands followed the U.S. Army Corps of Engineers (Corps) *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Corps 2010), used by both the Corps and the Oregon Department of State Lands (DSL). Kayla Katkin and Lindsey Obermiller documented the site conditions on March 15, 2017. They recorded soils, vegetation, and indicators of hydrology at two sample plot locations to document representative site conditions.

A single-family home, detached shop, and outbuildings are on Tax Lot 1100 on Tax Map 3 2E 7C. Tax Lots 1700 and half of Tax Lot 1001 are used as a filbert orchard. Tax Lot 1790 is primarily used as a Christmas tree farm, and Tax Lot 1291 contains a driveway. The southern portion of Tax Lot 1180 is dominated by big-leaf maple (*Acer macrophyllum*), Douglas-fir (*Pseudotsuga menziesii*), red alder (*Alnus rubra*), beaked hazelnut (*Corylus cornuta*), and pineland sword fern (*Polystichum munitum*), and slopes steeply (>25%) to the south toward an off-site drainage. Topography on remaining portions of the site have a gentle (less than 3 percent) southeasterly slope.

According to the Natural Resources Conservation Service (NRCS) Clackamas County, Oregon Area soil survey map and the Clackamas County hydric soils list, non-hydric Bornstedt silt loam with 0 to 8% slopes (Unit 8B) is mapped in the northern portion of the site and non-hydric soils Jory stony silt loam with 3-8% slopes (Unit 46B) and Xerochrepts and Haploxerolls, very steep slopes (Unit 92F) are mapped in the southern portion of

the site (Figure 3). There are no wetlands or waters mapped on the site according to the DSL approved 1999 Oregon City Local Wetland Inventory (LWI) map (Figure 4A and 4B).

Plots 1 and 2 document the conditions within the on-site mapped NROD. Plot 1 is at the lowest point within the planted Christmas tree farm in the vicinity of the mapped NROD. Plot 2 is also located in a low topographic area within the mapped NROD and upslope of a small diameter culvert under a gravel driveway along the southern property line of Tax Lot 1180. There was no defined channel upslope or downslope of the culvert. No defined channel was present upstream or downstream of the culvert.

Planted Douglas-fir dominated the vegetation at both plots. Soils were a dark reddish brown silt loam (with chromas of 3 and 4) and did not meet hydric soil indicators. Both plots lacked wetland hydrology indicators. Therefore, the area was determined to be upland.

No man-made drainage features, water marks, swash lines, drift lines on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation was observed on the site. The approximate location of sample Plots 1 and 2 are shown on attached Figure 6, Existing Conditions Map. The wetland determination data sheets and representative site photos are also attached (Attachments A and B).

Summary

No potentially jurisdictional Title 3 wetlands or waters, or associated vegetated corridors were documented within the project area. Therefore, we request that Oregon City update the online geographic information system (GIS) mapping to reflect current site conditions and the absence of any on-site streams or buffers.

Please do not hesitate to contact me with any questions concerning the proposed project.

K. Katkin

Kayla Katkin
Natural Resource Specialist
Field work and report preparation

Stacey Reed

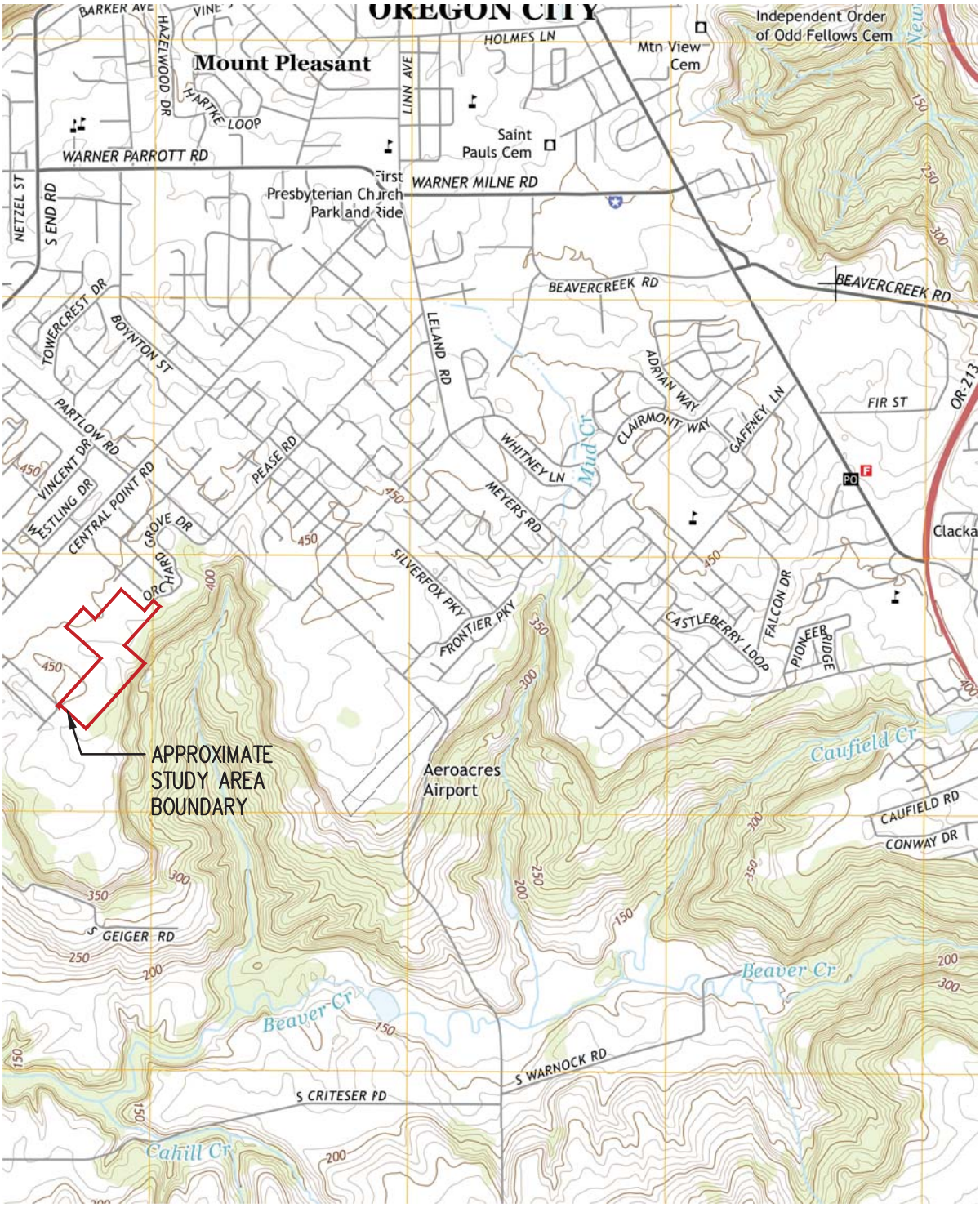
Stacey Reed, PWS
Senior Wetland Scientist
Report review

List of Attached Figures

Figure 1. Vicinity Map
Figure 2. Tax Lot Map
Figure 3. Soils Map
Figure 4. Oregon City Local Wetland Inventory Map
Figure 5. Oregon City GIS NROD Map
Figure 6. Existing Conditions Map

List of Attachments

Attachment A: Wetland Determination Data Sheets
Attachment B: Representative Site Photographs



N

SCALE 1" = 2000 FEET

2000 0 2000

USGS 7.5' TOPOGRAPHIC
QUADRANGLE: OREGON CITY, OR (2014)

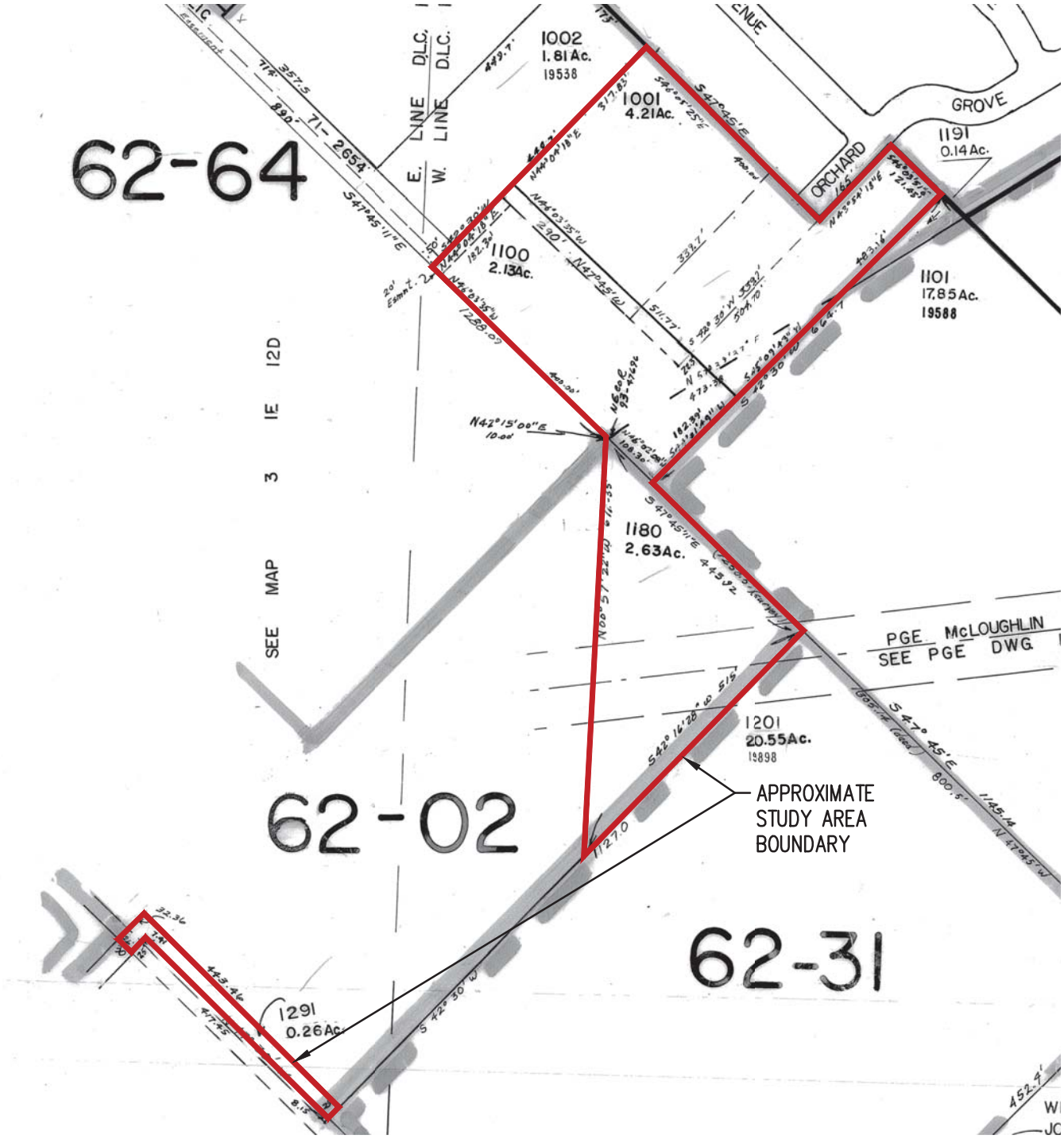
DATE: 03/20/2017

VICINITY MAP
WHEELER FARMS NATURAL RESOURCE ASSESSMENT

FIGURE 1

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
TUALATIN, OR 97062 www.aks-eng.com
PHONE: 503.563.6151 FAX: 503.563.6152

DRWN: KMK
CHKD: SAR
AKS JOB: 5621



N

SCALE 1" = 250 FEET

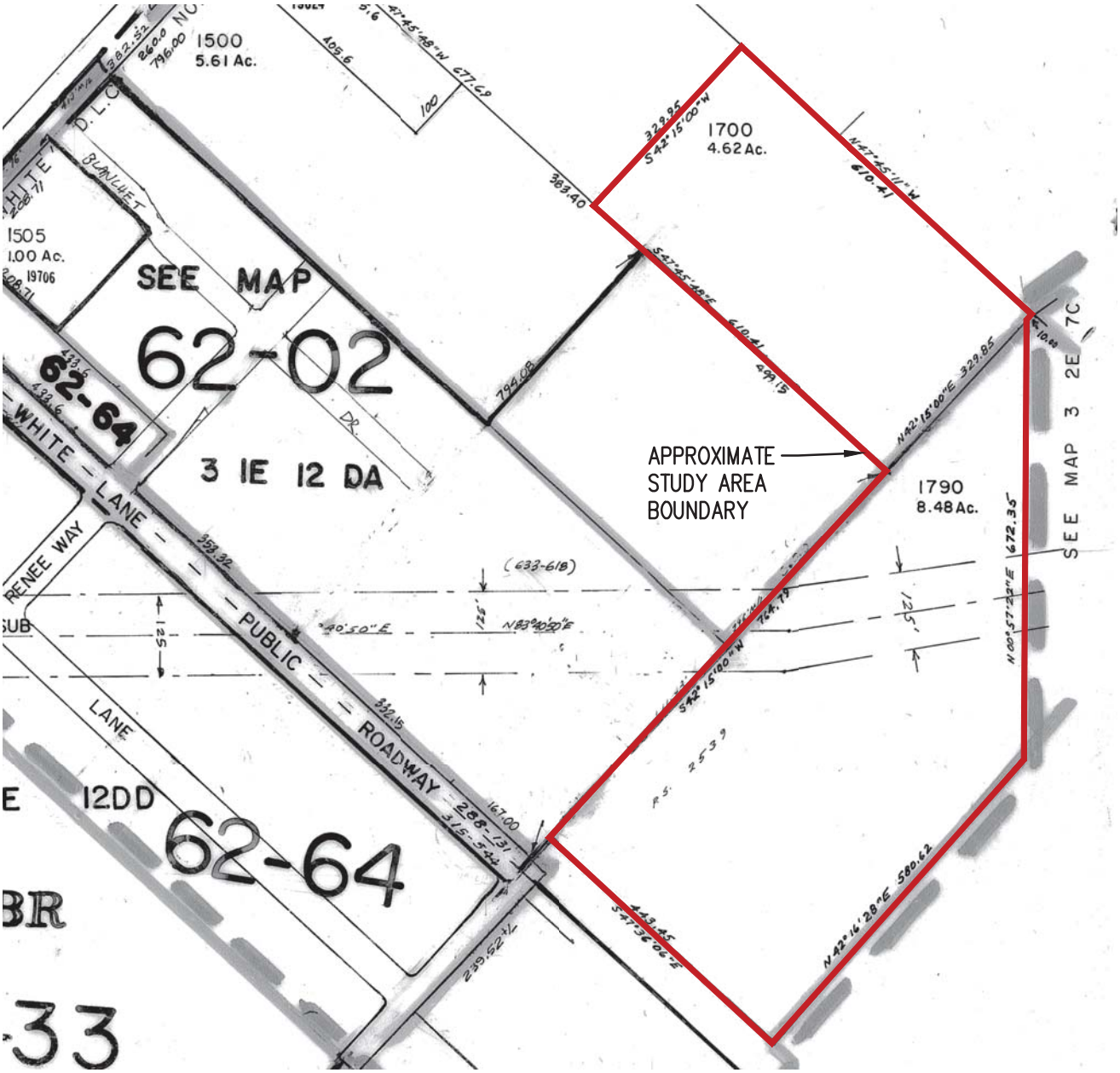
250 0 250

TAX MAP 3 2E 7C
PORTION OF TAX LOTS
1001, 1100, 1180, 1291

DATE: 03/20/2017

TAX MAP (MAP 3 2E 7C) WHEELER FARMS NATURAL RESOURCE ASSESSMENT	FIGURE 2A
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD SUITE 100 TUALATIN, OR 97062 www.aks-eng.com PHONE: 503.563.6151 FAX: 503.563.6152	DRWN: KMK CHKD: SAR AKS JOB: 5621

DWG: 5621 REPORT FIGURES | FIGURE 2A



TAX MAP 3 1E 12D
PORTION OF TAX LOTS
1700 AND 1790

N

SCALE 1" = 250 FEET

250 0 250

DATE: 03/20/2017

TAX MAP (MAP 3 1E 12D) WHEELER FARMS NATURAL RESOURCE ASSESSMENT	FIGURE 2B
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD SUITE 100 TUALATIN, OR 97062 www.aks-eng.com PHONE: 503.563.6151 FAX: 503.563.6152	DRWN: KMK CHKD: SAR AKS JOB: 5621

DWG: 5621 REPORT FIGURES | FIGURE 2B



MAP UNIT SYMBOL	MAP UNIT NAME
8B	BORNSTEDT SILT LOAM, 0% – 8% SLOPES; NON-HYDRIC
46B	JORY STONY SILT LOAM, 3% – 8% SLOPES; NON-HYDRIC
92F	XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP; NON-HYDRIC

NRCS WEB SOIL SURVEY FOR
CLACKAMAS COUNTY

N

SCALE: 1"= 250 FEET

250 0 100 150 200 250

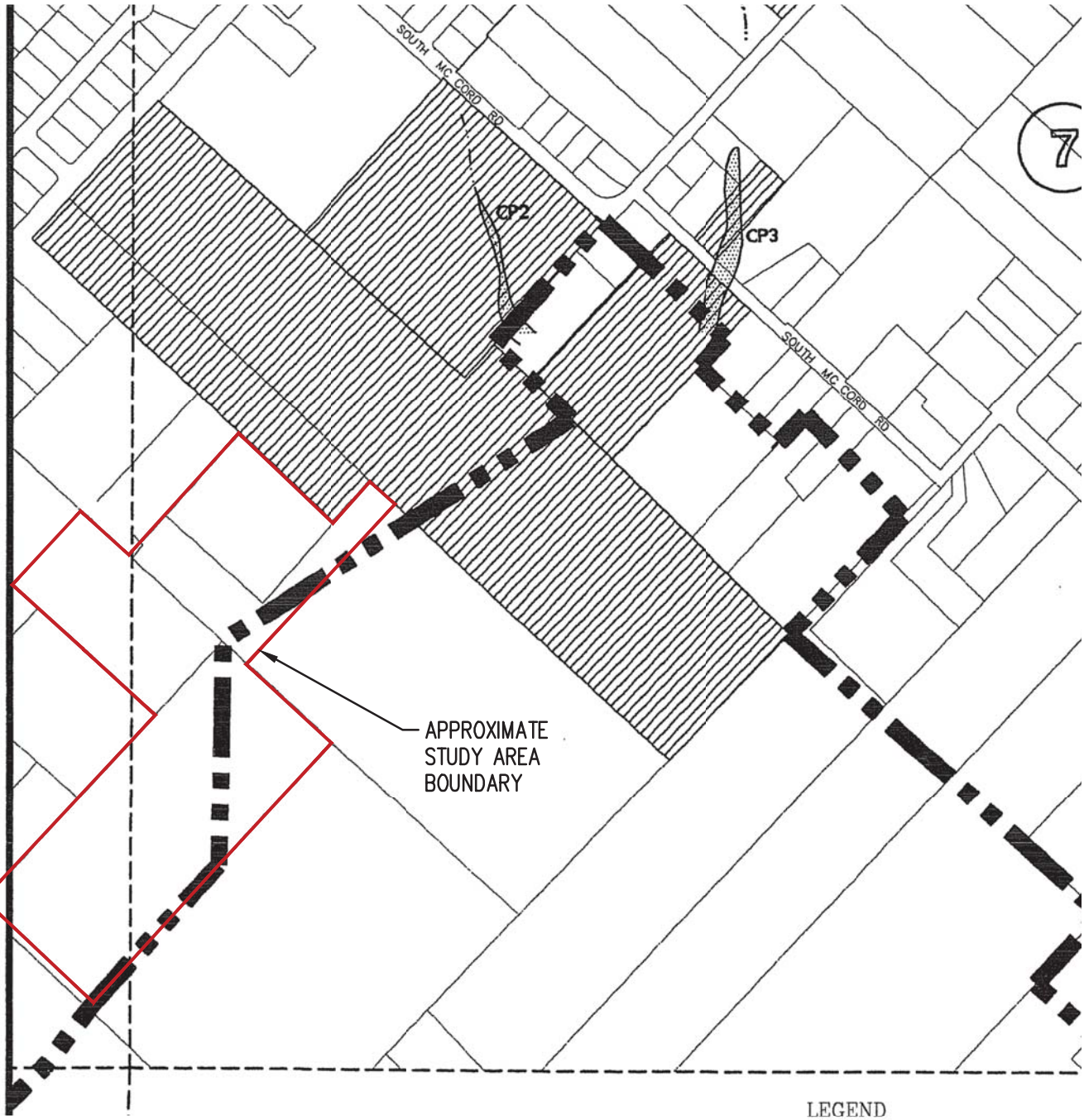
DATE: 03/20/2017

SOIL SURVEY MAP
WHEELER FARMS NATURAL RESOURCE ASSESSMENT

FIGURE 3

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
TUALATIN, OR 97062 www.aks-eng.com
PHONE: 503.563.6151 FAX: 503.563.6152

DRWN: KMK
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AKS JOB: 5621



OREGON CITY LOCAL WETLAND INVENTORY, 1999
PAGE 7

NOTE: OLD UGB LINE FROM 1999

LEGEND

- Urban Growth Boundary
- Wetland
- AC2 Wetland label
- FCR1 Riparian label
- Sample site
- DSL DET wetland
- DSL DET 31-0569 DSL label
- Mitigation wetland
- Site access not granted
- Stream

DATE: 03/20/2017

N

SCALE: 1"= 500 FEET

500 0 200 300 400 500

LOCAL WETLAND INVENTORY MAP (LWI)
WHEELER FARMS NATURAL RESOURCE ASSESSMENT

FIGURE **4A**

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
TUALATIN, OR 97062 www.aks-eng.com
PHONE: 503.563.6151 FAX: 503.563.6152

DRWN: KMK
CHKD: SAR
AKS JOB: 5621



OREGON CITY LOCAL WETLAND
INVENTORY, 1999
PAGE 12

LEGEND

- Urban Growth Boundary
- Wetland
- AC2 Wetland label
- FCR1 Riparian label
- .46 Sample site
- DSL DET wetland
- DSL DET 97-0569 DSL label
- Mitigation wetland
- Site access not granted
- Stream

NOTE: OLD UGB LINE FROM 1999

STUDY AREA EXTENDS OFF MAP
(SEE FIGURE 4A)

APPROXIMATE
STUDY AREA
BOUNDARY

N

SCALE: 1"= 500 FEET

500 0 200 300 400 500

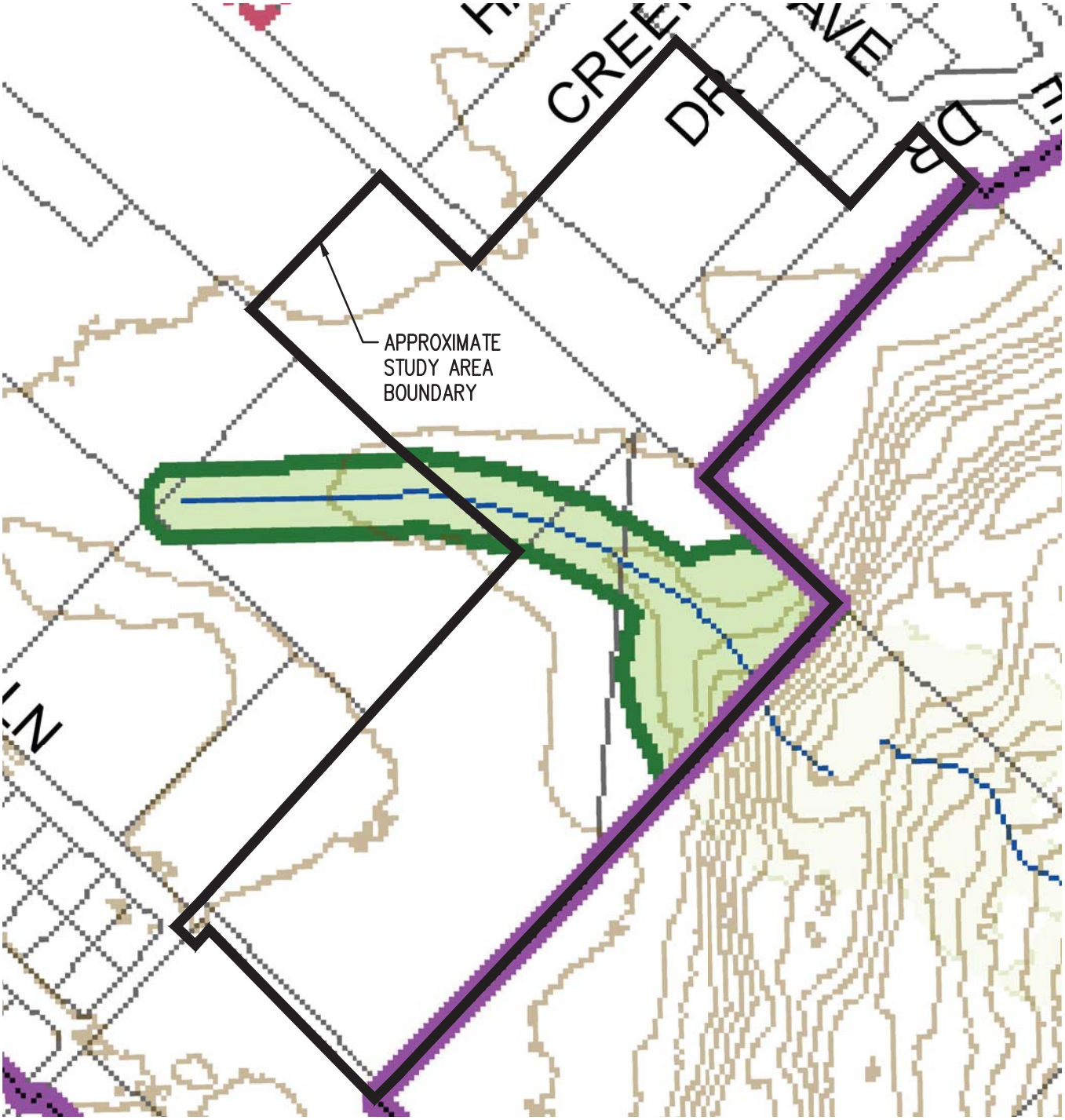
DATE: 03/20/2017

LOCAL WETLAND INVENTORY MAP (LWI)
WHEELER FARMS NATURAL RESOURCE ASSESSMENT

FIGURE
4B

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
TUALATIN, OR 97062 www.aks-eng.com
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OREGON CITY GIS NROD MAP

UGB
City Limits
Contours - 10 ft
Streams - piped
Perrenial Streams
Intermittent Streams
NROD Boundary
Taxlots
NROD Boundary (2009 Title13)
RIV_FILL

N

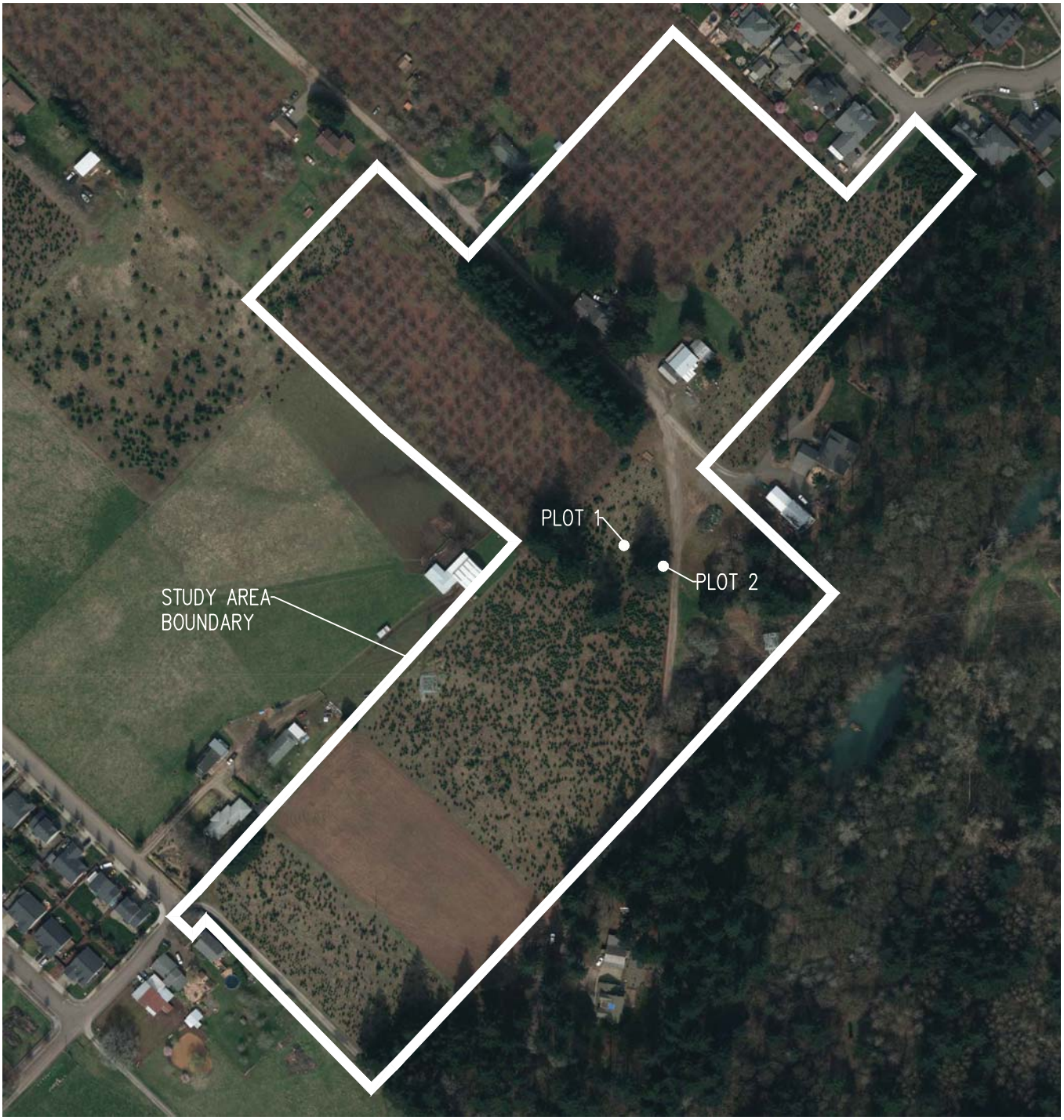
SCALE: 1"= 250 FEET

250 0 100 150 200 250

DATE: 03/20/2017

OREGON CITY GIS NROD MAP WHEELER FARMS NATURAL RESOURCE ASSESSMENT	FIGURE 5
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD SUITE 100 TUALATIN, OR 97062 www.aks-eng.com PHONE: 503.563.6151 FAX: 503.563.6152	DRWN: KMK CHKD: SAR AKS JOB: 5621

DWG: 5621 REPORT FIGURES | FIGURE 5



PLOT LOCATIONS SHOWN WERE DETERMINED BY AKS ENGINEERING & FORESTRY, LLC ON 3/15/2017. PLOT LOCATIONS ARE APPROXIMATE BASED ON FIELD OBSERVATIONS.

N

SCALE: 1"= 250 FEET

250 0 100 150 200 250

DATE: 03/20/2017

FIGURE 6

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD SUITE 100
TUALATIN, OR 97062 www.aks-eng.com
PHONE: 503.563.6151 FAX: 503.563.6152

DRWN: KMK
CHKD: SAR
AKS JOB: 5621

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE I NATURAL RESOURCE OVERLAY DISTRICT VERIFICATION
May 19, 2017

FILE NUMBER:	NR 17-03: Type I Natural Resource Overlay District Verification
APPLICANT:	Rian Park Development, Inc. P.O. Box 2559 Oregon City, OR 97045
OWNERS:	32E07C Tax Lot 1001 (Wheeler Family Enterprises, LLC) 32E07C Tax Lots 1100, 1180 (David H. Wheeler Sr. Trust) 32E07C Tax Lot 1291 (Donald W. & Roxanne O. Wheeler) 31E12D Tax Lots 1700, 1790 (Wheeler Family Enterprises, LLC)
CONSULTANT:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062
REQUEST:	The applicant submitted a request for a Type I Natural Resource Overlay District Verification with a professionally prepared assessment to demonstrate that the subject site is not within the Natural Resource Overlay District.
LOCATION:	NO SITUS ADDRESS: Clackamas County Tax Map: 32E07C, Tax Lots: 1001, 1180, & 1291 / 31E12D, Tax Lots: 1700 & 1790; and 19566 Central Point Rd, Oregon City, OR 97045, Clackamas County Tax Map: 32E07C, Tax Lot 1100
ZONING:	"R-10", Single Family Residential District
DECISION:	Approval
REVIEWER:	Pete Walter, AICP, Planner
CRITERIA:	OCMC Chapter 17.49 – Natural Resource Overlay District OCMC Chapter 17.50 – Administration and Procedures

Type I decisions do not require interpretation or the exercise of policy or legal judgment in evaluating approval criteria and include lot line adjustments, zone changes upon annexation as provided in Section 17.06.050 for which there is no discretion provided, final plats, and final planned unit development plans where there are no material deviations from the approved preliminary plans. Because no discretion is involved, Type I decisions do not qualify as a land use, or limited land use, decision. The decision-making process requires no notice to any party other than the applicant. One representative from each of the city-recognized neighborhood associations, who has been identified by the neighborhood coordinator, will be distributed a monthly compilation of all Type I activities. The Community Development Director's decision is final and not appealable by any party through the normal city land use process. IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722.3789.

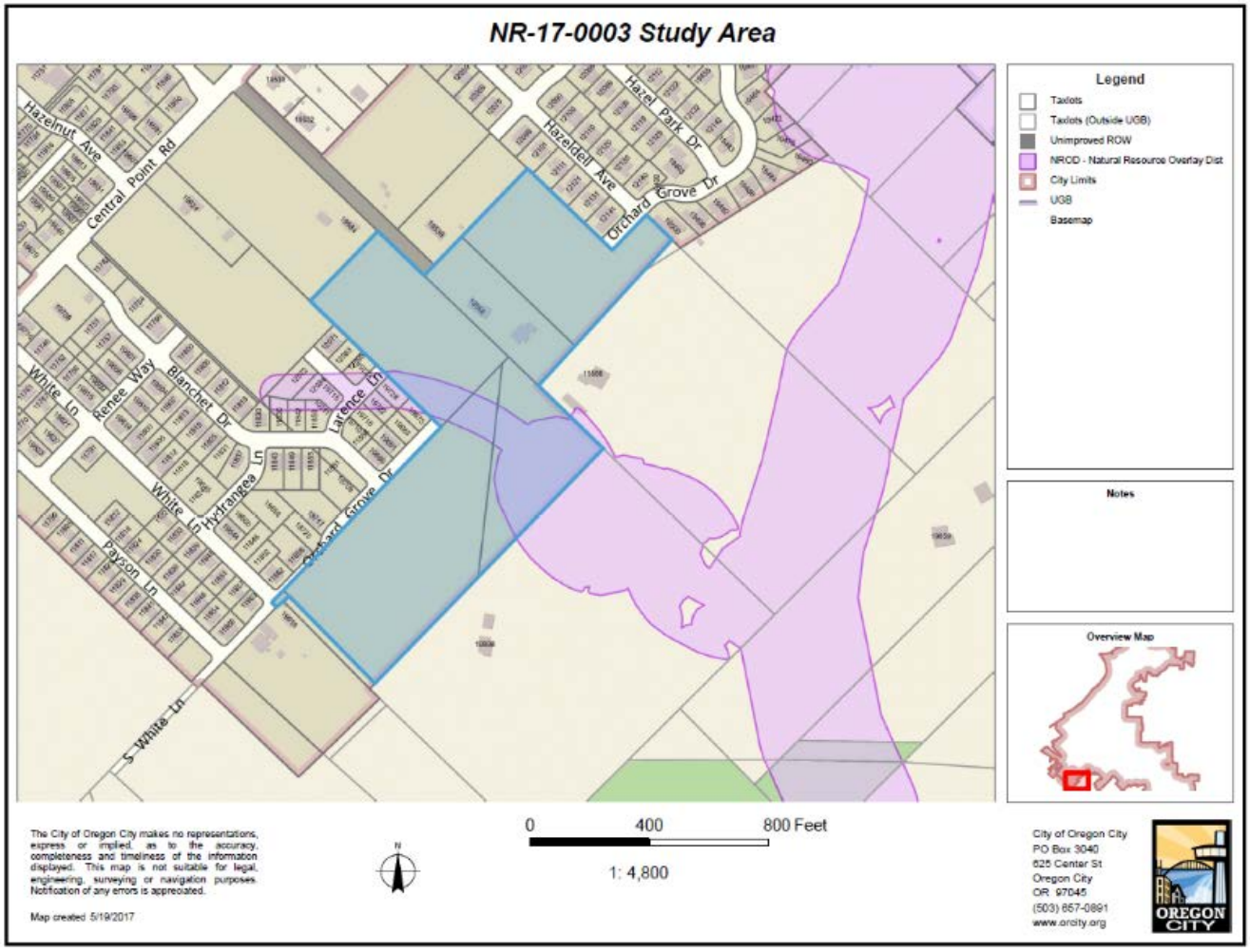
I. BACKGROUND

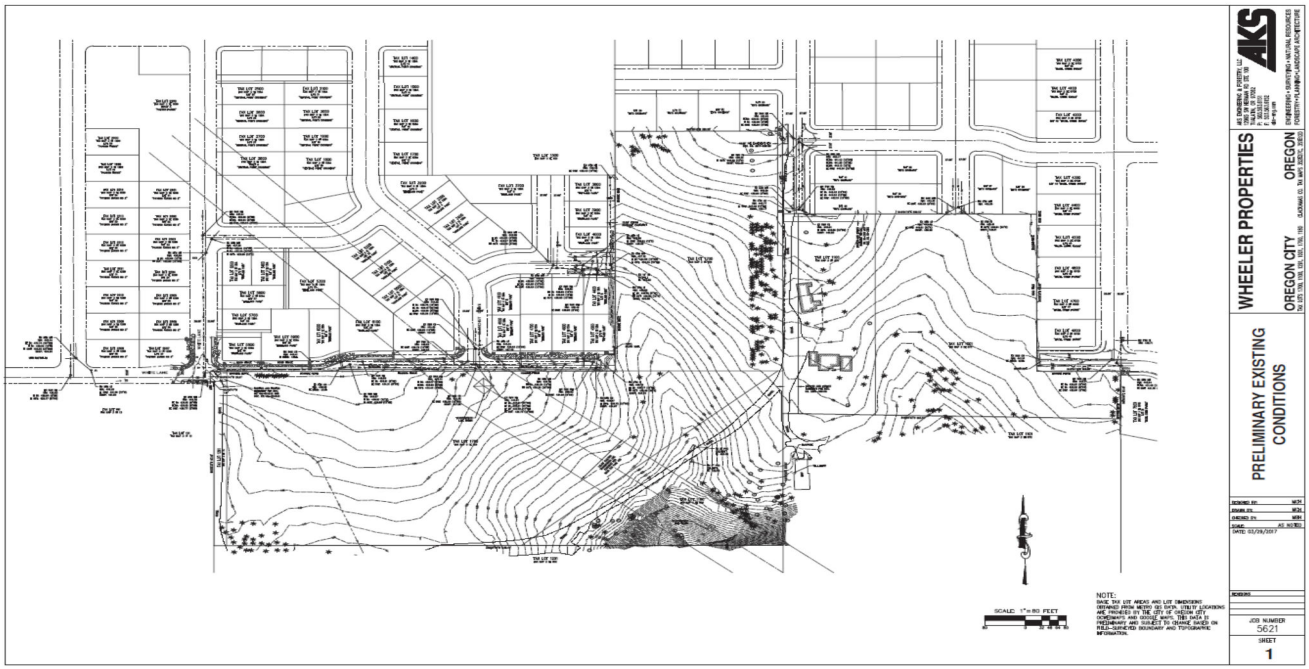
The subject properties are located southeast of Central Point Road on the southern boundary of the City. The area was historically pastureland, Christmas trees and orchard land that was brought into the Metro Urban Growth Boundary in 2001 or earlier in 1979. The lands in question were annexed to Oregon City in 2006 (File AN 16-02) and have a zoning designation of R-10 Single Family Residential. There has been a lot of recent subdivision and home construction in the area over the last 10 years abutting the site to the northwest, and it is anticipated that this land will be used in the same manner.

As shown in Figure 1, the subject site is partially located within the mapped Natural Resource Overlay District (NROD), and is thus subject to review by the City of Oregon City to ensure adequate protection of nearby water features and associated vegetated corridors.

The Oregon City Municipal Code protects degradation of water features enforcing a vegetated corridor consisting of native plantings adjacent to the identified feature (e.g. stream or wetland) to improve water quality and functions. The applicant has requested an exemption from the Natural Resource Overlay District. Approval of this verification application would exempt the property from further NROD review pursuant with Chapter 17.49 of the Oregon City Municipal Code.

Figure 1: Subject Site and Mapped NROD





II. ANALYSIS AND FINDINGS

CHAPTER 17.49 NATURAL RESOURCE OVERLAY DISTRICT

17.49.250 Verification of NROD Boundary

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

Finding: Applicable. The City of Oregon City's maps show a perennial stream that originates off-site to the west and flows into the center of the subject site. A Natural Resource Assessment dated April 3, 2017 has been prepared concluding that no potentially jurisdictional Title 3 wetlands or waters, or associated vegetated corridors were documented on-site and that the stream identified in the City's mapping is not present on the subject property. No development is associated with this application and it has been determined that a Type I NROD Verification application can accomplish the requested concurrence that the subject property is not in an NROD area.

17.49.255 - Type I verification.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.

Finding: Complies as Proposed. The applicant submitted a Natural Resource Assessment prepared by Lindsey Obermiller, Natural Resource Specialist, including site plans in accordance with Section 17.49.220, as applicable. The Natural Resource Assessment included in the application materials includes site plans and conclusions that no evidence of the characteristics found in criteria B.1. – B.6. exist on the subject site.

B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:
1. No soil, vegetation, hydrologic features have been disturbed;
2. No hydrologic features have been changed;
Finding: Complies as proposed. The applicant has not requested that the Community Development Director make this determination. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant provides the necessary evidence that the criteria for exemption are met.

3 There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.
Finding: Complies as Proposed. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant identify that the site did not have any observable water marks, swash lines, drift lines on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation in the vicinity of the steel building onsite.

4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.
Finding: Complies as Proposed. The City's local wetland inventory and NROD map do not identify a wetland at the property. The Natural Resources Assessment and Wetland Delineation Data Forms submitted by the applicant also conclude that the site and adjacent locations do not possess any jurisdictional Title 3 wetlands or waters, or associated vegetated corridors.

5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.
Finding: Complies as Proposed. The Natural Resources Assessment and Wetland Determination Data Forms submitted by the applicant identify that the site did not contain evidence of perennial or intermittent stream or other protected water features.

6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.
There is an existing physical barrier between the site and a protected water feature, including:
a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.
b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.
Finding: Complies as proposed. The Highland Park subdivision uphill and abutting the property received land use approval which included a prior NROD exemption regarding the subject mapped resource (Planning File TP 15-01, NR 14-08).

C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.6. above are met the verification application shall be denied. An applicant may then opt to apply for a verification through the Type II process defined below.
Finding: Not Applicable. The applicant's submittal adequately demonstrates that a protected feature and associated vegetated buffer are not present onsite, and that the criteria in subsections B.1-B.6 are met. A Type II verification is not required.

17.49.260. Type II Verification
Finding: Not Applicable. The application does not include a Type II Verification request.

17.49.265 - Corrections to violations.
For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met then the applicant's remediation plan shall demonstrate that there will be:
A. No permanent loss of any type of resource or functional value listed in Section 17.49.10, as determined by a qualified environmental professional;
B. A significant improvement of at least one functional value listed in section 17.49.10, as determined by a qualified environmental professional; and
C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.
Finding: Not Applicable. No violations have been reported. Therefore, a remediation plan for the violation is not required.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES
17.50.030 Summary of the City's Decision-Making Processes.
Finding: Complies as Proposed. The Natural Resource Overlay District verification application is being reviewed pursuant to the Type I process.

III. CONCLUSION AND DECISION

Based on the analysis and findings presented in this report, and the substantial evidence in the application materials, the properties identified are exempt from further review under Chapter 17.49 of the Oregon City Municipal Code. Though the site is exempt from further NROD review, portions of the property also fall within the Geologic Hazards Overlay District and development is subject to compliance with OCMC Chapter 17.44, *Geologic Hazards* at the time of land division application.

EXHIBITS

1. Vicinity Map (On File)
2. Map of the Site and Natural Resources Overlay District (On File)
2. Applicant's Submittal (On File)

Attachment A: Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: 5621: Wheeler Farms City/County: Oregon City/ Clackamas Sampling Date: 3/15/2017

Applicant/Owner: Rian Park Development State: OR Sampling Point: 1

Investigator(s): Kayla Katkin and Lindsey Obermiller Section, Township, Range: 3 1E 12D

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <3%

Subregion (LRR): A, Northwest Forests and Coast Lat: Long: Datum:

Soil Map Unit Name: Jory Stony Silt Loam, 3%-8% Slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are Vegetation ,Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ,Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Wetland Hydrology Present?	Yes	No X	

Precipitation: According to the AgACIS Oregon City station, 1.30 inches of rainfall was received on the day of the site visit and 4.32 inches within the two weeks prior. Rainfall conditions received prior to site visit were above normal.

Remarks: Plot taken at low spot in tree farm area in the vicinity of the NROD mapped stream.

VEGETATION

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 10' r)			
1. *Pseudotsuga menziesii*	40%	Yes	FACU
2. *Rubus armeniacus*	10%	Yes	FAC
3.			
4.			
5.			
	50% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Agrostis capillaris*	75%	Yes	FAC
2. *Daucus carota*	10%	No	FACU
3. *Hypochaeris radicata*	10%	No	FACU
4. *Plantago lanceolata*	2%	No	FACU
5. *Holcus lanatus*	2%	No	FAC
6. *Geranium molle*	2%	No	NOL
7.			
8.			
9.			
10.			
11.			
	101% = Total Cover		
Woody Vine Stratum (Plot size: 10' r)			
1.			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	87	x 3 =	261
FACU species	62	x 4 =	248
UPL species	2	x 5 =	10
Column Totals:	151 (A)		519 (B)

Prevalence Index = B/A = 3.44

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks: Shrub layer *Pseudotsuga menziesii are planted for Christmas tree farm.*

SOIL

Sampling Point: **1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16+	10YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___	
Water Table Present?	Yes ___	No X	Depth (inches): >16"	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): >16"	**Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: 5621: Wheeler Farms City/County: Oregon City/ Clackamas Sampling Date: 3/15/2017

Applicant/Owner: Rian Park Development State: OR Sampling Point: 2

Investigator(s): Kayla Katkin and Lindsey Obermiller Section, Township, Range: 3 1E 12D

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <3%

Subregion (LRR): A, Northwest Forests and Coast Lat: Long: Datum:

Soil Map Unit Name: Jory Stony Silt Loam, 3%-8% Slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are Vegetation ,Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ,Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X
Hydric Soil Present?	Yes	No X
Wetland Hydrology Present?	Yes	No X

Is the Sampled Area within a Wetland? Yes No X

Precipitation: According to the AgACIS Oregon City station, 1.30 inches of rainfall was received on the day of the site visit and 4.32 inches within the two weeks prior. Rainfall conditions received prior to site visit were above normal.

Remarks: Plot taken in low area, just outside of tree farm area in vicinty of NROD mapped stream. Approxiamtely 6" lower in elevation than Plot 1.

VEGETATION

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pseudotsuga menziesii*	25%	Yes	FACU
2.			
3.			
4.			
	25% = Total Cover		
Sapling/Shrub Stratum (Plot size: 10' r)			
1. *Pseudotsuga menziesii*	30%	Yes	FACU
2. *Rubus armeniacus*	5%	No	FAC
3.			
4.			
5.			
	35% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Agrostis capillaris*	70%	Yes	FAC
2. *Daucus carota*	10%	No	FACU
3. *Hypochaeris radicata*	10%	No	FACU
4. *Holcus lanatus*	5%	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95% = Total Cover		
Woody Vine Stratum (Plot size: 10' r)			
1.			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 5%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	130 (A)		440 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No X

Remarks: Shrub layer *Pseudotsuga menziesii* are planted for Christmas tree farm.

SOIL

Sampling Point: **2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					SiL	
6-14	10YR 3/3	98	7.5YR 4/4	2	C	M, PL	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___	
Water Table Present?	Yes ___	No X	Depth (inches): >14"	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): >14"	**Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Attachment B: Representative Site Photographs



Photo A. View south of Plot 2. Plot 2 is located just outside of the densely planted Christmas tree farm at the lowest point within the mapped NROD area.



Photo B. View facing north within Christmas tree farm.



Photo C. View south of driveway that extends through mapped NROD area.



Photo D. View north of Plot 1. Plot 1 is located within the Christmas tree farm in the vicinity of the mapped NROD area.

Photos taken by Kayla Katkin, March 15, 2017

Exhibit E: Transportation Impact Study

Wheeler Farms

Transportation Impact Study

Oregon City, Oregon

Date:
June 15, 2017

Prepared for:
Rian Park Development, Inc.

Prepared by:
Todd Mobley, PE
Richard Martin, EI



RENEWS: 12/31/2018

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Executive Summary

1. A zone change from R10 to R8 is proposed for a site that consists of six tax lots, totalling approximately 22.56 acres. The site is located to the southeast of S Central Point Road, southwest of Hazeldell Avenue, and northeast of S White Lane. A subdivision is proposed under the R8 zoning that would accommodate 77 lots for construction of single-family homes.
2. The trip generation calculations show that the proposed subdivision is projected to generate a total of 57 trips during the morning peak hour and 76 trips during the evening peak hour. The change in zoning is expected to result in a potential net increase in trips of 8 during the morning peak hour and 11 during the evening peak hour.
3. For 2019 conditions with the proposed Wheeler Farms subdivision in place, all study area intersections are expected to operate acceptably and no mitigations are necessary to accommodate the proposed subdivision.
4. By 2035, all study-area intersections will continue to operate acceptably, with the exception of the signalized intersection of Warner-Parrott/Warner-Milne Road at Linn Avenue/Leland Road, which will operate slightly over capacity. However, the proposed zone change will not degrade the operation of the intersection, since the net increase in trips associated with the change in zoning is quite small. As such, the Transportation Planning Rule is satisfied and there is no significant effect on the surrounding transportation system.
5. Based on the detailed review of all of the crash data, no significant patterns and no contributing design concerns were identified at the study intersections. Accordingly, no safety mitigations are recommended.

Introduction

The proposed subdivision consists of the construction of 77 single-family detached houses. The project site is located immediately to the southeast of S Central Point Road, southwest of Hazeldell Avenue, and northeast of S White Lane at 19584 and 19532 Central Point Road in Oregon City, Oregon. The project site consists of tax lots 1001, 1291, 1100, 1180, 1700, and 1790 and encompasses an approximate total of 22.56 acres. All six lots are currently utilized for agricultural purposes with lot 1100 containing one single-family detached house and outbuildings.

The proposed subdivision will connect to five street stubs from adjacent subdivisions and connect these streets within the site, completing the local street system in the immediate vicinity. This improved connectivity will offer multiple travel routes to the neighborhood, distributing trips and avoiding concentrated traffic impacts. Wheeler Farms will have access to S Central Point Road via four street connections, including Hazeldell Avenue, Skellenger Way, Blanchet Drive, and White Lane. However, given the site location, street layout, and expected travel patterns, White Lane is not expected to carry any significant traffic from the project.

This report addresses the impacts of the proposed development on the nearby street system and includes safety and capacity / level-of-service analyses at the following five intersections:

1. S Central Point Road at Blanchet Drive
2. S Central Point Road at Skellenger Way
3. S Central Point Road at Hazeldell Avenue
4. S Central Point Road at Warner Parrott Road
5. Warner Milne Road at Linn Avenue/Leland Road

The purpose of the study is to determine whether the transportation system in the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses, and to determine any mitigation that might be necessary to do so.

Vicinity Streets

S Central Point Road is classified as a Collector by the City of Oregon City. The roadway has a two-lane cross-section southwest of Trade Wind Street, widening to a three-lane cross-section, with one standard travel lane in each direction and a center two-way left-turn lane northeast of Trade Wind Street. It has a posted speed of 45 mph southwest of and a posted speed of 35 mph northeast of Partlow Road. Partial bike lanes, curbs and sidewalks are in place between the project site and Warner Parrott Road, however these facilities are not continuous. Some on-street parking is also available along both sides of the roadway.

Warner Parrott Road is classified as a Minor Arterial by the City of Oregon City. The roadway has a two-lane cross-section and has a posted speed of 30 mph. Bike lanes are in place on both sides of the street. Partial curbs and sidewalks are provided along both sides of the roadway within the study area.

Warner Milne Road is classified as a Minor Arterial by the City of Oregon City. The roadway has a two-lane cross-section and has a posted speed of 30 mph. Bike lanes are in place on both sides of the street. Partial curbs and sidewalks are provided along both sides of the roadway within the site vicinity.

Skellenger Way is classified as a Local Street by the City of Oregon City. The roadway has a two-lane cross-section without centerline striping and has a posted speed of 25 mph. On-street parking is permitted along both sides of the roadway. Curbs and sidewalks are also provided along both sides of the roadway.

Linn Avenue is classified as a Minor Arterial by the City of Oregon City. The roadway has a two-lane cross-section and has a posted speed of 35 mph. Bike lanes are in place on both sides of the street. On-street parking is generally permitted along both sides of the roadway between Williams Street and Ethel Street. Curbs and sidewalks are provided along both sides of the roadway within the site vicinity.

Leland Road is classified as a Minor Arterial by the City of Oregon City. The roadway has a two-lane cross-section and has a posted speed of 35 mph. Bike lanes are in place on both sides of the street. Partial curbs and sidewalks are provided along the eastern side of the roadway within the site vicinity.

Study Intersections

The intersection of Warner Parrott Road at S Central Point Road is a three-legged intersection that is stop-controlled for the northeast bound approach of S Central Point Road. The northeast bound approach has one left-turn lane, one right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest bound approach has one through lane, one left-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The southeast bound approach has one through lane that feeds into the left-turn lane at the traffic signal at Leland Road/Linn Avenue, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The southwestern intersection leg has a marked crosswalk while all other intersection leg crosswalks are unmarked.

The intersection of Warner Parrott/Milne Road at Linn Avenue/Leland Road is a four-legged intersection that is controlled by a traffic signal. The north-, south-, and eastbound approaches each have one left-turn lane served by protected phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The westbound approach of Warner Milne Road has one left-turn lane served by protected phasing, one through lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. All four intersection legs have marked crosswalks.

The intersection of S Central Point Road and Blanchet Drive is a three-legged intersection that is stop-controlled for the northwest bound approach of Blanchet Drive. The northeast and southeast bound approaches each have one through/turn lane and parking is available on the southeast side of the street. S Central Point Road has a posted speed limit of 45 mph in both directions and Blanchet Drive has a posted speed limit of 25 mph at the intersection.

The intersection of S Central Point Road and Skellenger Way is a three-legged intersection that is stop-controlled for the southeast bound approach of Skellenger Way. The northeast and southeast bound approaches each have one through/turn lane and parking is available on the northwest side of the street. S Central Point Road has a posted speed limit of 45 mph in both directions and Skellenger Way has a posted speed limit of 25 mph at the intersection.

The intersection of S Central Point Road and S Hazeldell Avenue is a four-legged intersection that is stop-controlled for the northwest and southeast bound approaches of S Hazeldell Avenue. The northeast and southeast bound approaches each have one through/turn lane and parking is available on the southeast side of the street. S Central Point Road has a posted speed limit of 45 mph in both directions and S Hazeldell Avenue has a posted speed limit of 25 mph at the intersection. All four approaches have sidewalks and unmarked crosswalks.

A vicinity map displaying the project site, vicinity streets, and the study area intersections with their associated lane configurations is shown in Figure 1**Error! Reference source not found.** on page five.

Traffic Counts

Traffic counts were conducted at study area intersections on Wednesday, April 5th, 2017 from 7:00 AM to 9:00 AM and on Tuesday, April 4th, 2017 from 4:00 PM to 6:00 PM. Data from each intersection peak hour was used for analysis.

Figure 2 on page six shows the existing AM and PM peak hour traffic volumes for the study area intersections.

Transit

TriMet bus line *#33 – McLoughlin* operates along Warner Milne Road and Linn Avenue near the site vicinity, with the closest northbound/westbound and southbound/eastbound bus stops located approximately 1.35 miles from the project site. This route provides service between Portland City Center, the last stop at the intersection of NW 5th Avenue and NW Hoyt Street, and the Oregon City Transit Center/Clackamas Community College depending on the time of day. Weekday service is scheduled from approximately 4:30 AM to 1:45 AM, with headways of approximately 15 to 60 minutes. Saturday service is scheduled from approximately 5:45 AM to 1:30 AM with headways of about 15 to 60 minutes. Sunday service is scheduled from 6:00 AM to 1:30 AM with headways of approximately 15 to 60 minutes.

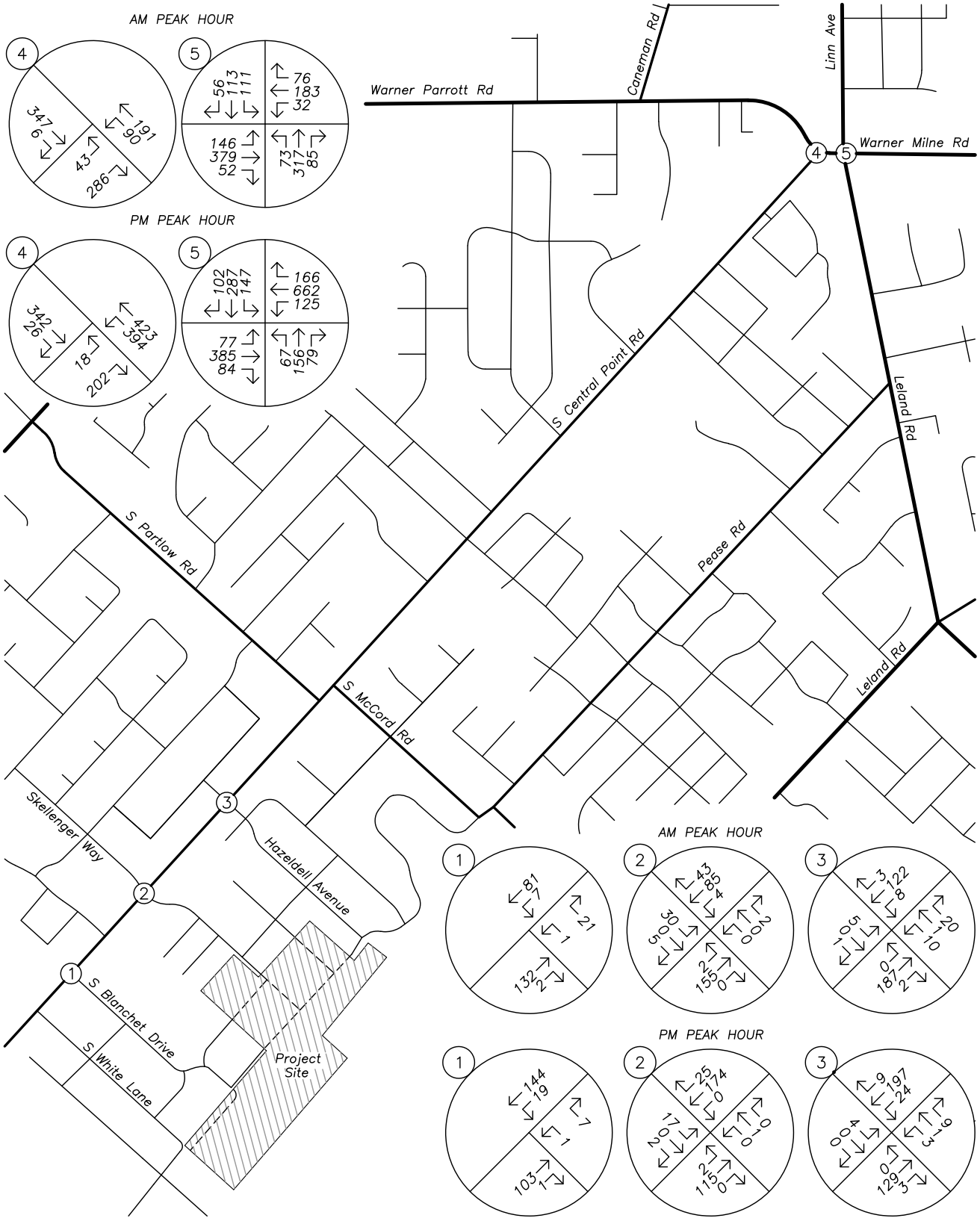


VICINITY MAP

no scale

FIGURE 1

PAGE 5



TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours

no scale

FIGURE 2

PAGE 6

Project-Generated Trips

Under the proposed R-8 zoning, the Wheeler Farms subdivision includes 77 single-family detached homes. There is currently one single-family home on the site that will be removed with site development. The sections below describe the methodology used to calculate the number of trips generated by the new homes and the way they are expected to use the transportation system in the project study area.

Trip Generation

To estimate the number of trips that will be generated by the proposed subdivision, trip rates from the *TRIP GENERATION MANUAL*[1] were used. Data from land-use code 210, *Single-Family Detached Housing*, was used to estimate the proposed development's trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision is projected to generate a net increase of 57 trips during the morning peak hour and 76 trips during the evening peak hour. The trip generation estimates are summarized in Table 1 below. Detailed trip generation calculations are included in the technical appendix to this report.

Table 1: Subdivision Trip Generation Summary

	ITE		Morning Peak Hour			Evening Peak Hour			Weekday
	Code	Size	In	Out	Total	In	Out	Total	Total
Single-Family Detached Housing									
Proposed Development	210	77 units	15	43	58	49	28	77	734
Existing Development	210	1 unit	*0*	*-1*	*-1*	*-1*	*0*	*-1*	*-10*
Total		**83 units**	**15**	**42**	**57**	**48**	**28**	**76**	**724**

Because a change in zoning is proposed for the site, a comparison of the reasonable worst-case development potential under both the existing and proposed zoning designations is necessary to gauge the traffic impact that could occur due to the change. Under the existing R-10 zoning, approximately 73 dwelling units could be constructed. Under the proposed R-8 zone, approximately 84 dwelling units are possible, for a net increase of 11 homes. The comparative trip generation analysis for the zone change is shown in Table 2 below.

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION MANUAL, 9th Edition*, 2012

Table 2: Zone Change Trip Generation Summary

	ITE Code	Size	Morning Peak Hour In	Morning Peak Hour Out	Morning Peak Hour Total	Evening Peak Hour In	Evening Peak Hour Out	Evening Peak Hour Total	Weekday Total
Single-Family Detached Housing									
R-8 Zoning Potential	210	84 units	16	47	63	53	31	84	800
R-10 Zoning Potential	210	73 units	14	41	55	46	27	73	694
Potential Net Increase in Trips		**11 units**	**2**	**6**	**8**	**7**	**4**	**11**	**106**

Trip Distribution

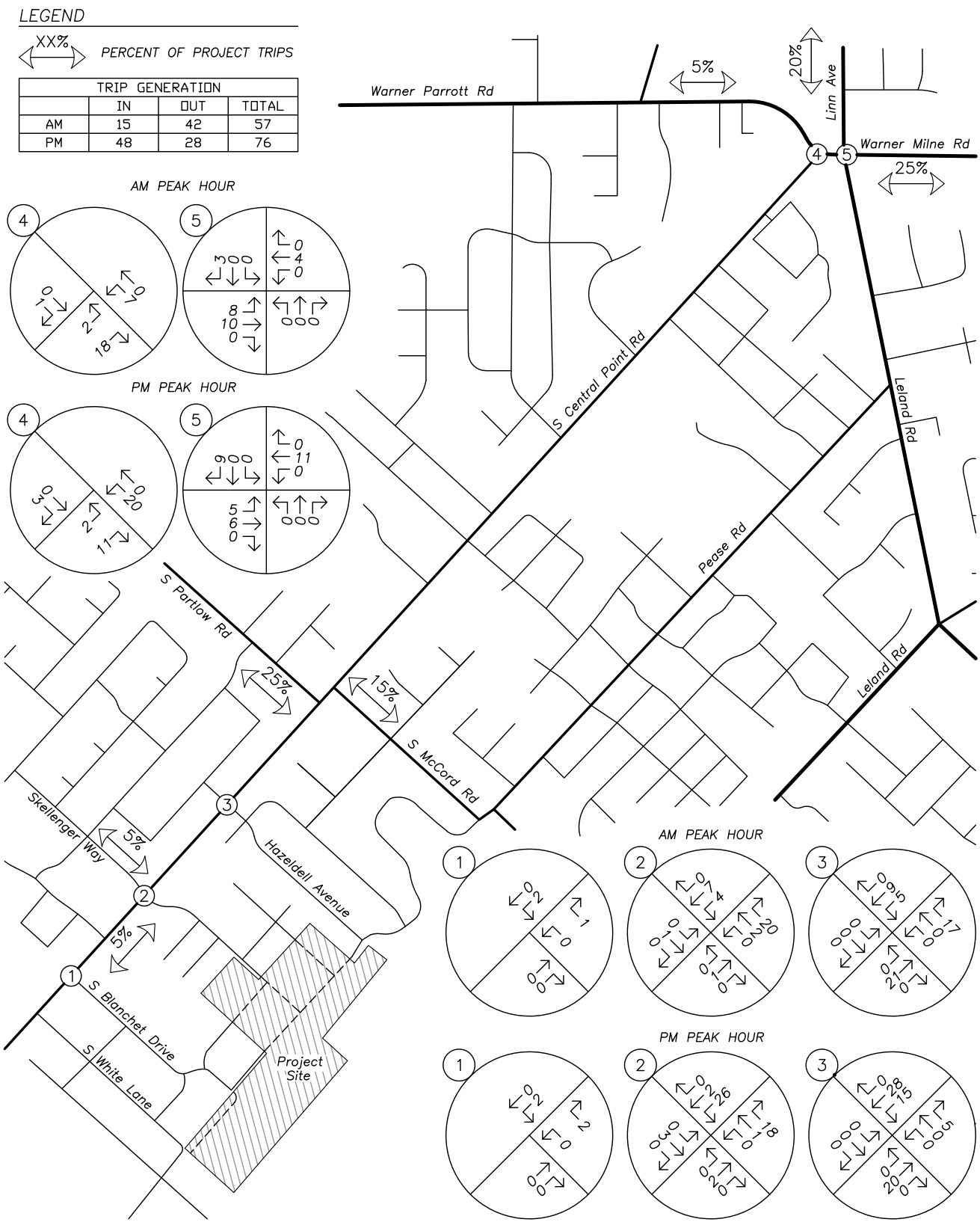
The directional distribution of site trips to and from the proposed development was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study area intersections.

The following trip distribution was estimated and used for analysis:

- Approximately 25 percent of trips will travel to/from the east along Warner Milne Road.
- Approximately 25 percent of trips will travel to/from the northwest along S Partlow Road.
- Approximately 20 percent of trips will travel to/from the north along Linn Avenue.
- Approximately 15 percent of trips will travel to/from the southeast along S McCord Road.
- Approximately 5 percent of trips will travel to/from the west along Warner Parrott Road.
- Approximately 5 percent of trips will travel to/from the northwest along Skellenger Way.
- Approximately 5 percent of trips will travel to/from the southwest along S Central Point Road.

As described previously, there are three primary streets that the subdivision will use to reach S Central Point Road. Approximately one-third of site trips were assumed to utilize each access point along S Central Point Road at Skellenger Way, S Hazeldell Avenue, and Blanchet Drive.

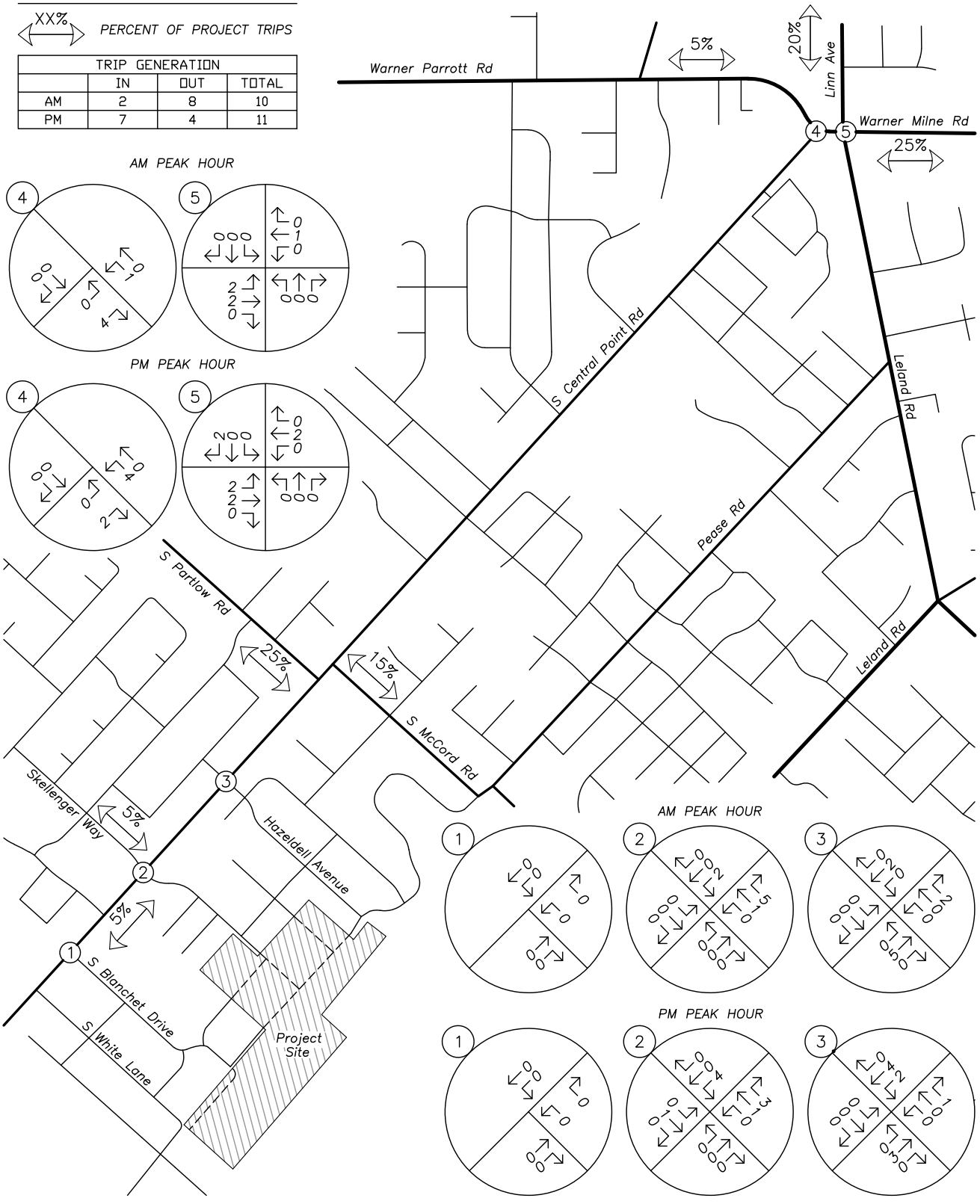
The trip assignment for the AM and PM peak hours for build out of the subdivision is shown in Figure 3 on page 9 and the assignment of the potential net increase in trips from the zone chage is shown in Figure 4 on page 10.



SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
AM & PM Peak Hours

no scale

FIGURE 3



ZONE CHANGE DISTRIBUTION & ASSIGNMENT
Net Increase in Trips from Zone Change
AM & PM Peak Hour

no scale

FIGURE 4

PAGE 10

Operational Analysis

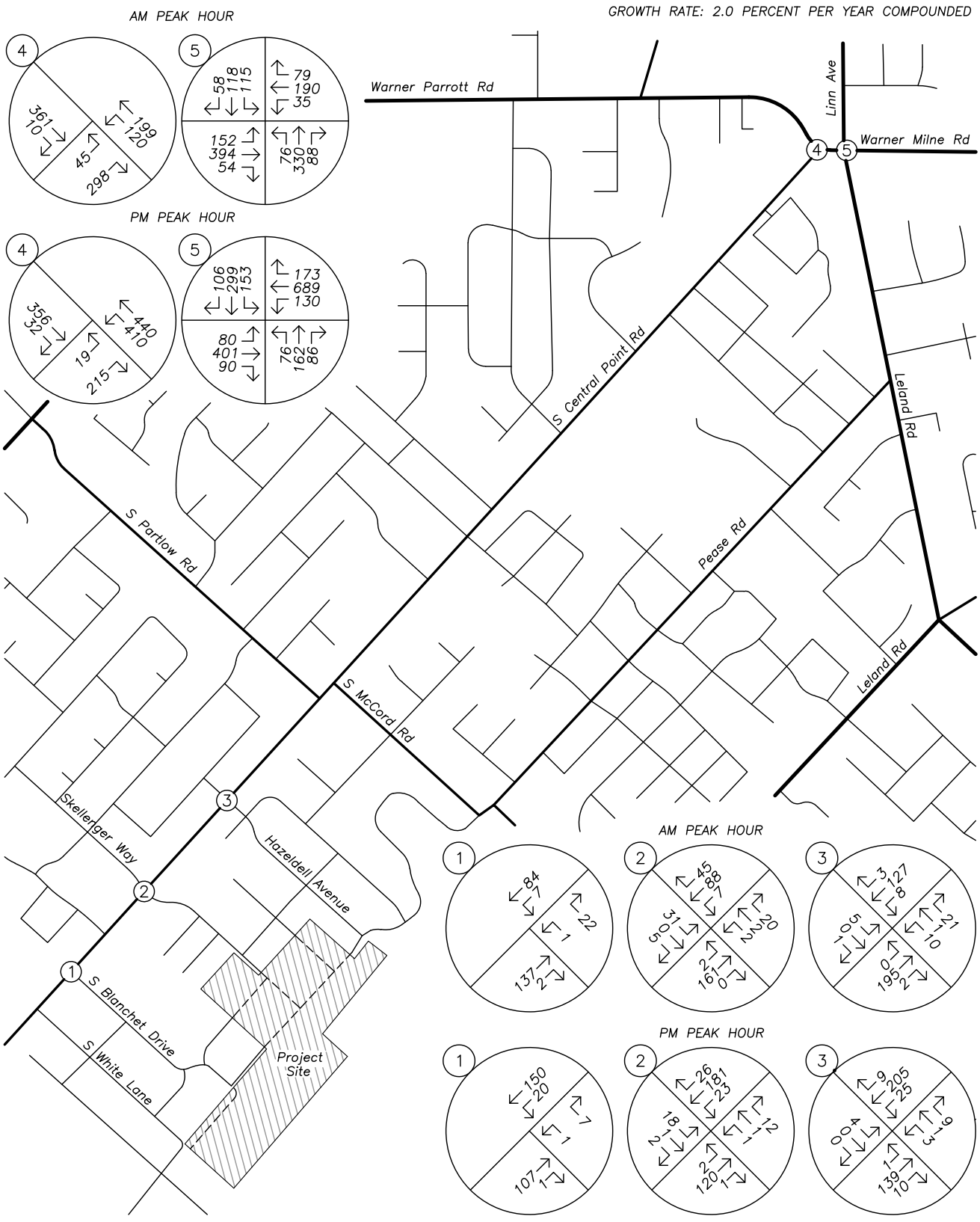
To gauge the operation of the study area intersections, an operational analysis was conducted. The following subsections describe how future traffic volumes were derived as well as the operation (level of service, delay, and volume-to-capacity ratio) of the study area intersections.

Background Traffic

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. Growth in traffic voloumes was estimated based on data from the 2013 Transportation System Plan (TSP), which examines a base year of 2010 and a future year of 2035. Growth in the TSP averages a rate of two percent per year, which was applied to all intersection movements.

It was assumed that the proposed subdivision would be completed by 2019. In order to calculate traffic volumes in 2019 without the subdivision in place, a compounded growth rate of two percent per year was applied over a period of two years. In addition, trips from nearby and adjacent subdivisions that have been approved but are not yet built out were added. Year 2019 background volumes (conditions without the proposed subdivision) are shown in Figure 5 on page 12. Year 2019 conditions with the subdivision at build out are shown in Figure 6 on page 13.

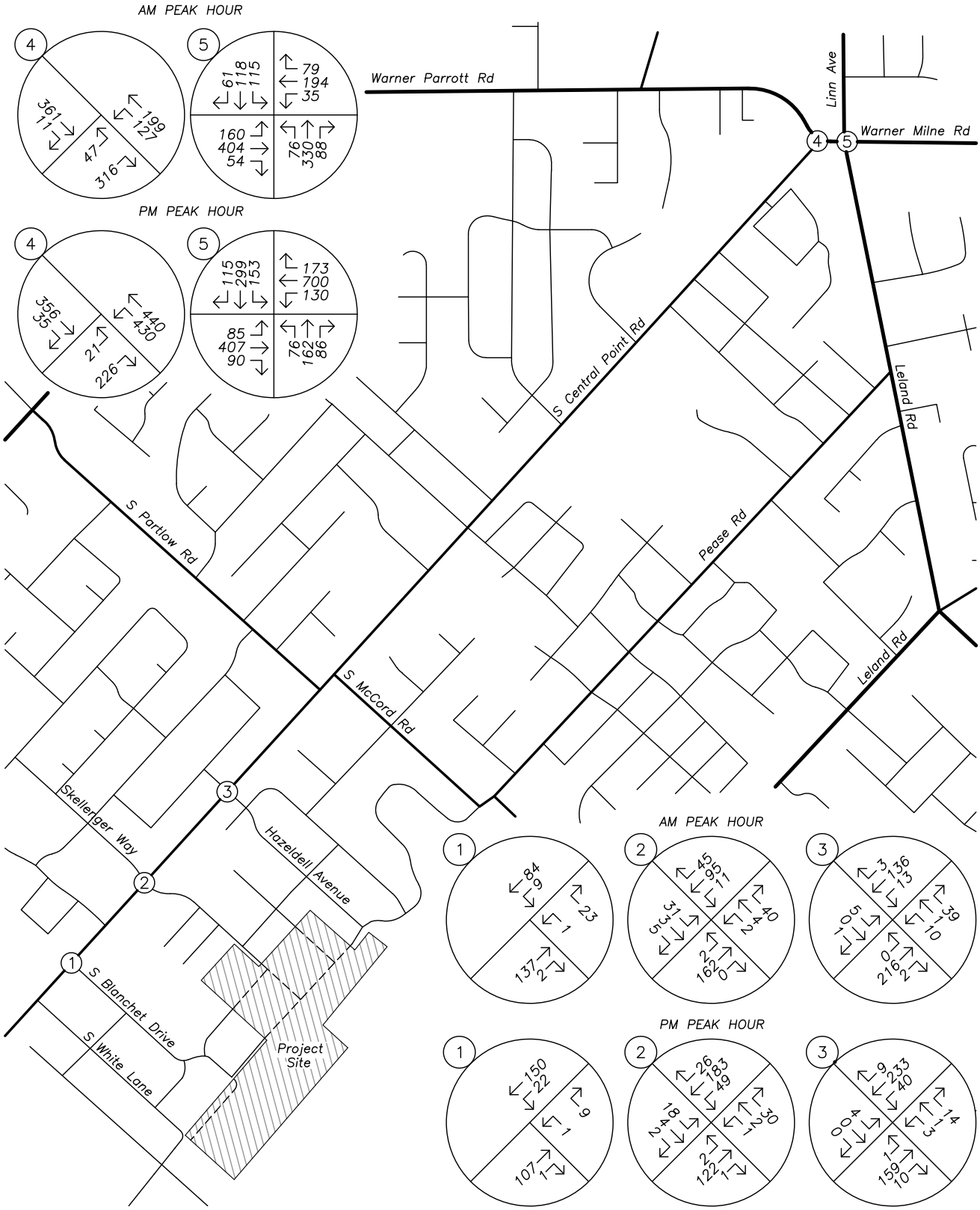
In order to assess the impacts of the proposed zone change on traffic conditions at the planning horizon, the existing traffic volumes at the study area intersections were increased to account for anticipated growth through year 2035. Background conditions for the year 2035, including development on the site under the existing zone, are shown in Figure 7 on page 14. Figure 8 of page 15 shows the sum of 2035 background conditions plus the net increase in trips from the zone change.



TRAFFIC VOLUMES
Year 2019 Background Conditions
AM & PM Peak Hours

no scale

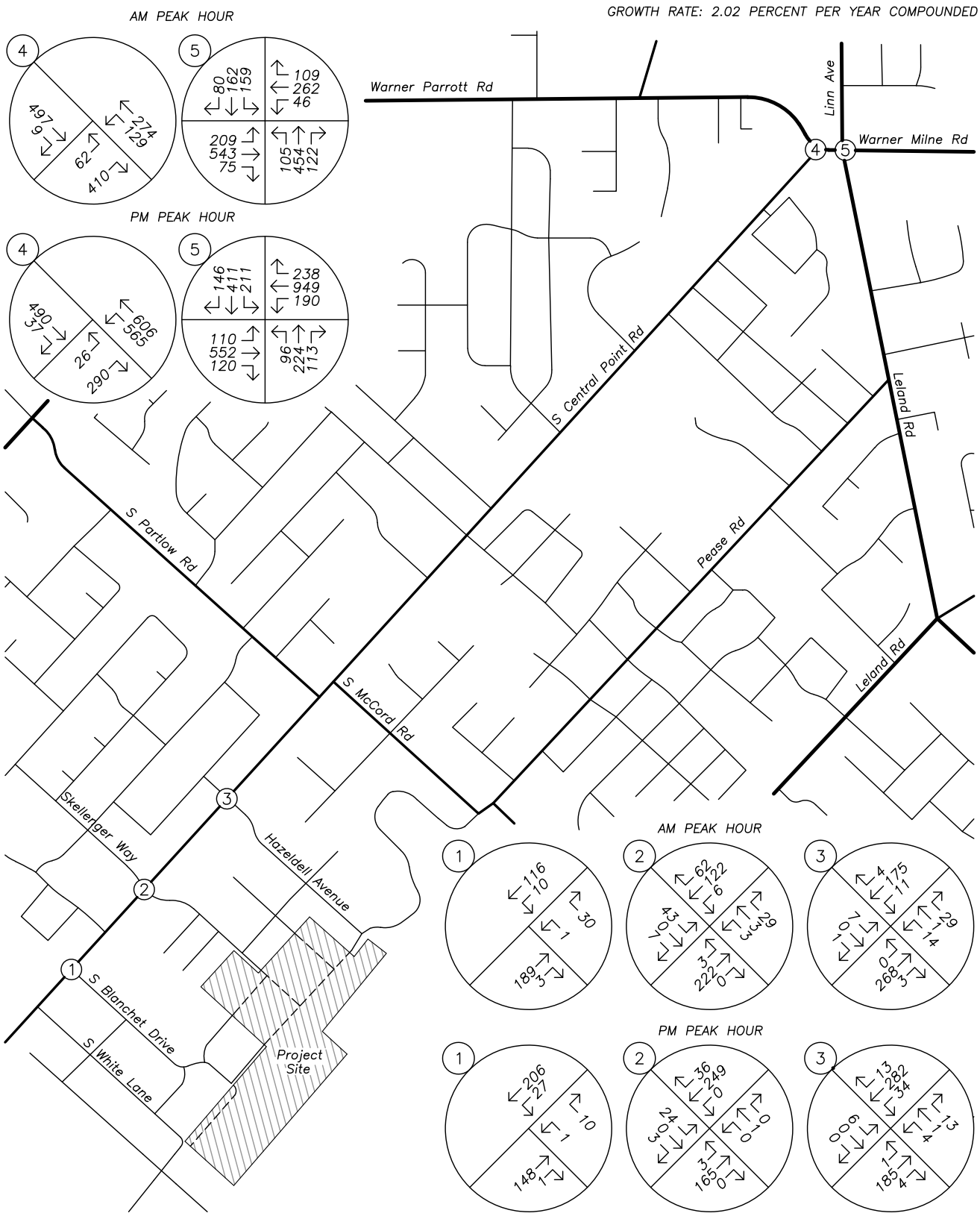
FIGURE 5



TRAFFIC VOLUMES
Year 2019 Background plus Site Trips
AM & PM Peak Hours

no scale

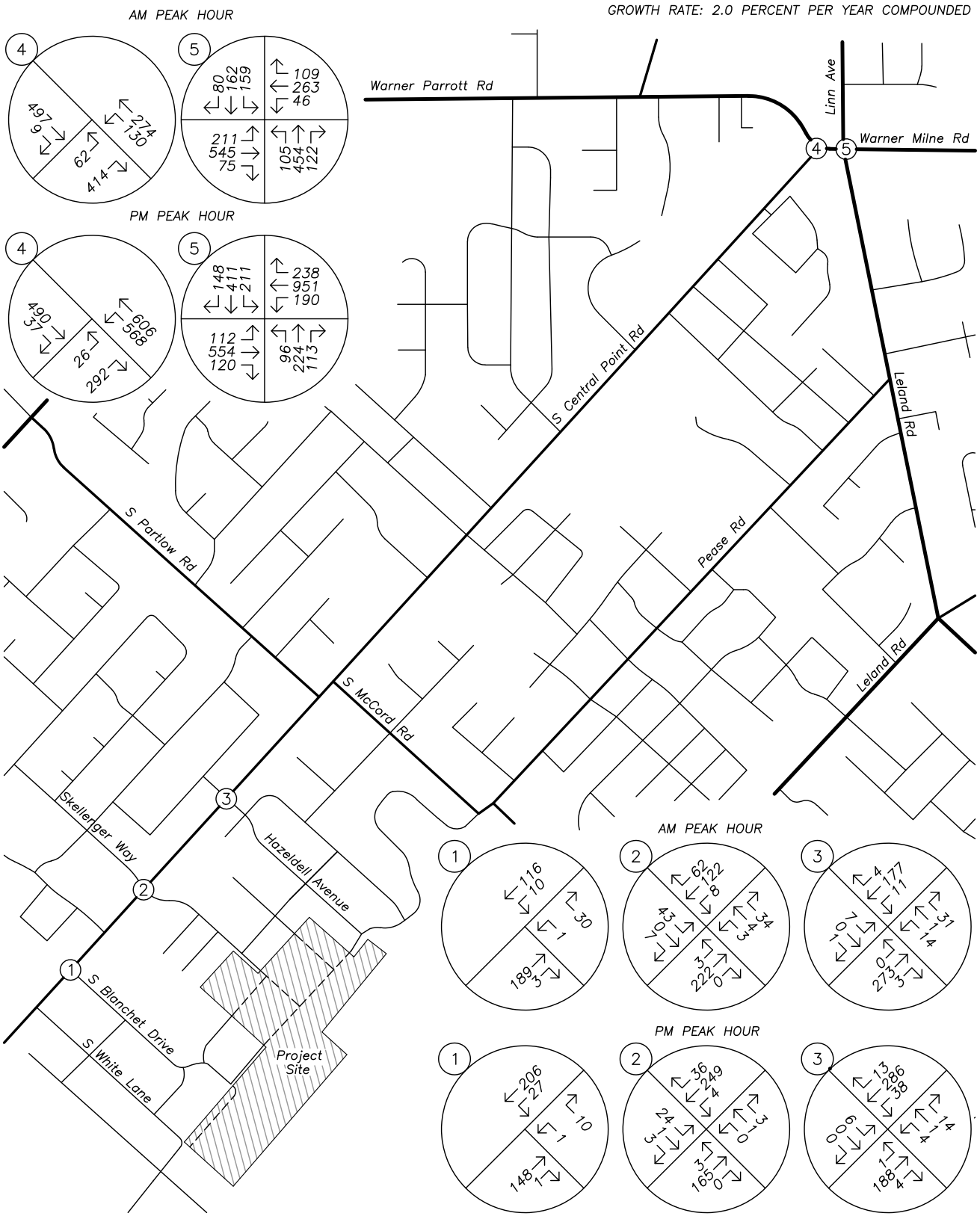
FIGURE 6



TRAFFIC VOLUMES
Year 2035 Background Conditions
AM & PM Peak Hour

no scale

FIGURE 7



TRAFFIC VOLUMES
Year 2035 Existing plus Net Increase in Trips
AM & PM Peak Hour

no scale

FIGURE 8

PAGE 15

Intersection Capacity and Level-of-Service Analysis

To determine the performance of the study intersections, a capacity analysis was conducted for the morning and evening peak hours for existing conditions, year 2019 background conditions, and year 2019 background plus site trips from the proposed development. The analysis was conducted according to the unsignalized and signalized intersection analysis methodologies given in the *HIGHWAY CAPACITY MANUAL* (HCM), published by the Transportation Research Board.

Intersections outside the Regional Center but designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, shall operate with a v/c ratio of 0.99 or less. This standard applies to signalized intersections as a whole. For unsignalized intersections this standard applies to movements on the major street, whereas there is no performance standard for the minor street approach. The study intersections of Warner Parrott Road at S Central Point Road and Warner Parrott/Milne Road at Linn Avenue/Leland Road are subject to these standards.

For unsignalized intersections outside the Regional Center and not designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, all movements serving more than 20 vehicles are required to operate at level of service (LOS) E or better during both the morning and evening peak hours, however LOS F is tolerated for movements serving 20 or less vehicles. Levels of service can range from LOS A, which indicates very little or no delay experience by vehicles, to LOS F, which indicates a high degree of congestion and delay. The intersections of Hazeldell Avenue, Skellenger Way, and Blanchet Drive with S Central Point Road are subject to these standards.

The intersection of S Central Point Road at Blanchet Drive currently operates at LOS A during both the morning and evening peak hours. The intersection is projected to operated at LOS A under all peak hour conditions, except for 2035 background plus zone change conditions, under which it will operate at LOS B.

The intersection of S Central Point Road at Skellenger Way currently operates at LOS B during both the morning and evening peak hours. The intersection is projected to operate at LOS B under all peak hour conditions, except for 2035 background and background plus zone change conditions. Under those conditions, the intersection is projected to operate at LOS C in the evening peak hour.

The intersection of S Central Point Road at Hazeldell Avenue currently operates at LOS B during both the morning and evening peak hours. It is projected to operate at LOS B under all potential peak hour conditions.

The intersection of Warner Parrott Road at S Central Point Road operates at LOS A during both the morning and evening peak hours, with a maximum V/C ratio of 0.36 for the westbound left turn movement. The intersection is projected to operate at LOS A during the morning peak hour and LOS B during the evening peak hour for all projections, with a maximum V/C ratio of 0.60 for the westbound left turn movement.

The intersection of Warner Parrott/Milne Road at Linn Avenue/Leland Road currently operates at LOS D during both the morning and evening peak hours, with a maximum V/C ratio of 0.82. Failure levels are seen under 2035 background and background plus zone change conditions in the morning and evening peak

hours. Under these conditions, the intersection is projected to operate at LOS E with a v/c ratio of 1.01 for both the morning and evening peak hours.

The results of the capacity analysis, along with the levels of service, delay, and v/c ratios are shown in Table 3. Detailed calculations, as well as tables showing the relationships between delay and level of service are included in the appendix to this report.

Based on the results of the operational analysis, all study area intersections will operating acceptably through 2019, even with the proposed development in place. It is important to note that because of the City of Oregon City's performance standard, the northbound stop-controlled approach on S Central Point Road is not subject to a level of service or v/c standard.

The intersection of Warner Milne Road/Warner Parrott Road at Linn Avenue/Leland Road is projected to operate above capacity by 2035, even without the proposed zone change. The proposed zone change has very little impact on operation of the intersection at the planning horizon, since the net increase in trips from the change in zoning is very low.

Also, Oregon City's TSP includes a potential future roundabout at the intersection of Warner Milne Road/Warner Parrott Road and Linn Avenue/Leland Road. This roundabout would mitigate the operation of the intersection and bring it into compliance with the applicable performance standard.

Table 3: Capacity and LOS Summary

	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
S Central Point Rd at Blanchet Drive						
Existing Conditions	A	10	0.06	A	9	0.02
2019 Background Conditions	A	9	0.03	A	9	0.02
2019 Background + Site Trips	A	9	0.03	A	9	0.02
2035 Background Conditions	A	10	0.05	A	10	0.02
2035 Background + Zone Change	A	10	0.04	A	9	0.02
S Central Point Rd at Skellenger Way						
Existing Conditions	B	11	0.07	B	12	0.04
2019 Background Conditions	B	12	0.08	B	12	0.05
2019 Background + Site Trips	B	12	0.10	B	14	0.07
2035 Background Conditions	B	14	0.14	B	13	0.07
2035 Background + Zone Change	B	14	0.14	B	13	0.07
S Central Point Rd at S Hazeldell Avenue						
Existing Conditions	B	11	0.06	B	12	0.04
2019 Background Conditions	B	12	0.06	B	12	0.02
2019 Background + Site Trips	B	13	0.10	B	14	0.03
2035 Background Conditions	B	14	0.10	C	15	0.03
2035 Background + Zone Change	B	14	0.10	C	15	0.04
S Central Point Rd at Warner Parrott Road*						
Existing Conditions	A	8	0.08	A	10	0.36
2019 Background Conditions	A	9	0.11	B	10	0.38
2019 Background + Site Trips	A	9	0.12	B	10	0.40
2035 Background Conditions	A	9	0.14	B	14	0.59
2035 Background + Zone Change	A	9	0.14	B	14	0.60
Warner Parrott/Milne Road at Linn Ave/Leland Road						
Existing Conditions	D	42	0.71	D	38	0.82
2019 Background Conditions	D	35	0.82	D	40	0.82
2019 Background + Site Trips	D	36	0.83	D	43	0.83
2035 Background Conditions	E	67	1.01	E	66	1.01
2035 Background + Zone Change	E	67	1.01	E	69	1.01

***Westbound left turn LOS, delay, and v/c are reported

Safety Analysis

Safety of the transportation system is related to the operations discussed in the previous section, but is a separate consideration. The safety of the roads and intersections within the project study area are addressed in the following subsection.

Crash Analysis

Using data obtained from ODOT's Crash Data Analysis and Reporting Unit, a review of the most recent available five years of crash history (2011 – 2015) at the study area intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare relative safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents 10% of the average annual daily traffic (AADT) at the intersection. Crash rates more than 1.0 crashes per million entering vehicles (CMEV) may be indicative of safety hazards that should be further investigated and mitigated.

The intersections of S Central Point Road at Skellenger Way, Blanchet Drive, and Hazeldell Avenue had no reported crashes during the five-year analysis period.

The intersection of Warner Parrott Road at S Central Point Road had seven reported crashes during the analysis period. The crashes consisted of three turning-type collisions, two rear-end collisions, one backing collision, and one fixed-object collision. Of these reported crashes, four were classified as "Property Damage Only" (*PDO*), two as "Possible Injury – Complaint of Pain" (*Injury-C*), and one as "Non-Incapacitating Injury" (*Injury-B*). The crash rate at the intersection was calculated to be 0.27 CMEV.

The intersection of Warner Parrott/Milne Road at Linn Avenue/Leland Road had two reported crashes during the analysis period. The crashes consisted of one angle-type collision and one collision involving a pedestrian. Of these reported crashes one was classified as "Property Damage Only" (*PDO*) and one as "Non-Incapacitating Injury" (*Injury-B*). The crash rate at the intersection was calculated to be 0.04 CMEV.

Based on the detailed review of all the crash data, no significant patterns and no contributing design concerns were identified at the study intersections. Accordingly, no safety mitigations are recommended.

Transportation Planning Rule

The Transportation Planning Rule (TPR) is in place to ensure that the transportation system is capable of supporting possible increases in traffic intensity that could result from changes to adopted plans and land-use regulations. Because the proposed project includes a change in zoning, the TPR must be addressed. The applicable elements of the TPR are each quoted directly in *italics* below, with a response directly following.

Oregon Administrative Rule 660-12-0600

(1) If an amendment to a functional plan, an acknowledge comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of the rule, unless the amendment is allowed under section (3), (9), or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan;

(b) Change standards implementing a functional classification system; or

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet performance standards identified in the TSP or comprehensive plan.

In the case of this report, subsections (a) and (b) are not triggered, since the proposed zone change will not impact or alter the functional classification of any existing or planned facility and the proposal does not include a change to any functional classification standards.

Subsection (c) is also not triggered since the addition of the net increase in trips from the zone change will not degrade the performance of the one intersection in the project study area that is projected to not meet performance standards at the planning horizon.

The TPR is satisfied, since the proposed zone change does not significantly affect the transportation system.

Conclusions

For 2019 conditions, all study area intersections are expected to operate acceptably and no mitigations are necessary to accommodate the proposed 77-lot subdivision.

By 2035, all study-area intersections will continue to operate acceptably, with the exception of the signalized intersection of Warner-Parrott/Warner-Milne Road at Linn Avenue/Leland Road, which will operate slightly over capacity. However, the proposed zone change will not degrade the operation of the intersection, since the net increase in trips associated with the change in zoning is quite small. As such, the Transportation Planning Rule is satisfied and there is no significant effect on the surrounding transportation system.

Appendix



SCALE 1" = 80 FEET
SCALE AT HALF SIZE (11"x17") 1" = 160 FEET
DATE: 04/17/2017

NOTES:
1. INFORMATION SHOWN IS BASED ON A VARIETY OF SOURCES, INCLUDING GEOGRAPHIC INFORMATION SYSTEMS (GIS), AERIAL PHOTOGRAPHS, AS-BUILT INFORMATION, AND TAX ASSESSOR MAP INFORMATION.
2. DIMENSIONS SHOWN ARE APPROXIMATE.

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ENGINEERING • SURVEYING • NATURAL RESOURCES
FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE

WHEELER FARMS

OREGON CITY, OREGON
TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

PRELIMINARY SUBDIVISION LAYOUT

DESIGNED BY:
DRAWN BY:
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 05/16/2017

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

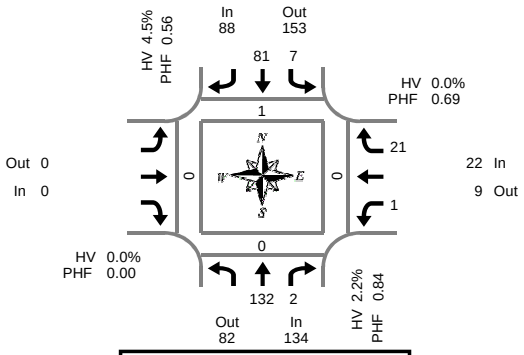
JOB NUMBER 5621

SHEET 2

AKS DRAWING FILE: 5621 NEIGHBOR PLANS.DWG | LAYOUT: 2

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Blanchet Dr

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	3	0	0		1	3		0				0	0		1	0	8	0	0	0	0
7:05 AM	2	0	0		1	4		0				0	0		1	0	8	0	0	0	0
7:10 AM	6	0	0		0	6		0				0	0		2	0	14	0	0	0	0
7:15 AM	15	0	0		0	4		0				0	0		1	0	20	0	0	0	0
7:20 AM	8	0	0		0	6		0				0	0		2	0	16	0	0	0	0
7:25 AM	8	0	0		0	4		0				0	1		1	0	14	0	0	0	0
7:30 AM	13	1	0		2	4		0				0	0		3	0	23	0	0	0	0
7:35 AM	8	0	0		0	1		0				0	0		2	0	11	0	0	0	0
7:40 AM	12	1	0		1	9		0				0	0		3	0	26	0	0	0	0
7:45 AM	16	0	0		0	7		0				0	0		3	0	26	0	0	0	0
7:50 AM	11	0	0		1	12		0				0	0		0	0	24	1	0	0	0
7:55 AM	13	0	0		1	12		1				0	0		0	0	26	0	0	0	0
8:00 AM	9	0	0		1	12		0				0	0		0	0	22	0	0	0	0
8:05 AM	5	0	0		0	5		0				0	0		2	0	12	0	0	0	0
8:10 AM	14	0	0		1	5		0				0	0		4	0	24	0	0	0	0
8:15 AM	7	0	0		0	4		0				0	0		0	0	11	0	0	0	0
8:20 AM	9	0	0		1	7		0				0	0		0	0	17	0	0	0	0
8:25 AM	9	0	0		0	4		0				0	0		0	0	13	0	0	0	0
8:30 AM	2	0	0		1	7		0				0	0		0	0	10	0	0	0	0
8:35 AM	7	0	0		0	8		0				0	0		1	0	16	0	0	2	0
8:40 AM	7	0	0		0	2		0				0	0		2	0	11	0	0	0	0
8:45 AM	7	0	0		1	4		0				0	0		1	0	13	0	0	0	0
8:50 AM	10	0	0		2	9		0				0	0		1	0	22	0	0	0	0
8:55 AM	8	0	0		1	4		0				0	0		1	0	14	0	0	0	0
Total Survey	209	2	0		15	143		1				0	1		31	0	401	1	0	2	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	11	0	0		2	13		0				0	0		4	0	30	0	0	0	0
7:15 AM	31	0	0		0	14		0				0	1		4	0	50	0	0	0	0
7:30 AM	33	2	0		3	14		0				0	0		8	0	60	0	0	0	0
7:45 AM	40	0	0		2	31		1				0	0		3	0	76	1	0	0	0
8:00 AM	28	0	0		2	22		0				0	0		6	0	58	0	0	0	0
8:15 AM	25	0	0		1	15		0				0	0		0	0	41	0	0	0	0
8:30 AM	16	0	0		1	17		0				0	0		3	0	37	0	0	2	0
8:45 AM	25	0	0		4	17		0				0	0		3	0	49	0	0	0	0
Total Survey	209	2	0		15	143		1				0	1		31	0	401	1	0	2	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	134	82	216	0	88	153	241	1	0	0	0	0	22	9	31	0	244	1	0	0	0
%HV	2.2%				4.5%				0.0%				0.0%				2.9%				
PHF	0.84				0.56				0.00				0.69				0.80				

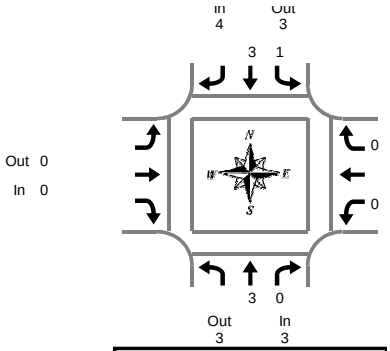
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	132	2	134		7	81		88				0	1		21	22	244
%HV	NA	2.3%	0.0%	2.2%	14.3%	3.7%	NA	4.5%	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	2.9%
PHF		0.83	0.25	0.84	0.58	0.56		0.56				0.00	0.25		0.66	0.69	0.80

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	115	2	0		7	72		1				0	1		19	0	216	1	0	0	0
7:15 AM	132	2	0		7	81		1				0	1		21	0	244	1	0	0	0
7:30 AM	126	2	0		8	82		1				0	0		17	0	235	1	0	0	0
7:45 AM	109	0	0		6	85		1				0	0		12	0	212	1	0	2	0
8:00 AM	94	0	0		8	71		0				0	0		12	0	185	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Blanchet Dr

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		0	0	0	0	0		0				0	0		0	0	0
7:05 AM		0	0	0	0	0		0				0	0		0	0	0
7:10 AM		0	0	0	0	0		0				0	0		0	0	0
7:15 AM		0	0	0	0	0		0				0	0		0	0	0
7:20 AM		0	0	0	0	0		0				0	0		0	0	0
7:25 AM		1	0	1	0	0		0				0	0		0	0	1
7:30 AM		0	0	0	1	0		1				0	0		0	0	1
7:35 AM		1	0	1	0	0		0				0	0		0	0	1
7:40 AM		0	0	0	0	0		0				0	0		0	0	0
7:45 AM		0	0	0	0	1		1				0	0		0	0	1
7:50 AM		0	0	0	0	0		0				0	0		0	0	0
7:55 AM		0	0	0	0	0		0				0	0		0	0	0
8:00 AM		0	0	0	0	1		1				0	0		0	0	1
8:05 AM		0	0	0	0	0		0				0	0		0	0	0
8:10 AM		1	0	1	0	1		1				0	0		0	0	2
8:15 AM		0	0	0	0	0		0				0	0		0	0	0
8:20 AM		1	0	1	1	1		2				0	0		0	0	3
8:25 AM		0	0	0	0	0		0				0	0		0	0	0
8:30 AM		0	0	0	0	0		0				0	0		0	0	0
8:35 AM		0	0	0	0	2		2				0	0		0	0	2
8:40 AM		1	0	1	0	0		0				0	0		0	0	1
8:45 AM		0	0	0	0	0		0				0	0		0	0	0
8:50 AM		0	0	0	0	0		0				0	0		0	0	0
8:55 AM		1	0	1	0	0		0				0	0		0	0	1
Total Survey		6	0	6	2	6		8				0	0		0	0	14

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		0	0	0	0	0		0				0	0		0	0	0
7:15 AM		1	0	1	0	0		0				0	0		0	0	1
7:30 AM		1	0	1	1	0		1				0	0		0	0	2
7:45 AM		0	0	0	0	1		1				0	0		0	0	1
8:00 AM		1	0	1	0	2		2				0	0		0	0	3
8:15 AM		1	0	1	1	1		2				0	0		0	0	3
8:30 AM		1	0	1	0	2		2				0	0		0	0	3
8:45 AM		1	0	1	0	0		0				0	0		0	0	1
Total Survey		6	0	6	2	6		8				0	0		0	0	14

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Blanchet Dr			Westbound Blanchet Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	3	6	4	3	7	0	0	0	0	1	1	7
PHF	0.38			0.50			0.00			0.00			0.58

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		3	0	3	1	3		4				0	0		0	0	7
PHF		0.38	0.00	0.38	0.25	0.38		0.50				0.00	0.00		0.00	0.00	0.58

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		2	0	2	1	1		2				0	0		0	0	4
7:15 AM		3	0	3	1	3		4				0	0		0	0	7
7:30 AM		3	0	3	2	4		6				0	0		0	0	9
7:45 AM		3	0	3	1	6		7				0	0		0	0	10
8:00 AM		4	0	4	1	5		6				0	0		0	0	10

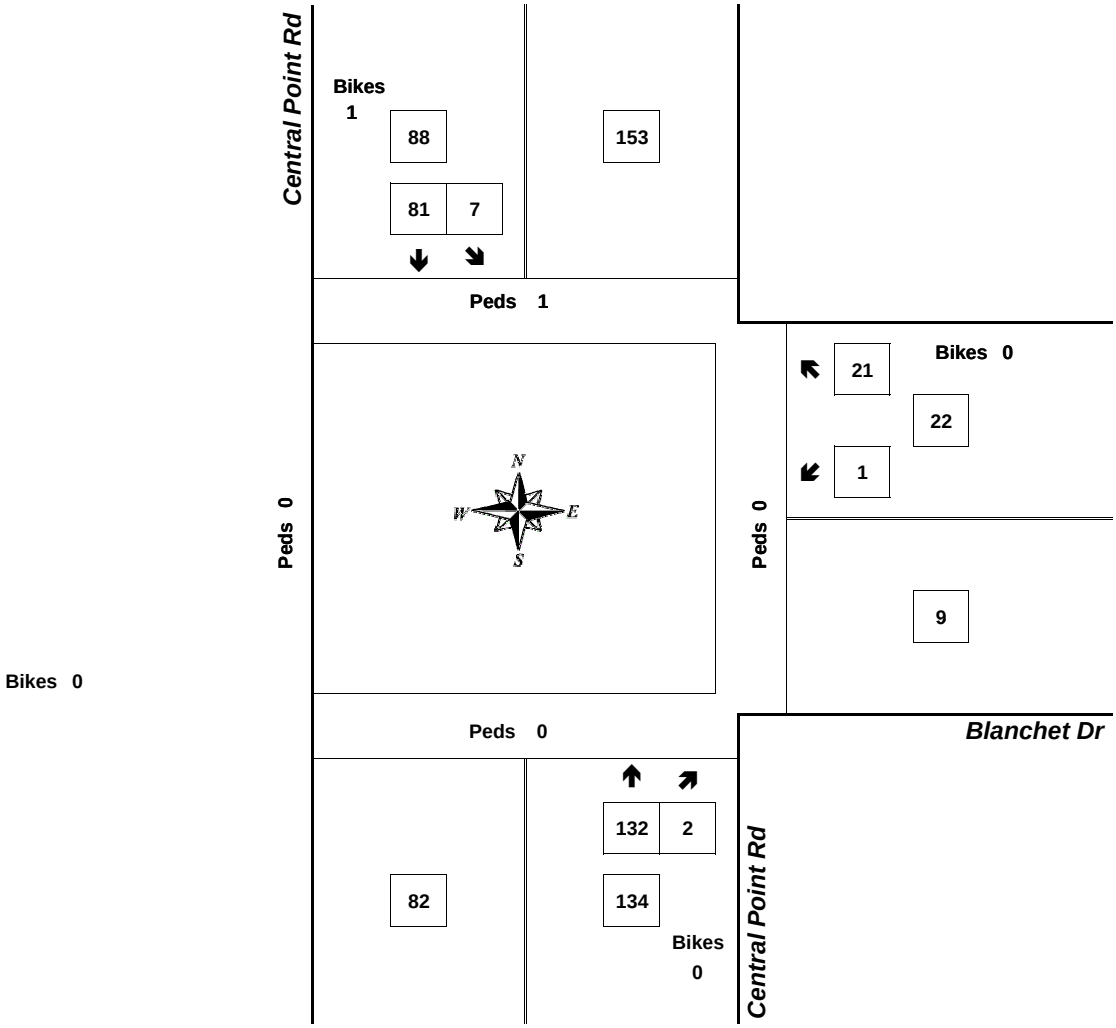
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Central Point Rd & Blanchet Dr

7:15 AM to 8:15 AM
Wednesday, April 05, 2017

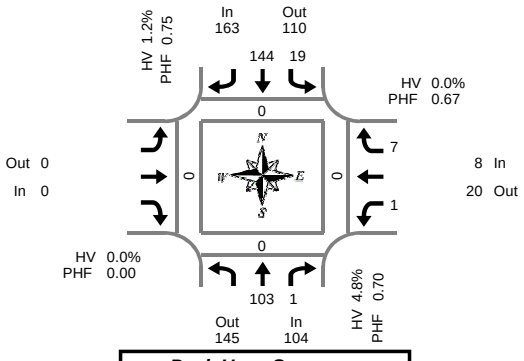


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.69	0.0%	22
NB	0.84	2.2%	134
SB	0.56	4.5%	88
Intersection	0.80	2.9%	244

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Blanchet Dr

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	4	1	0		0	8		0				0	0		1	0	14	0	0	0	0
4:05 PM	5	0	0		1	12		0				0	1		0	0	19	0	0	0	0
4:10 PM	6	0	1		1	7		1				0	0		0	0	14	0	0	0	0
4:15 PM	11	0	0		0	9		0				0	0		1	0	21	0	0	0	0
4:20 PM	3	0	0		1	10		0				0	0		0	0	14	0	0	0	0
4:25 PM	4	0	0		0	14		0				0	0		0	0	18	0	0	0	0
4:30 PM	7	0	0		1	6		0				0	0		0	0	14	0	0	0	0
4:35 PM	6	0	0		0	11		0				0	0		0	0	17	0	0	0	0
4:40 PM	11	0	0		2	9		0				0	0		0	0	22	0	0	0	0
4:45 PM	6	0	0		0	6		0				0	0		0	0	12	0	0	0	0
4:50 PM	7	0	0		2	2		0				0	0		0	0	11	0	0	0	0
4:55 PM	8	0	0		2	16		0				0	0		0	0	26	0	0	0	0
5:00 PM	5	0	0		0	10		0				0	0		2	0	17	0	0	0	0
5:05 PM	14	0	2		2	4		0				0	0		1	0	21	0	0	0	0
5:10 PM	10	0	0		5	14		0				0	0		0	0	29	0	0	0	0
5:15 PM	13	0	0		0	9		0				0	1		1	0	24	0	0	0	0
5:20 PM	6	0	0		3	20		0				0	0		0	0	29	0	0	0	0
5:25 PM	11	0	0		1	5		0				0	0		1	0	18	0	0	0	0
5:30 PM	7	0	0		2	9		0				0	0		2	0	20	0	0	0	0
5:35 PM	9	1	0		0	7		0				0	0		0	0	17	0	0	0	0
5:40 PM	9	0	0		0	14		0				0	0		0	0	23	0	0	0	0
5:45 PM	5	0	0		2	16		0				0	0		0	0	23	0	0	0	0
5:50 PM	6	0	0		2	20		0				0	0		0	0	28	0	0	0	0
5:55 PM	3	0	0		2	8		0				0	0		0	0	13	0	0	1	0
Total Survey	176	2	3		29	246		1				0	2		9	0	464	0	0	1	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	15	1	1		2	27		1				0	1		1	0	47	0	0	0	0
4:15 PM	18	0	0		1	33		0				0	0		1	0	53	0	0	0	0
4:30 PM	24	0	0		3	26		0				0	0		0	0	53	0	0	0	0
4:45 PM	21	0	0		4	24		0				0	0		0	0	49	0	0	0	0
5:00 PM	29	0	2		7	28		0				0	0		3	0	67	0	0	0	0
5:15 PM	30	0	0		4	34		0				0	1		2	0	71	0	0	0	0
5:30 PM	25	1	0		2	30		0				0	0		2	0	60	0	0	0	0
5:45 PM	14	0	0		6	44		0				0	0		0	0	64	0	0	1	0
Total Survey	176	2	3		29	246		1				0	2		9	0	464	0	0	1	0

Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	104	145	249	2	163	110	273	0	0	0	0	0	8	20	28	0	275	0	0	0	0
%HV	4.8%				1.2%				0.0%				0.0%				2.5%				
PHF	0.70				0.75				0.00				0.67				0.84				

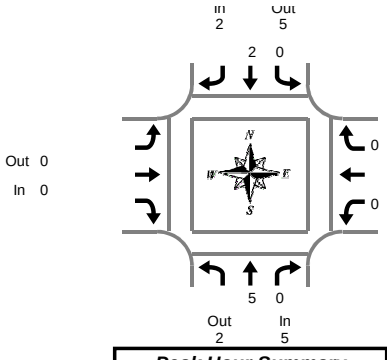
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	103	1	104		19	144		163				0	1		7	8	275
%HV	NA	4.9%	0.0%	4.8%	0.0%	1.4%	NA	1.2%	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	2.5%
PHF		0.70	0.25	0.70	0.59	0.72		0.75				0.00	0.25		0.58	0.67	0.84

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	78	1	1		10	110		1				0	1		2	0	202	0	0	0	0
4:15 PM	92	0	2		15	111		0				0	0		4	0	222	0	0	0	0
4:30 PM	104	0	2		18	112		0				0	1		5	0	240	0	0	0	0
4:45 PM	105	1	2		17	116		0				0	1		7	0	247	0	0	0	0
5:00 PM	98	1	2		19	136		0				0	1		7	0	262	0	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Blanchet Dr

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		0	0	0	0	0		0				0	0		0	0	0
4:05 PM		0	0	0	0	0		0				0	1		0	1	1
4:10 PM		0	0	0	0	2		2				0	0		0	0	2
4:15 PM		0	0	0	0	0		0				0	0		0	0	0
4:20 PM		0	0	0	0	1		1				0	0		0	0	1
4:25 PM		1	0	1	0	1		1				0	0		0	0	2
4:30 PM		0	0	0	0	0		0				0	0		0	0	0
4:35 PM		0	0	0	0	1		1				0	0		0	0	1
4:40 PM		0	0	0	0	0		0				0	0		0	0	0
4:45 PM		0	0	0	0	1		1				0	0		0	0	1
4:50 PM		0	0	0	0	0		0				0	0		0	0	0
4:55 PM		1	0	1	0	0		0				0	0		0	0	1
5:00 PM		1	0	1	0	0		0				0	0		0	0	1
5:05 PM		0	0	0	0	0		0				0	0		0	0	0
5:10 PM		0	0	0	0	1		1				0	0		0	0	1
5:15 PM		0	0	0	0	0		0				0	0		0	0	0
5:20 PM		0	0	0	0	0		0				0	0		0	0	0
5:25 PM		2	0	2	0	0		0				0	0		0	0	2
5:30 PM		0	0	0	0	0		0				0	0		0	0	0
5:35 PM		1	0	1	0	0		0				0	0		0	0	1
5:40 PM		0	0	0	0	0		0				0	0		0	0	0
5:45 PM		0	0	0	0	0		0				0	0		0	0	0
5:50 PM		0	0	0	0	1		1				0	0		0	0	1
5:55 PM		0	0	0	0	0		0				0	0		0	0	0
Total Survey		6	0	6	0	8		8				0	1		0	1	15

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		0	0	0	0	2		2				0	1		0	1	3
4:15 PM		1	0	1	0	2		2				0	0		0	0	3
4:30 PM		0	0	0	0	1		1				0	0		0	0	1
4:45 PM		1	0	1	0	1		1				0	0		0	0	2
5:00 PM		1	0	1	0	1		1				0	0		0	0	2
5:15 PM		2	0	2	0	0		0				0	0		0	0	2
5:30 PM		1	0	1	0	0		0				0	0		0	0	1
5:45 PM		0	0	0	0	1		1				0	0		0	0	1
Total Survey		6	0	6	0	8		8				0	1		0	1	15

Heavy Vehicle Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Blanchet Dr			Westbound Blanchet Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	2	7	2	5	7	0	0	0	0	0	0	7
PHF	0.42			0.50			0.00			0.00			0.58

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		5	0	5	0	2		2				0	0		0	0	7
PHF		0.42	0.00	0.42	0.00	0.50		0.50				0.00	0.00		0.00	0.00	0.58

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

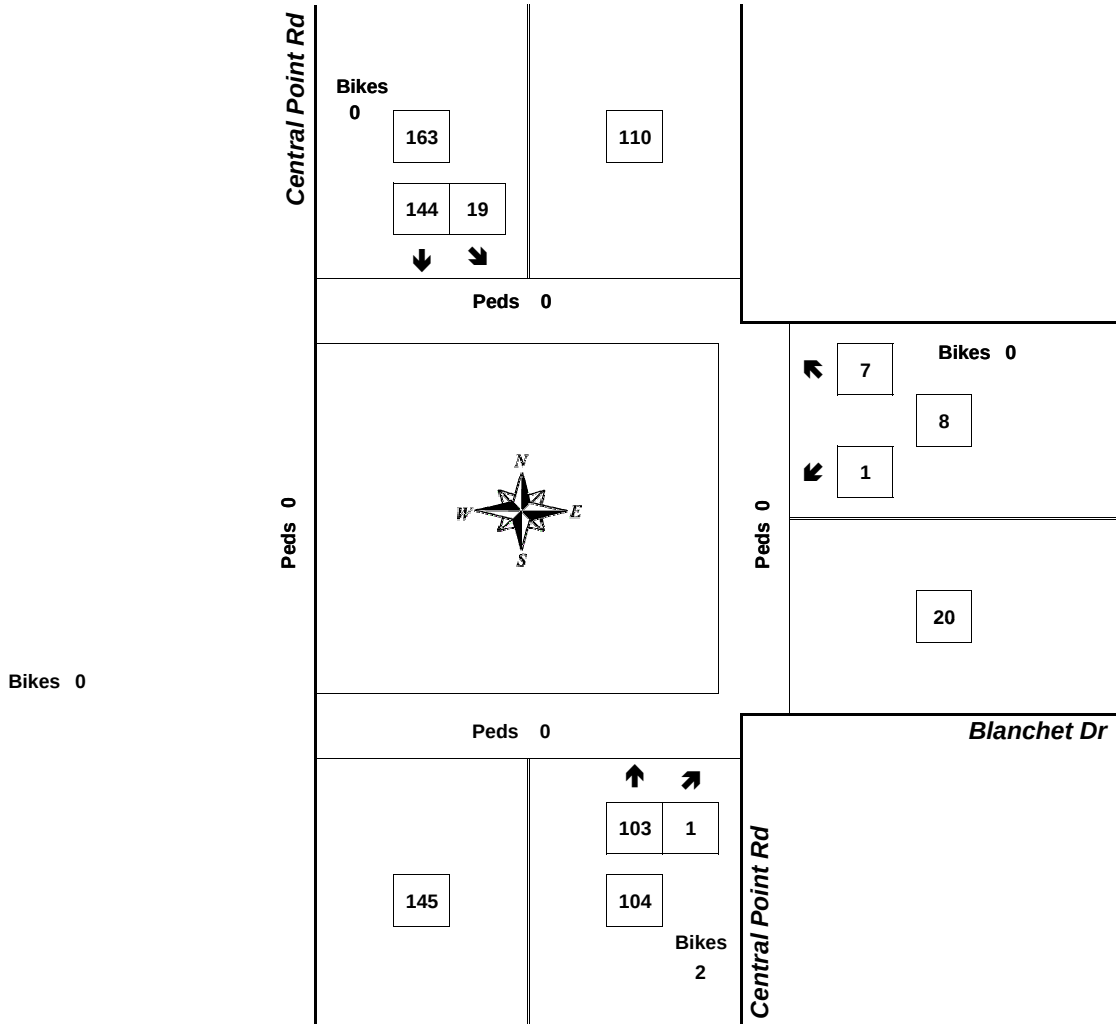
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Blanchet Dr				Westbound Blanchet Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		2	0	2	0	6		6				0	1		0	1	9
4:15 PM		3	0	3	0	5		5				0	0		0	0	8
4:30 PM		4	0	4	0	3		3				0	0		0	0	7
4:45 PM		5	0	5	0	2		2				0	0		0	0	7
5:00 PM		4	0	4	0	2		2				0	0		0	0	6

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Blanchet Dr

4:55 PM to 5:55 PM
Tuesday, April 04, 2017

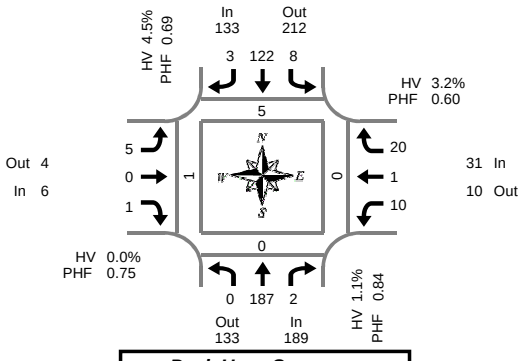


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.67	0.0%	8
NB	0.70	4.8%	104
SB	0.75	1.2%	163
Intersection	0.84	2.5%	275

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Central Point Rd & Hazeldell Ave

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	7	0	0	1	4	1	0	2	0	0	0	0	0	1	0	16	0	0	0	0
7:05 AM	0	8	0	0	1	6	0	0	0	0	0	0	0	0	2	0	17	0	0	0	0
7:10 AM	0	15	0	0	0	9	0	0	2	0	0	0	0	0	0	0	26	0	0	0	0
7:15 AM	0	20	0	0	1	5	0	0	0	0	0	0	1	0	1	0	28	0	0	0	0
7:20 AM	0	15	0	0	1	9	0	0	1	0	0	0	0	0	1	0	27	0	0	0	0
7:25 AM	0	14	0	0	0	6	0	0	0	0	0	0	0	0	1	0	21	0	0	0	0
7:30 AM	0	16	0	0	3	13	0	0	1	0	0	0	2	0	3	0	38	1	0	0	0
7:35 AM	0	15	1	0	0	7	0	0	1	0	0	0	1	0	1	0	26	0	0	0	0
7:40 AM	0	17	1	0	1	23	1	0	0	0	0	0	1	0	3	0	47	1	0	0	0
7:45 AM	0	22	0	0	0	5	0	0	0	0	0	0	5	0	2	0	34	0	0	0	0
7:50 AM	0	13	0	0	1	14	1	0	1	0	0	0	0	0	2	0	32	0	0	0	0
7:55 AM	0	16	0	0	0	17	1	0	0	0	0	0	0	0	0	0	34	0	0	0	1
8:00 AM	0	10	0	0	1	11	0	0	0	0	0	0	0	0	2	0	24	1	0	0	0
8:05 AM	0	10	0	0	0	3	0	0	0	0	1	0	0	0	1	0	15	2	0	0	0
8:10 AM	0	19	0	0	0	9	0	0	1	0	0	0	0	1	3	0	33	0	0	0	0
8:15 AM	0	9	0	0	0	5	0	0	3	0	0	0	0	0	2	0	19	0	0	0	0
8:20 AM	0	12	0	0	1	12	1	0	1	0	0	0	0	0	0	0	27	0	0	0	0
8:25 AM	0	7	1	0	0	5	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0
8:30 AM	0	5	0	0	0	9	0	0	0	0	0	0	0	0	2	0	16	0	0	0	0
8:35 AM	0	11	0	0	0	10	0	0	0	0	0	0	0	0	2	0	23	0	0	0	0
8:40 AM	0	9	0	0	0	5	0	0	0	0	0	0	0	0	1	0	15	0	0	0	0
8:45 AM	0	10	0	0	1	10	0	0	0	0	0	0	0	0	1	0	22	0	0	0	0
8:50 AM	0	15	0	0	1	9	0	0	0	0	0	0	0	0	2	0	27	0	0	0	1
8:55 AM	0	10	0	0	1	7	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0
Total Survey	0	305	3	0	14	213	5	0	13	0	1	0	10	1	33	0	598	5	0	0	2

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	30	0	0	2	19	1	0	4	0	0	0	0	0	3	0	59	0	0	0	0
7:15 AM	0	49	0	0	2	20	0	0	1	0	0	0	1	0	3	0	76	0	0	0	0
7:30 AM	0	48	2	0	4	43	1	0	2	0	0	0	4	0	7	0	111	2	0	0	0
7:45 AM	0	51	0	0	1	36	2	0	1	0	0	0	5	0	4	0	100	0	0	0	1
8:00 AM	0	39	0	0	1	23	0	0	1	0	1	0	0	1	6	0	72	3	0	0	0
8:15 AM	0	28	1	0	1	22	1	0	4	0	0	0	0	0	2	0	59	0	0	0	0
8:30 AM	0	25	0	0	0	24	0	0	0	0	0	0	0	0	5	0	54	0	0	0	0
8:45 AM	0	35	0	0	3	26	0	0	0	0	0	0	0	0	3	0	67	0	0	0	1
Total Survey	0	305	3	0	14	213	5	0	13	0	1	0	10	1	33	0	598	5	0	0	2

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	189	133	322	0	133	212	345	0	6	4	10	0	31	10	41	0	359	5	0	0	1
%HV	1.1%				4.5%				0.0%				3.2%				2.5%				
PHF	0.84				0.69				0.75				0.60				0.79				

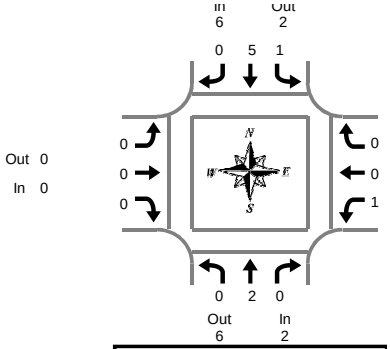
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	187	2	189	8	122	3	133	5	0	1	6	10	1	20	31	359
%HV	0.0%	1.1%	0.0%	1.1%	12.5%	4.1%	0.0%	4.5%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	3.2%	2.5%
PHF	0.00	0.87	0.25	0.84	0.50	0.71	0.38	0.69	0.63	0.00	0.25	0.75	0.36	0.25	0.71	0.60	0.79

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	178	2	0	9	118	4	0	8	0	0	0	10	0	17	0	346	2	0	0	1
7:15 AM	0	187	2	0	8	122	3	0	5	0	1	0	10	1	20	0	359	5	0	0	1
7:30 AM	0	166	3	0	7	124	4	0	8	0	1	0	9	1	19	0	342	5	0	0	1
7:45 AM	0	143	1	0	3	105	3	0	6	0	1	0	5	1	17	0	285	3	0	0	1
8:00 AM	0	127	1	0	5	95	1	0	5	0	1	0	0	1	16	0	252	3	0	0	1

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Hazeldell Ave

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	1	0	0	1	3
7:35 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:10 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
8:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:20 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
8:40 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	5	0	5	1	9	0	10	0	0	0	0	1	0	0	1	16

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	1	2	0	3	0	0	0	0	1	0	0	1	4
7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
8:15 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
8:30 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	5	0	5	1	9	0	10	0	0	0	0	1	0	0	1	16

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Hazeldell Ave			Westbound Hazeldell Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	6	8	6	2	8	0	0	0	1	1	2	9
PHF	0.50			0.38			0.00			0.25			0.38

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	2	0	2	1	5	0	6	0	0	0	0	1	0	0	1	9
PHF	0.00	0.50	0.00	0.50	0.25	0.42	0.00	0.38	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.38

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

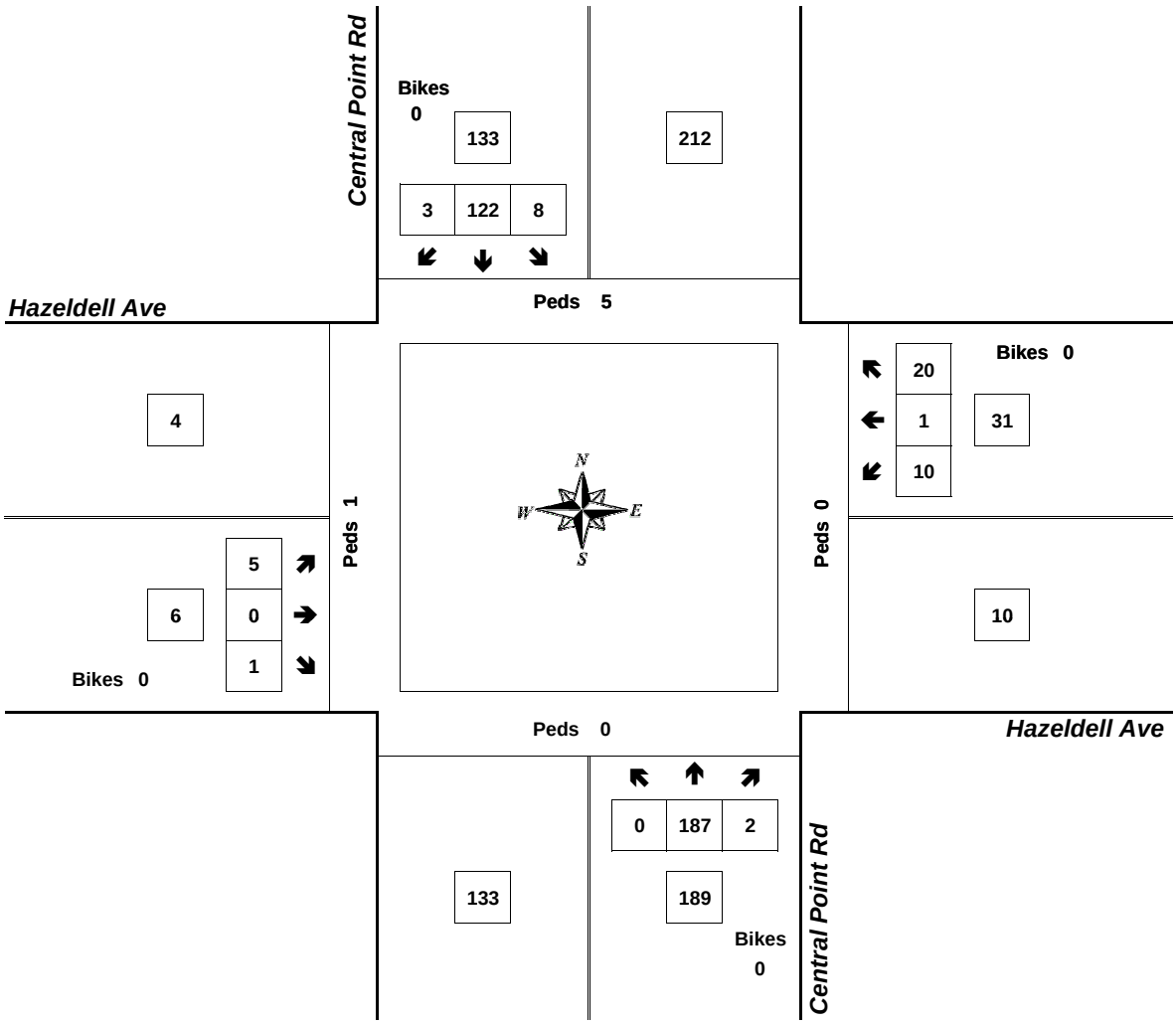
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	0	1	1	4	0	5	0	0	0	0	1	0	0	1	7
7:15 AM	0	2	0	2	1	5	0	6	0	0	0	0	1	0	0	1	9
7:30 AM	0	3	0	3	1	6	0	7	0	0	0	0	1	0	0	1	11
7:45 AM	0	4	0	4	0	6	0	6	0	0	0	0	0	0	0	0	10
8:00 AM	0	4	0	4	0	5	0	5	0	0	0	0	0	0	0	0	9

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Hazeldell Ave

7:15 AM to 8:15 AM
Wednesday, April 05, 2017

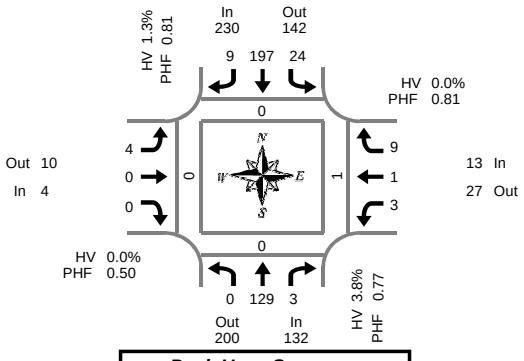


Approach	PHF	HV%	Volume
EB	0.75	0.0%	6
WB	0.60	3.2%	31
NB	0.84	1.1%	189
SB	0.69	4.5%	133
Intersection	0.79	2.5%	359

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:55 PM to 5:55 PM

Central Point Rd & Hazeldell Ave

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	7	0	0	0	11	1	0	2	0	0	0	0	0	0	0	21	0	0	0	0
4:05 PM	0	6	0	0	2	16	0	1	0	0	0	0	0	0	0	0	24	0	0	0	0
4:10 PM	0	7	0	1	1	11	0	0	1	0	0	0	1	0	0	0	21	0	0	0	0
4:15 PM	0	0	0	0	1	18	1	0	0	0	0	0	0	0	0	0	20	0	0	0	0
4:20 PM	0	5	0	0	2	10	0	0	0	0	0	0	0	1	0	0	18	0	0	0	0
4:25 PM	0	5	0	0	3	20	0	0	0	0	0	0	0	0	3	0	31	0	0	0	0
4:30 PM	0	7	0	0	2	12	1	0	0	0	0	0	0	0	1	0	23	0	0	0	0
4:35 PM	0	9	0	0	2	15	0	0	1	1	0	0	0	0	1	0	29	0	0	0	0
4:40 PM	0	11	0	0	4	15	1	0	0	0	0	0	0	0	0	0	31	0	0	0	0
4:45 PM	0	8	0	0	1	6	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0
4:50 PM	1	6	1	0	3	9	0	0	0	0	0	0	0	0	2	0	22	0	0	0	0
4:55 PM	0	13	0	0	1	21	1	0	2	0	0	0	0	0	0	0	38	0	0	0	0
5:00 PM	0	10	0	0	1	12	3	0	0	0	0	0	0	0	2	0	28	0	0	0	0
5:05 PM	0	16	0	0	0	10	3	0	0	0	0	0	0	0	0	0	29	0	0	0	0
5:10 PM	0	10	0	0	2	25	0	1	0	0	0	0	1	0	1	0	39	0	0	0	0
5:15 PM	0	17	0	0	3	14	0	0	0	0	0	0	0	1	0	0	35	0	0	0	0
5:20 PM	0	9	0	0	4	23	0	0	1	0	0	0	0	0	1	0	38	0	0	0	0
5:25 PM	0	12	0	0	2	10	0	0	0	0	0	0	0	0	1	0	25	0	0	0	0
5:30 PM	0	9	1	0	2	10	0	0	1	0	0	0	1	0	1	0	25	0	0	0	0
5:35 PM	0	9	1	0	3	13	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0
5:40 PM	0	9	0	0	0	19	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0
5:45 PM	0	9	0	0	3	16	1	0	0	0	0	0	0	0	1	0	30	0	0	0	0
5:50 PM	0	6	1	0	3	24	1	0	0	0	0	0	1	0	2	0	38	0	0	1	0
5:55 PM	0	4	0	0	1	10	0	0	1	0	0	0	0	0	0	0	16	0	0	0	0
Total Survey	1	204	4	1	46	350	13	2	9	1	0	0	4	2	16	0	650	0	0	1	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	20	0	1	3	38	1	1	3	0	0	0	1	0	0	0	66	0	0	0	0
4:15 PM	0	10	0	0	6	48	1	0	0	0	0	0	0	1	3	0	69	0	0	0	0
4:30 PM	0	27	0	0	8	42	2	0	1	1	0	0	0	0	2	0	83	0	0	0	0
4:45 PM	1	27	1	0	5	36	1	0	2	0	0	0	0	0	2	0	75	0	0	0	0
5:00 PM	0	36	0	0	3	47	6	1	0	0	0	0	1	0	3	0	96	0	0	0	0
5:15 PM	0	38	0	0	9	47	0	0	1	0	0	0	0	1	2	0	98	0	0	0	0
5:30 PM	0	27	2	0	5	42	0	0	1	0	0	0	1	0	1	0	79	0	0	0	0
5:45 PM	0	19	1	0	7	50	2	0	1	0	0	0	1	0	3	0	84	0	0	1	0
Total Survey	1	204	4	1	46	350	13	2	9	1	0	0	4	2	16	0	650	0	0	1	0

Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	132	200	332	0	230	142	372	1	4	10	14	0	13	27	40	0	379	0	0	1	0
%HV	3.8%				1.3%				0.0%				0.0%				2.1%				
PHF	0.77				0.81				0.50				0.81				0.85				

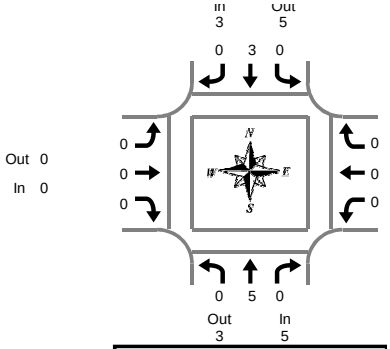
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	129	3	132	24	197	9	230	4	0	0	4	3	1	9	13	379
%HV	0.0%	3.9%	0.0%	3.8%	0.0%	1.5%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%
PHF	0.00	0.75	0.38	0.77	0.67	0.79	0.32	0.81	0.50	0.00	0.00	0.50	0.75	0.25	0.75	0.81	0.85

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	1	84	1	1	22	164	5	1	6	1	0	0	1	1	7	0	293	0	0	0	0
4:15 PM	1	100	1	0	22	173	10	1	3	1	0	0	1	1	10	0	323	0	0	0	0
4:30 PM	1	128	1	0	25	172	9	1	4	1	0	0	1	1	9	0	352	0	0	0	0
4:45 PM	1	128	3	0	22	172	7	1	4	0	0	0	2	1	8	0	348	0	0	0	0
5:00 PM	0	120	3	0	24	186	8	1	3	0	0	0	3	1	9	0	357	0	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Hazeldell Ave

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:10 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:25 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	7	0	7	1	7	0	8	0	0	0	0	0	0	0	0	15

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
4:15 PM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
5:15 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Survey	0	7	0	7	1	7	0	8	0	0	0	0	0	0	0	0	15

Heavy Vehicle Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Hazeldell Ave			Westbound Hazeldell Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	3	8	3	5	8	0	0	0	0	0	0	8
PHF	0.42			0.38			0.00			0.00			0.67

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	5	0	5	0	3	0	3	0	0	0	0	0	0	0	0	8
PHF	0.00	0.42	0.00	0.42	0.00	0.38	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

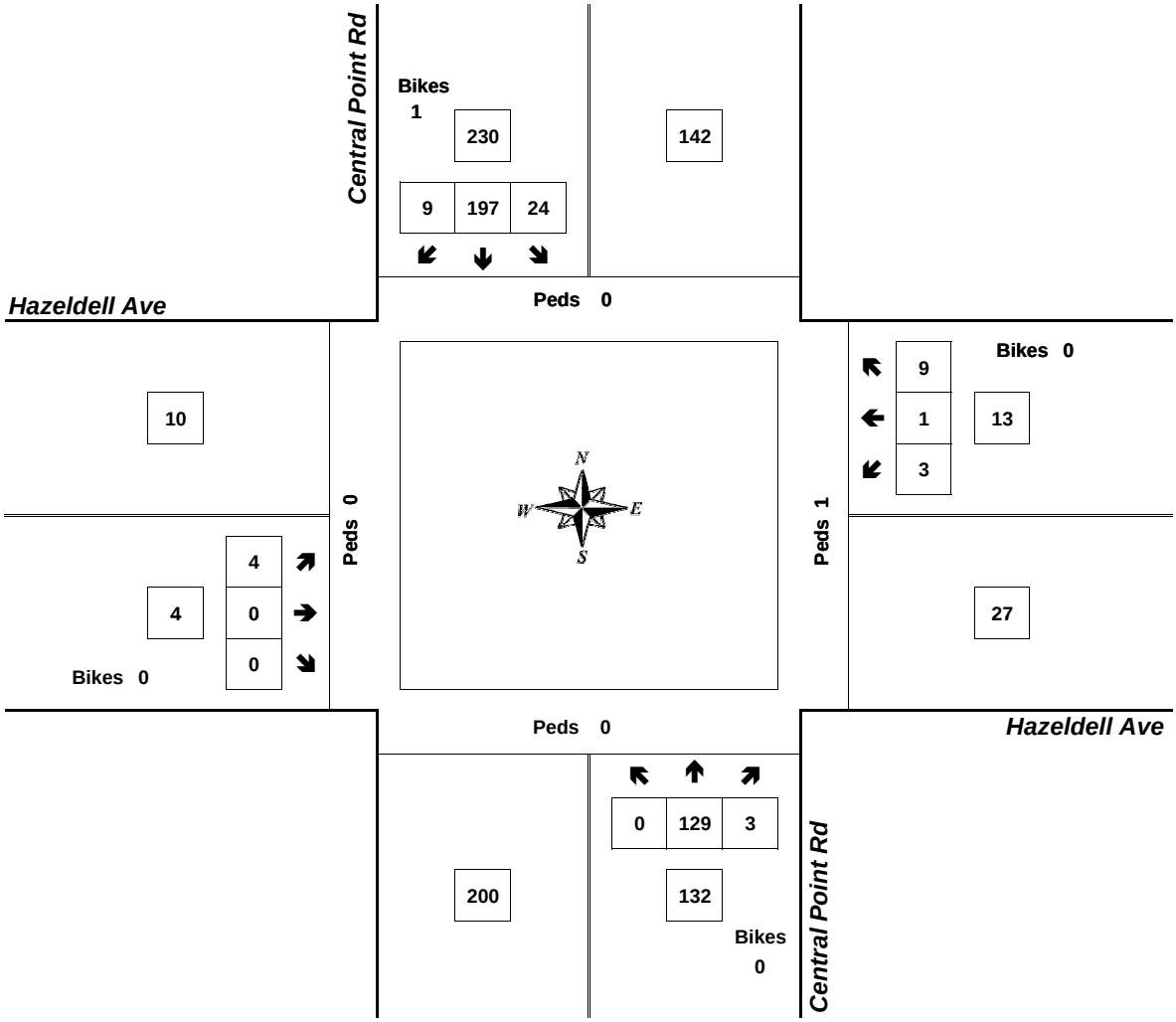
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Hazeldell Ave				Westbound Hazeldell Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	3	0	3	1	4	0	5	0	0	0	0	0	0	0	0	8
4:15 PM	0	2	0	2	1	3	0	4	0	0	0	0	0	0	0	0	6
4:30 PM	0	4	0	4	0	3	0	3	0	0	0	0	0	0	0	0	7
4:45 PM	0	5	0	5	0	2	0	2	0	0	0	0	0	0	0	0	7
5:00 PM	0	4	0	4	0	3	0	3	0	0	0	0	0	0	0	0	7

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Hazeldell Ave

4:55 PM to 5:55 PM
Tuesday, April 04, 2017

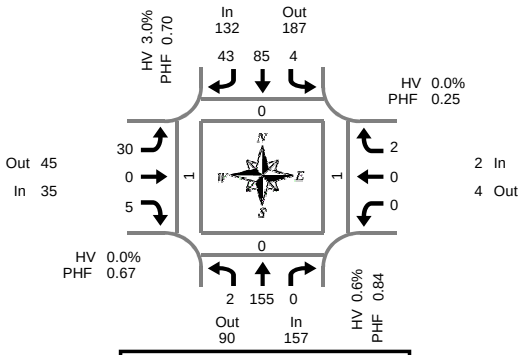


Approach	PHF	HV%	Volume
EB	0.50	0.0%	4
WB	0.81	0.0%	13
NB	0.77	3.8%	132
SB	0.81	1.3%	230
Intersection	0.85	2.1%	379

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Central Point Rd & Skellenger Way

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	3	0	0	0	3	1	0	5	0	1	0	0	0	0	0	13	0	0	0	0
7:05 AM	0	6	0	0	0	6	0	0	0	0	0	0	0	0	1	0	13	0	0	0	0
7:10 AM	0	10	0	0	0	6	2	0	7	0	1	0	0	0	0	0	26	0	0	0	0
7:15 AM	0	16	0	0	0	5	2	0	3	0	0	0	0	0	0	0	26	0	0	0	0
7:20 AM	0	12	0	0	0	8	1	0	2	0	0	0	0	0	0	0	23	0	0	0	0
7:25 AM	0	12	0	0	1	4	1	0	2	0	0	0	0	0	0	0	20	0	0	0	0
7:30 AM	0	17	0	0	2	6	7	0	0	0	0	0	0	0	0	0	32	0	0	0	0
7:35 AM	0	13	0	0	0	1	7	0	2	0	0	0	0	0	0	0	23	0	0	0	0
7:40 AM	0	16	0	0	0	10	12	0	2	0	1	0	0	0	0	0	41	0	0	0	0
7:45 AM	2	16	0	0	0	7	3	0	6	0	1	0	0	0	0	0	35	0	0	0	0
7:50 AM	0	10	0	0	0	11	4	0	2	0	1	0	0	0	0	0	28	0	0	0	1
7:55 AM	0	15	0	0	0	14	3	0	1	0	0	0	0	0	1	0	34	0	0	0	0
8:00 AM	0	8	0	0	1	9	1	0	2	0	0	0	0	0	0	0	21	0	0	0	0
8:05 AM	0	10	0	0	0	4	0	0	1	0	1	0	0	0	1	0	17	0	0	1	0
8:10 AM	0	16	0	0	0	8	1	0	0	0	0	0	0	0	0	0	25	0	0	3	0
8:15 AM	0	8	0	0	0	3	2	0	2	0	0	0	0	0	0	0	15	0	0	0	0
8:20 AM	0	10	0	0	0	10	2	0	1	0	0	0	0	0	0	0	23	0	0	0	0
8:25 AM	0	9	0	0	0	4	1	0	1	0	0	0	0	0	0	0	15	0	0	0	0
8:30 AM	0	2	0	0	0	9	0	0	1	0	1	0	0	0	0	0	13	0	0	0	0
8:35 AM	0	9	0	0	0	8	3	0	2	0	0	0	0	0	0	0	22	0	0	0	0
8:40 AM	0	10	0	0	0	4	1	0	0	0	0	0	0	0	0	0	15	0	0	0	0
8:45 AM	0	7	0	0	0	7	2	0	2	0	0	0	0	0	0	0	18	0	0	0	0
8:50 AM	0	12	0	0	0	8	0	0	3	0	0	0	0	0	0	0	23	0	0	0	0
8:55 AM	1	8	0	0	0	5	1	0	1	0	0	0	0	0	1	0	17	0	0	0	0
Total Survey	3	255	0	0	4	160	57	0	48	0	7	0	0	0	4	0	538	0	0	4	1

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	19	0	0	0	15	3	0	12	0	2	0	0	0	1	0	52	0	0	0	0
7:15 AM	0	40	0	0	1	17	4	0	7	0	0	0	0	0	0	0	69	0	0	0	0
7:30 AM	0	46	0	0	2	17	26	0	4	0	1	0	0	0	0	0	96	0	0	0	0
7:45 AM	2	41	0	0	0	32	10	0	9	0	2	0	0	0	1	0	97	0	0	0	1
8:00 AM	0	34	0	0	1	21	2	0	3	0	1	0	0	0	1	0	63	0	0	4	0
8:15 AM	0	27	0	0	0	17	5	0	4	0	0	0	0	0	0	0	53	0	0	0	0
8:30 AM	0	21	0	0	0	21	4	0	3	0	1	0	0	0	0	0	50	0	0	0	0
8:45 AM	1	27	0	0	0	20	3	0	6	0	0	0	0	0	1	0	58	0	0	0	0
Total Survey	3	255	0	0	4	160	57	0	48	0	7	0	0	0	4	0	538	0	0	4	1

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	157	90	247	0	132	187	319	0	35	45	80	0	2	4	6	0	326	0	0	1	1
%HV	0.6%				3.0%				0.0%				0.0%				1.5%				
PHF	0.84				0.70				0.67				0.25				0.78				

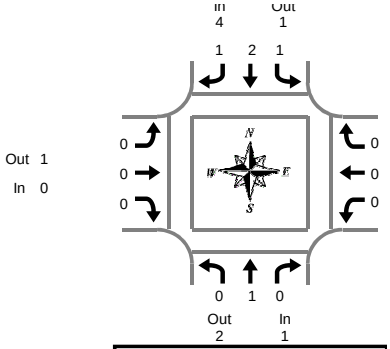
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	155	0	157	4	85	43	132	30	0	5	35	0	0	2	2	326
%HV	0.0%	0.6%	0.0%	0.6%	25.0%	2.4%	2.3%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%
PHF	0.25	0.84	0.00	0.84	0.33	0.63	0.41	0.70	0.63	0.00	0.42	0.67	0.00	0.00	0.25	0.25	0.78

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	2	146	0	0	3	81	43	0	32	0	5	0	0	0	2	0	314	0	0	0	1
7:15 AM	2	161	0	0	4	87	42	0	23	0	4	0	0	0	2	0	325	0	0	4	1
7:30 AM	2	148	0	0	3	87	43	0	20	0	4	0	0	0	2	0	309	0	0	4	1
7:45 AM	2	123	0	0	1	91	21	0	19	0	4	0	0	0	2	0	263	0	0	4	1
8:00 AM	1	109	0	0	1	79	14	0	16	0	2	0	0	0	2	0	224	0	0	4	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Skellenger Way

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
7:35 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:10 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
8:20 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
8:40 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:55 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Survey	0	4	0	4	1	7	1	9	1	0	0	1	0	0	0	0	14

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:15 AM	0	1	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
8:30 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Survey	0	4	0	4	1	7	1	9	1	0	0	1	0	0	0	0	14

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Skellenger Way			Westbound Skellenger Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	2	3	4	1	5	0	1	1	0	1	1	5
PHF	0.25			0.33			0.00			0.00			0.31

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	1	0	1	1	2	1	4	0	0	0	0	0	0	0	0	5
PHF	0.00	0.25	0.00	0.25	0.25	0.50	0.25	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

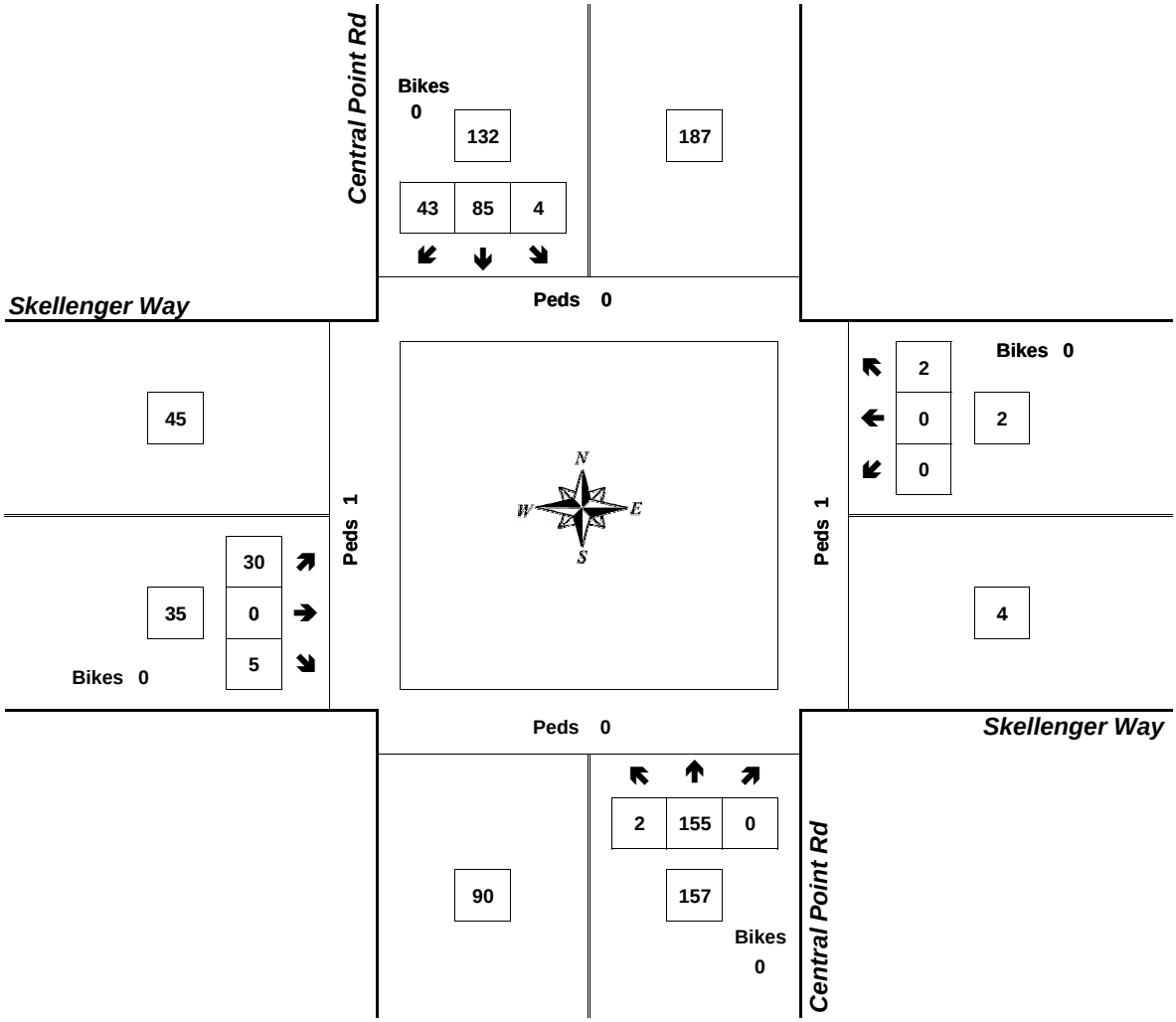
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	0	1	1	2	1	4	0	0	0	0	0	0	0	0	5
7:15 AM	0	1	0	1	1	3	1	5	0	0	0	0	0	0	0	0	6
7:30 AM	0	1	0	1	1	5	1	7	1	0	0	1	0	0	0	0	9
7:45 AM	0	2	0	2	0	6	0	6	1	0	0	1	0	0	0	0	9
8:00 AM	0	3	0	3	0	5	0	5	1	0	0	1	0	0	0	0	9

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Skellenger Way

7:10 AM to 8:10 AM
Wednesday, April 05, 2017

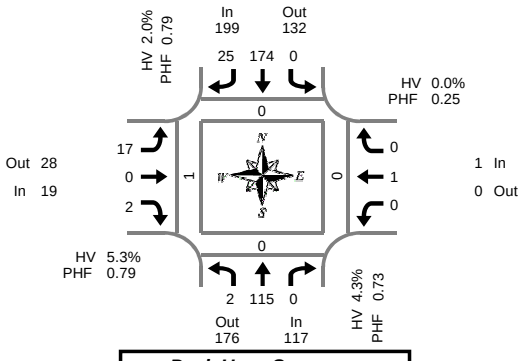


Approach	PHF	HV%	Volume
EB	0.67	0.0%	35
WB	0.25	0.0%	2
NB	0.84	0.6%	157
SB	0.70	3.0%	132
Intersection	0.78	1.5%	326

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Skellenger Way

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	5	0	0	0	6	3	0	0	0	1	0	0	0	0	0	15	0	0	0	0
4:05 PM	1	5	0	0	0	15	2	1	2	0	0	0	0	0	0	0	25	0	0	0	0
4:10 PM	0	7	0	1	0	12	1	0	2	0	0	0	0	0	0	0	22	0	0	0	0
4:15 PM	1	11	0	0	0	14	4	0	1	0	0	0	0	0	0	0	31	0	0	0	0
4:20 PM	0	5	0	0	0	8	2	0	0	0	0	0	0	0	0	0	15	0	0	0	0
4:25 PM	0	4	0	0	0	16	3	0	0	0	0	0	0	0	0	0	23	0	0	0	0
4:30 PM	0	8	0	0	0	8	4	0	0	0	0	0	0	0	0	0	20	0	0	0	0
4:35 PM	0	6	0	0	0	12	2	0	3	0	0	0	0	0	0	0	23	2	0	0	0
4:40 PM	0	11	0	0	0	12	1	0	2	0	0	0	0	0	0	0	26	0	0	0	0
4:45 PM	0	6	0	0	0	8	1	0	0	0	0	0	0	0	0	0	15	0	0	0	0
4:50 PM	0	6	0	0	0	8	1	0	4	1	0	0	0	0	0	0	20	0	0	0	0
4:55 PM	1	8	0	0	0	19	2	0	2	0	0	0	0	0	0	0	32	0	0	0	0
5:00 PM	0	10	0	0	0	10	2	0	2	0	0	0	0	0	0	0	24	0	0	0	0
5:05 PM	0	14	0	0	0	10	0	0	1	0	0	0	0	1	0	0	26	0	0	0	0
5:10 PM	0	10	0	0	0	21	3	1	0	0	1	0	0	0	0	0	35	0	0	0	0
5:15 PM	0	16	0	0	0	13	3	0	3	0	0	0	0	0	0	0	35	0	0	0	0
5:20 PM	0	8	0	0	0	21	2	0	2	0	0	0	0	0	0	0	33	0	0	0	0
5:25 PM	0	11	0	0	0	5	3	0	0	0	0	0	0	0	0	0	19	0	0	0	0
5:30 PM	1	8	0	0	0	10	2	0	2	0	0	0	0	0	0	0	23	0	0	0	0
5:35 PM	0	9	0	0	0	12	2	0	1	0	0	0	0	0	0	0	24	0	0	0	0
5:40 PM	0	8	0	0	0	15	2	0	1	0	0	0	0	0	0	0	26	0	0	0	0
5:45 PM	0	7	0	0	0	17	1	0	2	0	1	0	0	0	0	0	28	0	0	0	0
5:50 PM	0	6	0	0	0	21	3	0	1	0	0	0	0	0	0	0	31	0	0	0	1
5:55 PM	0	3	0	0	0	11	0	0	1	0	0	0	0	0	0	0	15	0	0	0	0
Total Survey	4	192	0	1	0	304	49	2	32	1	3	0	0	1	0	0	586	2	0	0	1

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	1	17	0	1	0	33	6	1	4	0	1	0	0	0	0	0	62	0	0	0	0
4:15 PM	1	20	0	0	0	38	9	0	1	0	0	0	0	0	0	0	69	0	0	0	0
4:30 PM	0	25	0	0	0	32	7	0	5	0	0	0	0	0	0	0	69	2	0	0	0
4:45 PM	1	20	0	0	0	35	4	0	6	1	0	0	0	0	0	0	67	0	0	0	0
5:00 PM	0	34	0	0	0	41	5	1	3	0	1	0	0	1	0	0	85	0	0	0	0
5:15 PM	0	35	0	0	0	39	8	0	5	0	0	0	0	0	0	0	87	0	0	0	0
5:30 PM	1	25	0	0	0	37	6	0	4	0	0	0	0	0	0	0	73	0	0	0	0
5:45 PM	0	16	0	0	0	49	4	0	4	0	1	0	0	0	0	0	74	0	0	0	1
Total Survey	4	192	0	1	0	304	49	2	32	1	3	0	0	1	0	0	586	2	0	0	1

Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	117	176	293	0	199	132	331	1	19	28	47	0	1	0	1	0	336	0	0	0	1
%HV	4.3%				2.0%				5.3%				0.0%				3.0%				
PHF	0.73				0.79				0.79				0.25				0.82				

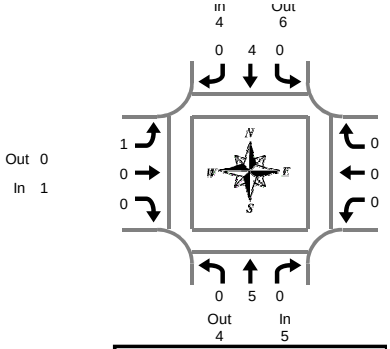
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	115	0	117	0	174	25	199	17	0	2	19	0	1	0	1	336
%HV	0.0%	4.3%	0.0%	4.3%	0.0%	2.3%	0.0%	2.0%	5.9%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	0.0%	3.0%
PHF	0.50	0.72	0.00	0.73	0.00	0.79	0.78	0.79	0.85	0.00	0.50	0.79	0.00	0.25	0.00	0.25	0.82

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	3	82	0	1	0	138	26	1	16	1	1	0	0	0	0	0	267	2	0	0	0
4:15 PM	2	99	0	0	0	146	25	1	15	1	1	0	0	1	0	0	290	2	0	0	0
4:30 PM	1	114	0	0	0	147	24	1	19	1	1	0	0	1	0	0	308	2	0	0	0
4:45 PM	2	114	0	0	0	152	23	1	18	1	1	0	0	1	0	0	312	0	0	0	0
5:00 PM	1	110	0	0	0	166	23	1	16	0	2	0	0	1	0	0	319	0	0	0	1

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Skellenger Way

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	0	0	0	0	0	2	0	2	1	0	0	1	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:05 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:10 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:25 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:50 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	6	0	6	0	7	1	8	2	0	0	2	0	0	0	0	16

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	2	1	3	1	0	0	1	0	0	0	0	4
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
5:00 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
5:15 PM	0	2	0	2	0	0	0	0	1	0	0	1	0	0	0	0	3
5:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total Survey	0	6	0	6	0	7	1	8	2	0	0	2	0	0	0	0	16

Heavy Vehicle Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Skellenger Way			Westbound Skellenger Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	4	9	4	6	10	1	0	1	0	0	0	10
PHF	0.42			0.50			0.25			0.00			0.83

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	5	0	5	0	4	0	4	1	0	0	1	0	0	0	0	10
PHF	0.00	0.42	0.00	0.42	0.00	0.50	0.00	0.50	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.83

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

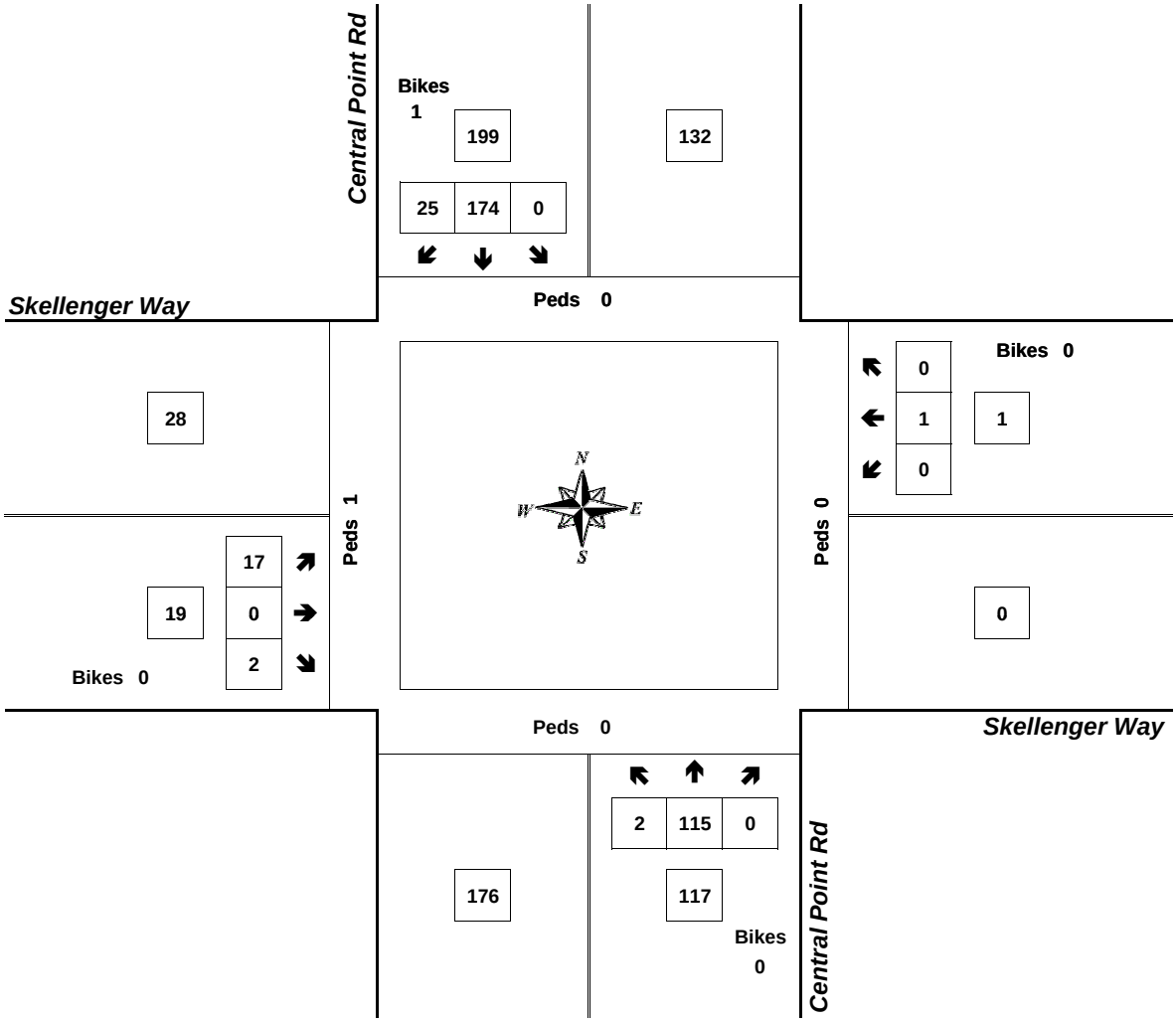
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Skellenger Way				Westbound Skellenger Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	2	0	2	0	3	1	4	1	0	0	1	0	0	0	0	7
4:15 PM	0	3	0	3	0	3	0	3	0	0	0	0	0	0	0	0	6
4:30 PM	0	4	0	4	0	3	0	3	1	0	0	1	0	0	0	0	8
4:45 PM	0	5	0	5	0	3	0	3	1	0	0	1	0	0	0	0	9
5:00 PM	0	4	0	4	0	4	0	4	1	0	0	1	0	0	0	0	9

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Skellenger Way

4:55 PM to 5:55 PM
Tuesday, April 04, 2017

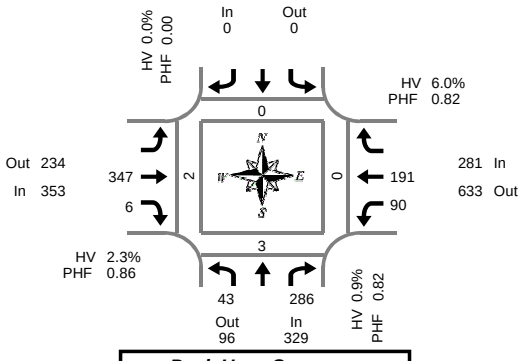


Approach	PHF	HV%	Volume
EB	0.79	5.3%	19
WB	0.25	0.0%	1
NB	0.73	4.3%	117
SB	0.79	2.0%	199
Intersection	0.82	3.0%	336

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:00 AM to 8:00 AM

Central Point Rd & Warner Parrott Rd

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	2		30	0				0	22	1	0	8	14		0	77	0	0	0	0
7:05 AM	2		22	0				0	29	1	0	4	10		0	68	0	0	0	0
7:10 AM	4		24	0				0	30	1	0	10	8		0	77	0	0	0	0
7:15 AM	4		23	0				0	26	0	0	6	13		0	72	0	0	0	0
7:20 AM	3		19	0				0	43	0	0	6	15		0	86	0	1	0	0
7:25 AM	4		21	0				0	33	1	0	9	18		0	86	0	0	0	0
7:30 AM	4		24	0				0	22	0	0	11	18		0	79	0	0	0	0
7:35 AM	5		29	0				0	22	0	0	7	23		0	86	0	1	0	0
7:40 AM	4		27	0				0	25	0	0	8	13		0	77	0	0	0	0
7:45 AM	8		27	0				0	24	0	0	7	21		0	87	0	0	0	0
7:50 AM	2		21	0				0	36	1	0	9	20		0	89	0	1	0	2
7:55 AM	1		19	0				0	35	1	0	5	18		0	79	0	0	0	0
8:00 AM	1		23	0				0	22	0	0	9	15		1	70	0	0	0	0
8:05 AM	5		16	0				0	25	0	0	5	12		0	63	0	1	0	0
8:10 AM	3		22	0				0	18	1	0	6	14		0	64	0	1	0	0
8:15 AM	1		21	0				0	32	0	0	7	25		0	86	0	4	0	0
8:20 AM	4		21	0				0	16	0	0	12	22		0	75	0	0	0	0
8:25 AM	5		24	0				0	27	0	0	6	18		0	80	0	1	0	0
8:30 AM	4		18	0				0	33	1	0	12	16		0	84	0	2	0	0
8:35 AM	3		19	0				0	24	0	0	5	22		0	73	0	1	0	0
8:40 AM	1		15	0				0	20	0	0	16	20		0	72	0	0	0	0
8:45 AM	3		19	0				0	25	2	0	12	21		0	82	0	1	0	0
8:50 AM	2		20	0				0	28	1	0	12	23		0	86	0	0	0	0
8:55 AM	1		19	0				0	33	1	0	10	26		0	90	0	0	0	0
Total Survey	76		523	0				0	650	12	0	202	425		1	1,888	0	14	0	2

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	8		76	0				0	81	3	0	22	32		0	222	0	0	0	0
7:15 AM	11		63	0				0	102	1	0	21	46		0	244	0	1	0	0
7:30 AM	13		80	0				0	69	0	0	26	54		0	242	0	1	0	0
7:45 AM	11		67	0				0	95	2	0	21	59		0	255	0	1	0	2
8:00 AM	9		61	0				0	65	1	0	20	41		1	197	0	2	0	0
8:15 AM	10		66	0				0	75	0	0	25	65		0	241	0	5	0	0
8:30 AM	8		52	0				0	77	1	0	33	58		0	229	0	3	0	0
8:45 AM	6		58	0				0	86	4	0	34	70		0	258	0	1	0	0
Total Survey	76		523	0				0	650	12	0	202	425		1	1,888	0	14	0	2

Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	329	96	425	0	0	0	0	0	353	234	587	0	281	633	914	0	963	0	3	0	2
%HV	0.9%				0.0%				2.3%				6.0%				2.9%				
PHF	0.82				0.00				0.86				0.82				0.94				

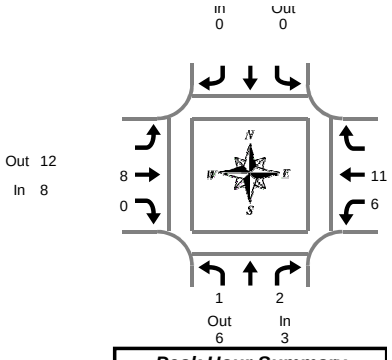
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	43		286	329				0		347	6	353	90	191		281	963
%HV	2.3%	NA	0.7%	0.9%	NA	NA	NA	0.0%	NA	2.3%	0.0%	2.3%	6.7%	5.8%	NA	6.0%	2.9%
PHF	0.63		0.86	0.82				0.00		0.85	0.50	0.86	0.83	0.81		0.82	0.94

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	43		286	0				0	347	6	0	90	191		0	963	0	3	0	2
7:15 AM	44		271	0				0	331	4	0	88	200		1	938	0	5	0	2
7:30 AM	43		274	0				0	304	3	0	92	219		1	935	0	9	0	2
7:45 AM	38		246	0				0	312	4	0	99	223		1	922	0	11	0	2
8:00 AM	33		237	0				0	303	6	0	112	234		1	925	0	11	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Central Point Rd & Warner Parrott Rd

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		1	1				0	0	0	0		0	0		0	1
7:05 AM	0		0	0				0	1	0	1		0	1		1	2
7:10 AM	0		0	0				0	1	0	1		0	0		0	1
7:15 AM	0		0	0				0	0	0	0		2	2		4	4
7:20 AM	0		1	1				0	0	0	0		0	0		0	1
7:25 AM	0		0	0				0	2	0	2		2	1		3	5
7:30 AM	0		0	0				0	1	0	1		1	1		2	3
7:35 AM	0		0	0				0	0	0	0		0	1		1	1
7:40 AM	1		0	1				0	1	0	1		0	1		1	3
7:45 AM	0		0	0				0	0	0	0		1	2		3	3
7:50 AM	0		0	0				0	1	0	1		0	1		1	2
7:55 AM	0		0	0				0	1	0	1		0	1		1	2
8:00 AM	0		0	0				0	0	0	0		2	2		4	4
8:05 AM	0		0	0				0	0	0	0		0	2		2	2
8:10 AM	0		1	1				0	2	0	2		0	0		0	3
8:15 AM	0		0	0				0	1	0	1		0	0		0	1
8:20 AM	0		2	2				0	1	0	1		2	1		3	6
8:25 AM	0		0	0				0	0	0	0		0	0		0	0
8:30 AM	0		2	2				0	1	0	1		2	0		2	5
8:35 AM	0		1	1				0	1	0	1		0	1		1	3
8:40 AM	0		0	0				0	1	0	1		0	0		0	1
8:45 AM	0		2	2				0	1	0	1		0	1		1	4
8:50 AM	0		0	0				0	2	0	2		0	1		1	3
8:55 AM	0		1	1				0	0	0	0		0	2		2	3
Total Survey	1		11	12				0	18	0	18		12	21		33	63

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		1	1				0	2	0	2		0	1		1	4
7:15 AM	0		1	1				0	2	0	2		4	3		7	10
7:30 AM	1		0	1				0	2	0	2		1	3		4	7
7:45 AM	0		0	0				0	2	0	2		1	4		5	7
8:00 AM	0		1	1				0	2	0	2		2	4		6	9
8:15 AM	0		2	2				0	2	0	2		2	1		3	7
8:30 AM	0		3	3				0	3	0	3		2	1		3	9
8:45 AM	0		3	3				0	3	0	3		0	4		4	10
Total Survey	1		11	12				0	18	0	18		12	21		33	63

Heavy Vehicle Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Warner Parrott Rd			Westbound Warner Parrott Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	6	9	0	0	0	8	12	20	17	10	27	28
PHF	0.75			0.00			0.67			0.61			0.70

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	1		2	3				0	8	0	8		6	11		17	28
PHF	0.25		0.50	0.75				0.00	0.67	0.00	0.67		0.38	0.69		0.61	0.70

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

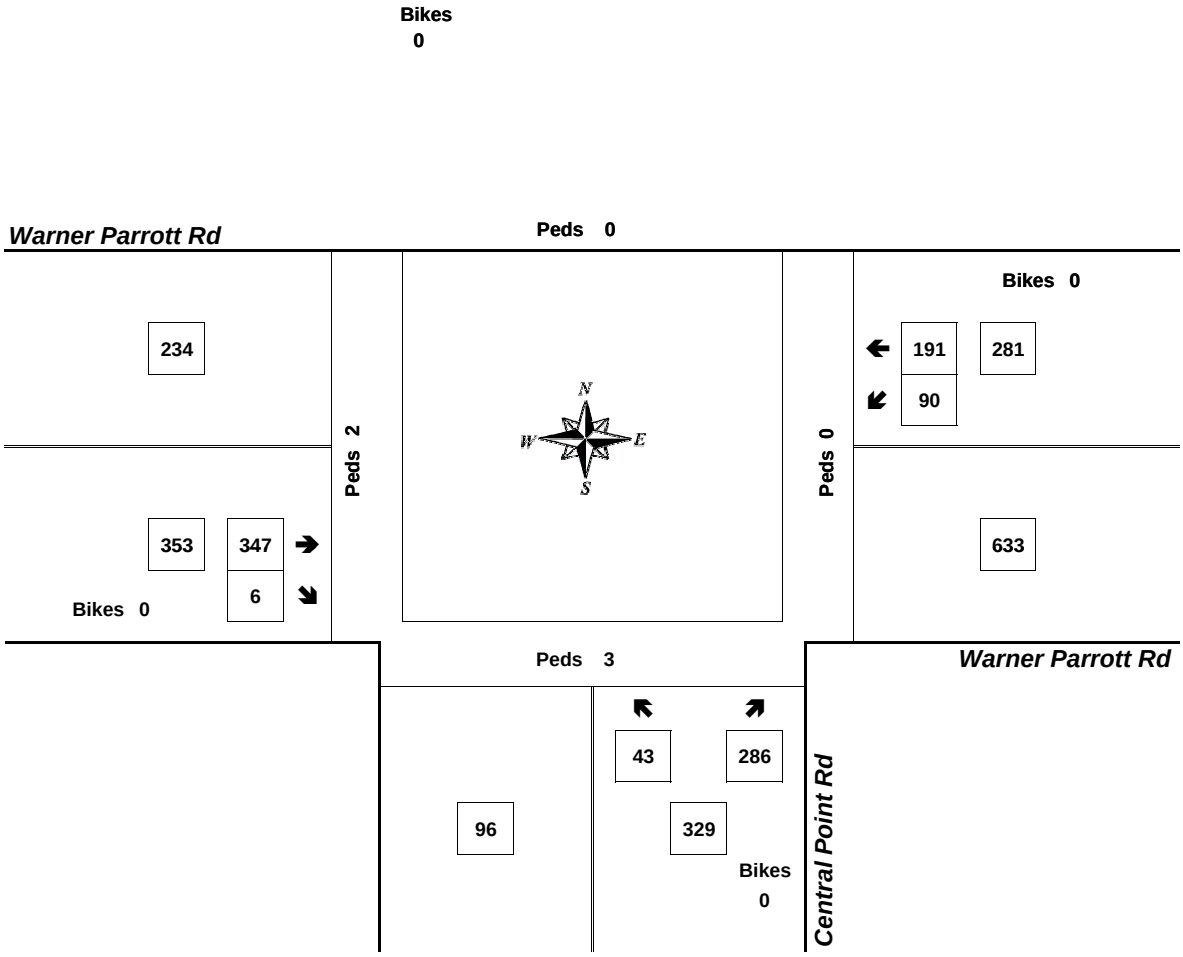
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	1		2	3				0	8	0	8		6	11		17	28
7:15 AM	1		2	3				0	8	0	8		8	14		22	33
7:30 AM	1		3	4				0	8	0	8		6	12		18	30
7:45 AM	0		6	6				0	9	0	9		7	10		17	32
8:00 AM	0		9	9				0	10	0	10		6	10		16	35

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Central Point Rd & Warner Parrott Rd

7:00 AM to 8:00 AM
Wednesday, April 05, 2017

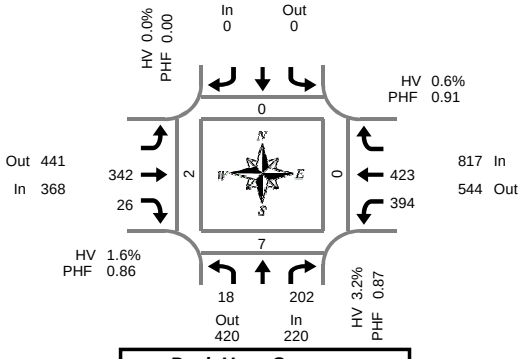


Approach	PHF	HV%	Volume
EB	0.86	2.3%	353
WB	0.82	6.0%	281
NB	0.82	0.9%	329
SB	0.00	0.0%	0
Intersection	0.94	2.9%	963

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Warner Parrott Rd

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:50 PM to 5:50 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	0		6	0				0	49	2	0	17	36		0	110		0	0	0	0
4:05 PM	0		9	0				0	37	0	0	31	29		0	106		0	1	0	0
4:10 PM	1		22	0				0	23	3	0	29	41		0	119		0	0	0	0
4:15 PM	1		16	1				0	35	4	0	34	38		0	128		0	0	0	0
4:20 PM	1		15	0				0	33	2	0	29	25		0	105		0	0	0	0
4:25 PM	2		11	0				0	28	3	0	21	22		0	87		0	0	0	0
4:30 PM	1		19	0				0	15	0	0	25	28		0	88		0	0	0	0
4:35 PM	1		15	0				0	26	2	0	25	36		0	105		0	1	0	0
4:40 PM	2		21	0				0	23	3	0	25	25		0	99		0	0	0	0
4:45 PM	1		19	0				0	32	4	0	23	43		0	122		0	0	0	0
4:50 PM	3		17	0				0	27	1	0	35	30		0	113		0	1	0	0
4:55 PM	2		24	0				0	24	5	0	40	26		0	121		0	1	0	0
5:00 PM	0		16	0				0	21	2	0	31	37		0	107		0	0	0	0
5:05 PM	1		10	0				0	33	0	0	38	50		1	132		0	2	0	0
5:10 PM	2		14	0				0	15	2	0	36	32		0	101		0	0	0	1
5:15 PM	2		13	0				0	36	4	0	28	39		0	122		0	0	0	1
5:20 PM	2		18	0				0	30	3	0	42	34		0	129		0	0	0	0
5:25 PM	0		19	0				0	33	1	0	26	28		0	107		0	0	0	0
5:30 PM	3		21	0				0	28	4	0	13	33		0	102		0	0	0	0
5:35 PM	1		12	0				0	36	1	0	27	48		0	125		0	0	0	0
5:40 PM	1		20	0				0	26	2	0	33	40		0	122		0	1	0	0
5:45 PM	1		18	0				0	33	1	0	45	26		0	124		0	2	0	0
5:50 PM	1		18	0				0	25	1	0	35	28		0	108		0	0	0	2
5:55 PM	1		13	0				0	30	6	0	21	40		0	111		0	0	0	0
Total Survey	30		386	1				0	698	56	0	709	814		1	2,693		0	9	0	4

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	1		37	0				0	109	5	0	77	106		0	335		0	1	0	0
4:15 PM	4		42	1				0	96	9	0	84	85		0	320		0	0	0	0
4:30 PM	4		55	0				0	64	5	0	75	89		0	292		0	1	0	0
4:45 PM	6		60	0				0	83	10	0	98	99		0	356		0	2	0	0
5:00 PM	3		40	0				0	69	4	0	105	119		1	340		0	2	0	1
5:15 PM	4		50	0				0	99	8	0	96	101		0	358		0	0	0	1
5:30 PM	5		53	0				0	90	7	0	73	121		0	349		0	1	0	0
5:45 PM	3		49	0				0	88	8	0	101	94		0	343		0	2	0	2
Total Survey	30		386	1				0	698	56	0	709	814		1	2,693		0	9	0	4

Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	220	420	640	0	0	0	0	0	368	441	809	0	817	544	1,361	1	1,405	0	7	0	2
%HV	3.2%				0.0%				1.6%				0.6%				1.3%				
PHF	0.87				0.00				0.86				0.91				0.95				

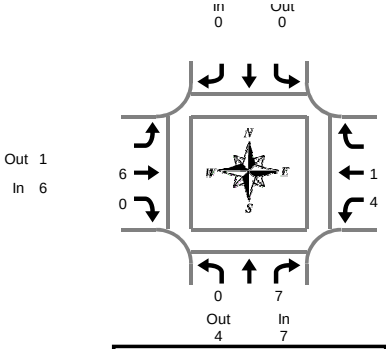
By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	18		202	220				0		342	26	368	394	423		817	1,405
%HV	0.0%	NA	3.5%	3.2%	NA	NA	NA	0.0%	NA	1.8%	0.0%	1.6%	1.0%	0.2%	NA	0.6%	1.3%
PHF	0.75		0.87	0.87				0.00		0.86	0.72	0.86	0.90	0.87		0.91	0.95

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	15		194	1				0	352	29	0	334	379		0	1,303		0	4	0	0
4:15 PM	17		197	1				0	312	28	0	362	392		1	1,308		0	5	0	1
4:30 PM	17		205	0				0	315	27	0	374	408		1	1,346		0	5	0	2
4:45 PM	18		203	0				0	341	29	0	372	440		1	1,403		0	5	0	2
5:00 PM	15		192	0				0	346	27	0	375	435		1	1,390		0	5	0	4

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Central Point Rd & Warner Parrott Rd

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:50 PM to 5:50 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		1	1				0	2	0	2		0	0		0	3
4:05 PM	0		1	1				0	1	0	1		0	0		0	2
4:10 PM	0		0	0				0	2	0	2		0	1		1	3
4:15 PM	0		0	0				0	0	0	0		1	1		2	2
4:20 PM	0		0	0				0	0	0	0		1	1		2	2
4:25 PM	0		1	1				0	0	0	0		0	0		0	1
4:30 PM	0		3	3				0	0	0	0		0	0		0	3
4:35 PM	0		0	0				0	0	0	0		0	2		2	2
4:40 PM	0		0	0				0	1	0	1		1	0		1	2
4:45 PM	0		0	0				0	1	0	1		1	0		1	2
4:50 PM	0		0	0				0	0	0	0		0	0		0	0
4:55 PM	0		2	2				0	2	0	2		0	0		0	4
5:00 PM	0		1	1				0	0	0	0		0	0		0	1
5:05 PM	0		1	1				0	0	0	0		1	0		1	2
5:10 PM	0		0	0				0	0	0	0		1	0		1	1
5:15 PM	0		0	0				0	0	0	0		0	0		0	0
5:20 PM	0		0	0				0	1	0	1		1	1		2	3
5:25 PM	0		0	0				0	1	0	1		1	0		1	2
5:30 PM	0		2	2				0	1	0	1		0	0		0	3
5:35 PM	0		0	0				0	0	0	0		0	0		0	0
5:40 PM	0		1	1				0	0	0	0		0	0		0	1
5:45 PM	0		0	0				0	1	0	1		0	0		0	1
5:50 PM	0		0	0				0	1	0	1		0	0		0	1
5:55 PM	0		0	0				0	0	0	0		0	0		0	0
Total Survey	0		13	13				0	14	0	14		8	6		14	41

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		2	2				0	5	0	5		0	1		1	8
4:15 PM	0		1	1				0	0	0	0		2	2		4	5
4:30 PM	0		3	3				0	1	0	1		1	2		3	7
4:45 PM	0		2	2				0	3	0	3		1	0		1	6
5:00 PM	0		2	2				0	0	0	0		2	0		2	4
5:15 PM	0		0	0				0	2	0	2		2	1		3	5
5:30 PM	0		3	3				0	1	0	1		0	0		0	4
5:45 PM	0		0	0				0	2	0	2		0	0		0	2
Total Survey	0		13	13				0	14	0	14		8	6		14	41

Heavy Vehicle Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Central Point Rd			Southbound Central Point Rd			Eastbound Warner Parrott Rd			Westbound Warner Parrott Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	4	11	0	0	0	6	1	7	5	13	18	18
PHF	0.44			0.00			0.50			0.42			0.56

By Movement	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	0		7	7				0	6	0	6		4	1		5	18
PHF	0.00		0.44	0.44				0.00	0.50	0.00	0.50		0.50	0.25		0.42	0.56

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

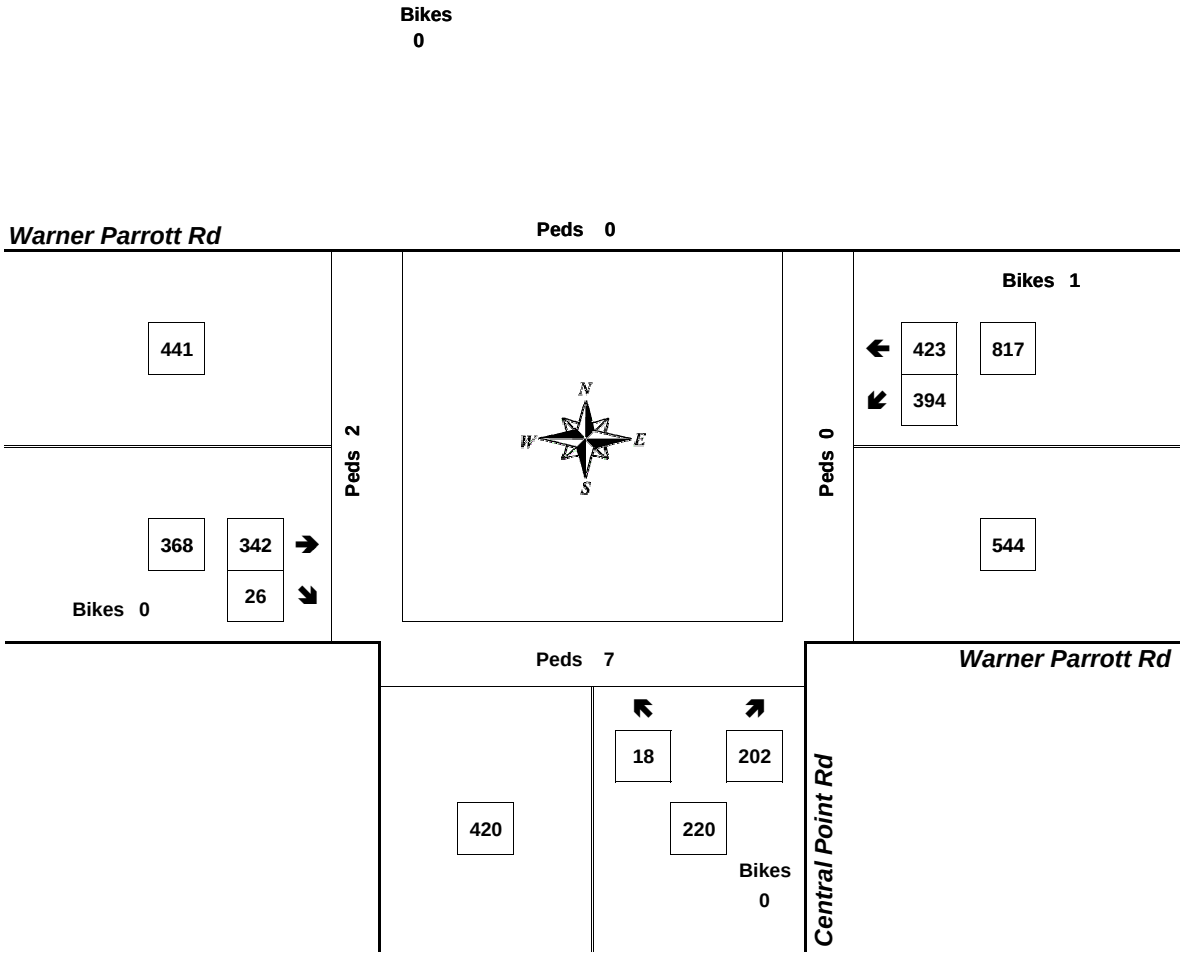
Interval Start Time	Northbound Central Point Rd				Southbound Central Point Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		8	8				0	9	0	9		4	5		9	26
4:15 PM	0		8	8				0	4	0	4		6	4		10	22
4:30 PM	0		7	7				0	6	0	6		6	3		9	22
4:45 PM	0		7	7				0	6	0	6		5	1		6	19
5:00 PM	0		5	5				0	5	0	5		4	1		5	15

Peak Hour Summary

Clay Carney
(503) 833-2740

Central Point Rd & Warner Parrott Rd

4:50 PM to 5:50 PM
Tuesday, April 04, 2017

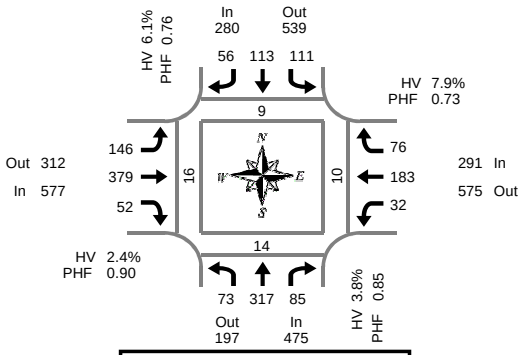


Approach	PHF	HV%	Volume
EB	0.86	1.6%	368
WB	0.91	0.6%	817
NB	0.87	3.2%	220
SB	0.00	0.0%	0
Intersection	0.95	1.3%	1,405

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:40 AM to 8:40 AM

Leland Rd & Warner Parrott Rd

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	3	25	12	0	6	3	3	0	5	46	3	1	4	15	5	0	130	0	0	0	0
7:05 AM	1	24	10	0	7	3	1	0	8	37	7	0	1	12	7	0	118	0	0	0	0
7:10 AM	6	20	3	0	10	4	2	0	7	42	5	0	0	10	6	0	115	0	0	0	0
7:15 AM	6	32	11	0	10	6	2	0	7	40	3	0	1	11	3	0	132	0	0	0	0
7:20 AM	4	38	6	0	10	5	2	0	9	40	7	0	3	15	5	0	144	0	0	0	0
7:25 AM	8	21	8	0	8	1	0	0	7	45	5	0	4	19	4	0	130	0	1	0	0
7:30 AM	9	23	2	0	9	5	3	0	6	38	3	0	3	19	4	0	124	1	0	0	0
7:35 AM	12	27	10	0	2	8	2	0	10	39	3	0	0	14	3	0	130	1	0	0	1
7:40 AM	2	34	10	0	12	10	5	0	11	33	6	0	2	14	4	0	143	0	0	0	0
7:45 AM	9	35	6	0	5	11	2	0	13	30	5	0	1	17	6	0	140	0	0	0	0
7:50 AM	8	23	13	0	7	10	2	0	10	48	4	0	3	19	4	0	151	0	2	0	0
7:55 AM	10	21	11	0	10	6	4	0	5	37	9	0	4	11	7	0	135	0	0	0	0
8:00 AM	6	24	9	0	13	10	4	0	9	35	3	0	5	12	5	0	135	1	1	0	2
8:05 AM	3	23	6	0	6	8	0	1	10	31	5	0	0	13	7	0	112	2	0	0	3
8:10 AM	7	14	7	0	8	10	5	0	12	22	4	0	2	8	6	0	105	0	3	2	0
8:15 AM	11	27	3	0	11	6	4	0	12	34	2	0	2	18	4	0	134	3	3	4	5
8:20 AM	3	33	6	0	6	7	6	0	14	26	0	0	2	24	7	0	134	1	0	0	3
8:25 AM	3	29	7	0	7	7	8	0	13	30	4	0	3	17	8	0	136	0	1	1	0
8:30 AM	6	29	5	0	8	13	7	0	20	33	4	0	6	18	14	0	163	2	3	3	3
8:35 AM	5	25	2	1	18	15	9	0	17	20	6	0	2	12	4	0	135	0	1	0	0
8:40 AM	6	25	5	0	14	15	10	0	5	25	3	0	4	22	8	0	142	1	0	2	0
8:45 AM	5	13	9	0	13	11	4	0	3	40	4	0	2	22	5	0	131	0	3	0	0
8:50 AM	7	15	4	0	10	5	6	0	4	36	3	0	3	22	6	0	121	1	0	0	1
8:55 AM	7	14	7	0	5	12	6	0	9	34	10	0	3	23	5	0	135	0	0	0	0
Total Survey	147	594	172	1	215	191	97	1	226	841	108	1	60	387	137	0	3,175	13	18	12	18

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	10	69	25	0	23	10	6	0	20	125	15	1	5	37	18	0	363	0	0	0	0
7:15 AM	18	91	25	0	28	12	4	0	23	125	15	0	8	45	12	0	406	0	1	0	0
7:30 AM	23	84	22	0	23	23	10	0	27	110	12	0	5	47	11	0	397	2	0	0	1
7:45 AM	27	79	30	0	22	27	8	0	28	115	18	0	8	47	17	0	426	0	2	0	0
8:00 AM	16	61	22	0	27	28	9	1	31	88	12	0	7	33	18	0	352	3	4	2	5
8:15 AM	17	89	16	0	24	20	18	0	39	90	6	0	7	59	19	0	404	4	4	5	8
8:30 AM	17	79	12	1	40	43	26	0	42	78	13	0	12	52	26	0	440	3	4	5	3
8:45 AM	19	42	20	0	28	28	16	0	16	110	17	0	8	67	16	0	387	1	3	0	1
Total Survey	147	594	172	1	215	191	97	1	226	841	108	1	60	387	137	0	3,175	13	18	12	18

Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	475	197	672	1	280	539	819	1	577	312	889	0	291	575	866	0	1,623	9	14	10	16
%HV	3.8%				6.1%				2.4%				7.9%				4.4%				
PHF	0.85				0.76				0.90				0.73				0.93				

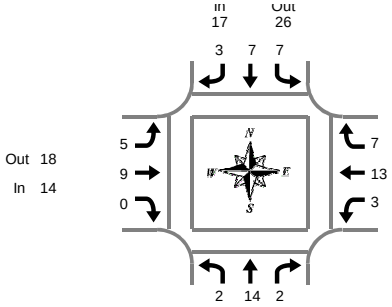
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	73	317	85	475	111	113	56	280	146	379	52	577	32	183	76	291	1,623
%HV	2.7%	4.4%	2.4%	3.8%	6.3%	6.2%	5.4%	6.1%	3.4%	2.4%	0.0%	2.4%	9.4%	7.1%	9.2%	7.9%	4.4%
PHF	0.68	0.86	0.64	0.85	0.84	0.81	0.58	0.76	0.73	0.79	0.72	0.90	0.67	0.78	0.66	0.73	0.93

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	78	323	102	0	96	72	28	0	98	475	60	1	26	176	58	0	1,592	2	3	0	1
7:15 AM	84	315	99	0	100	90	31	1	109	438	57	0	28	172	58	0	1,581	5	7	2	6
7:30 AM	83	313	90	0	96	98	45	1	125	403	48	0	27	186	65	0	1,579	9	10	7	14
7:45 AM	77	308	80	1	113	118	61	1	140	371	49	0	34	191	80	0	1,622	10	14	12	16
8:00 AM	69	271	70	1	119	119	69	1	128	366	48	0	34	211	79	0	1,583	11	15	12	17

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Warner Parrott Rd

Wednesday, April 05, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:40 AM to 8:40 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3
7:10 AM	0	0	0	0	2	0	0	2	0	1	0	1	0	0	1	1	4
7:15 AM	1	0	1	2	1	0	1	2	0	1	0	1	0	1	0	1	6
7:20 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	1	1	3
7:25 AM	2	0	0	2	1	0	0	1	1	1	0	2	1	1	0	2	7
7:30 AM	0	1	0	1	0	2	0	2	0	1	0	1	0	2	1	3	7
7:35 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
7:40 AM	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	2
7:45 AM	0	1	1	2	0	1	0	1	0	0	0	0	0	3	1	4	7
7:50 AM	1	1	0	2	1	0	0	1	0	2	0	2	0	0	1	1	6
7:55 AM	1	0	0	1	1	0	1	2	0	1	0	1	0	0	0	0	4
8:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	3	1	5	6
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
8:10 AM	0	0	0	0	1	0	0	1	1	1	0	2	0	0	1	1	4
8:15 AM	0	1	0	1	1	0	0	1	1	1	0	2	0	0	1	1	5
8:20 AM	0	1	0	1	0	0	0	0	1	1	0	2	0	3	0	3	6
8:25 AM	0	5	1	6	0	0	0	0	1	0	0	1	2	0	0	2	9
8:30 AM	0	3	0	3	0	1	1	2	0	2	0	2	0	1	1	2	9
8:35 AM	0	1	0	1	2	5	0	7	1	1	0	2	0	1	1	2	12
8:40 AM	0	0	0	0	1	0	1	2	0	0	1	1	0	0	0	0	3
8:45 AM	0	0	0	0	0	3	0	3	0	2	1	3	0	2	1	3	9
8:50 AM	1	1	0	2	0	0	0	0	0	0	2	2	0	0	0	0	4
8:55 AM	1	0	0	1	0	0	0	0	1	0	0	1	0	1	0	1	3
Total Survey	7	16	3	26	14	12	5	31	7	17	4	28	4	22	12	38	123

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	2	0	0	2	0	2	0	2	0	1	2	3	7
7:15 AM	3	0	1	4	3	0	1	4	1	3	0	4	1	2	1	4	16
7:30 AM	0	1	0	1	2	2	1	5	0	1	0	1	0	3	1	4	11
7:45 AM	2	2	1	5	2	1	1	4	0	3	0	3	0	3	2	5	17
8:00 AM	0	1	0	1	1	0	0	1	1	1	0	2	1	5	2	8	12
8:15 AM	0	7	1	8	1	0	0	1	3	2	0	5	2	3	1	6	20
8:30 AM	0	4	0	4	3	6	2	11	1	3	1	5	0	2	2	4	24
8:45 AM	2	1	0	3	0	3	0	3	1	2	3	6	0	3	1	4	16
Total Survey	7	16	3	26	14	12	5	31	7	17	4	28	4	22	12	38	123

Heavy Vehicle Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Warner Parrott Rd			Westbound Warner Parrott Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	18	10	28	17	26	43	14	18	32	23	18	41	72
PHF	0.45			0.47			0.58			0.72			0.60

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	14	2	18	7	7	3	17	5	9	0	14	3	13	7	23	72
PHF	0.25	0.39	0.50	0.45	0.88	0.29	0.75	0.47	0.42	0.75	0.00	0.58	0.38	0.65	0.88	0.72	0.60

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	5	3	2	10	9	3	3	15	1	9	0	10	1	9	6	16	51
7:15 AM	5	4	2	11	8	3	3	14	2	8	0	10	2	13	6	21	56
7:30 AM	2	11	2	15	6	3	2	11	4	7	0	11	3	14	6	23	60
7:45 AM	2	14	2	18	7	7	3	17	5	9	1	15	3	13	7	23	73
8:00 AM	2	13	1	16	5	9	2	16	6	8	4	18	3	13	6	22	72

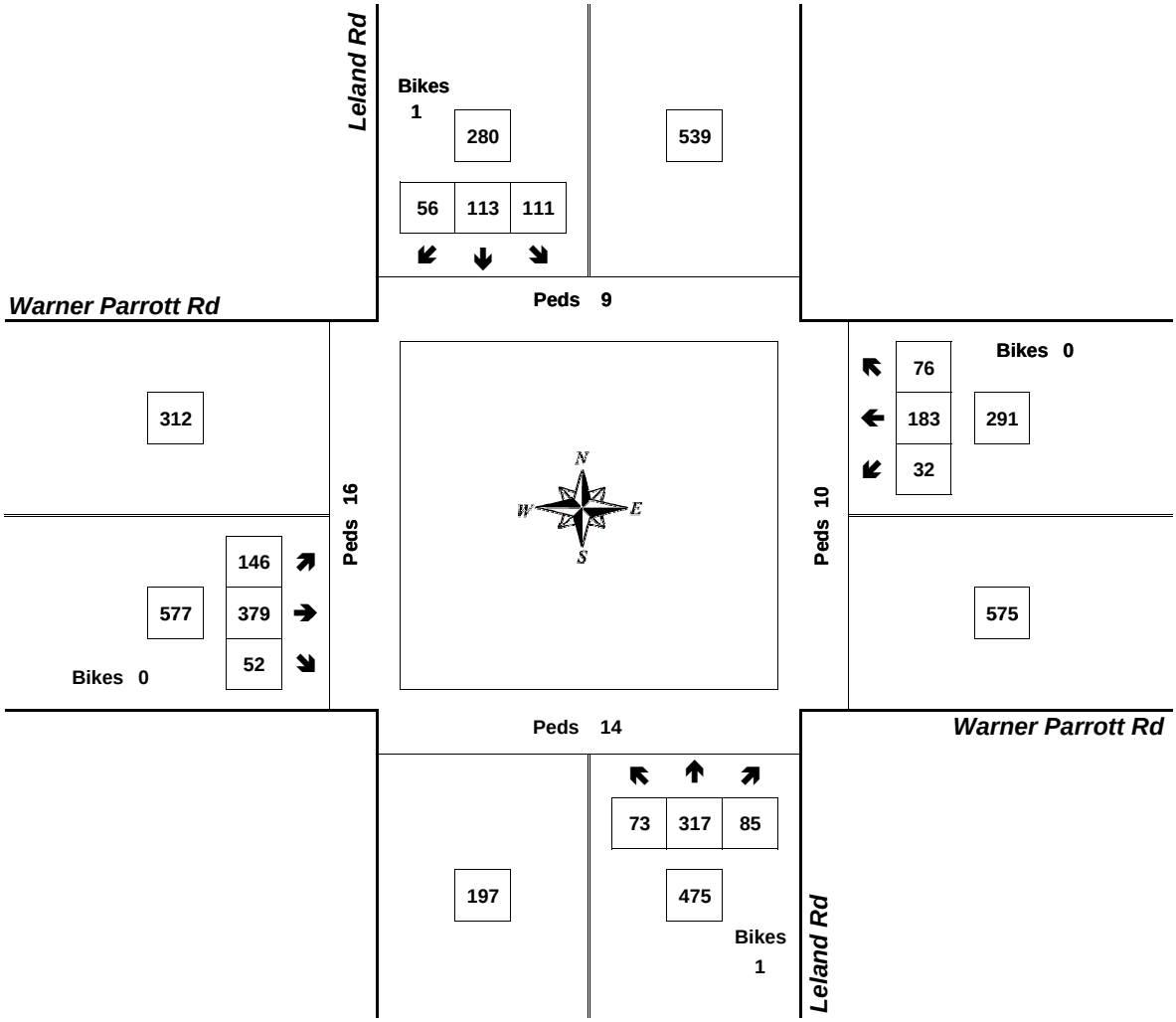
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Leland Rd & Warner Parrott Rd

7:40 AM to 8:40 AM
Wednesday, April 05, 2017

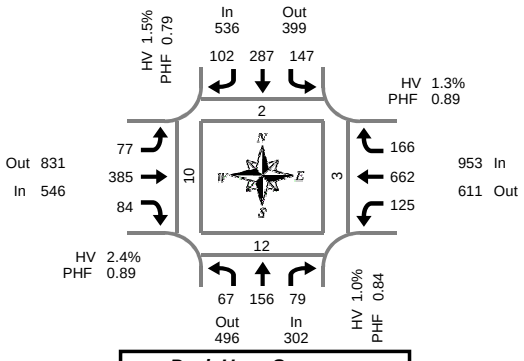


Approach	PHF	HV%	Volume
EB	0.90	2.4%	577
WB	0.73	7.9%	291
NB	0.85	3.8%	475
SB	0.76	6.1%	280
Intersection	0.93	4.4%	1,623

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:45 PM to 5:45 PM

Leland Rd & Warner Parrott Rd

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	7	9	8	0	17	17	8	0	4	38	10	0	4	39	9	0	170	0	0	1	3
4:05 PM	5	8	8	0	6	20	12	0	3	37	9	1	19	45	16	0	188	1	0	0	1
4:10 PM	8	13	5	0	16	24	16	0	6	29	8	0	12	39	10	0	186	0	2	0	0
4:15 PM	5	6	5	0	13	21	11	0	6	38	9	0	13	58	18	0	203	0	3	3	0
4:20 PM	4	10	7	0	11	22	12	0	2	39	3	0	7	38	5	0	160	0	0	1	0
4:25 PM	4	10	2	0	12	19	5	0	5	28	6	0	12	38	7	0	148	1	2	0	0
4:30 PM	9	11	6	0	12	19	5	0	7	25	4	0	12	38	7	0	155	0	0	0	0
4:35 PM	6	19	3	0	3	17	6	0	5	32	5	0	6	56	12	0	170	0	0	0	0
4:40 PM	6	14	4	0	11	31	8	0	5	29	7	0	11	28	11	2	165	0	0	1	0
4:45 PM	3	5	4	0	16	18	6	0	7	35	10	0	4	61	12	0	181	0	1	1	0
4:50 PM	1	21	12	0	11	24	8	0	8	34	5	0	9	60	14	0	207	0	1	0	1
4:55 PM	8	19	9	0	12	18	10	0	8	34	5	0	4	44	20	0	191	0	2	0	2
5:00 PM	7	11	2	0	12	33	12	0	11	19	3	0	13	45	6	0	174	0	0	0	3
5:05 PM	5	12	2	0	10	24	12	1	4	35	9	0	18	78	15	0	224	1	0	0	1
5:10 PM	12	12	6	0	12	37	13	0	2	21	2	0	14	43	20	0	194	1	1	0	1
5:15 PM	8	11	6	0	9	25	12	0	7	38	9	0	10	59	12	0	206	0	1	1	0
5:20 PM	4	17	11	0	20	28	13	0	8	22	11	0	6	52	16	0	208	0	0	0	0
5:25 PM	4	5	7	0	10	16	3	2	9	39	10	0	11	48	10	0	172	0	1	0	0
5:30 PM	4	13	9	0	13	24	2	0	5	35	6	0	13	41	8	0	173	0	1	1	2
5:35 PM	6	21	3	0	9	22	4	0	4	38	6	0	12	69	19	0	213	0	2	0	0
5:40 PM	5	9	8	0	13	18	7	0	4	35	8	0	11	62	14	0	194	0	2	0	0
5:45 PM	9	5	2	0	10	14	10	0	3	36	10	0	12	56	11	0	178	0	0	0	0
5:50 PM	6	17	5	0	6	21	11	0	4	32	10	0	9	44	17	0	182	0	0	0	0
5:55 PM	10	6	11	0	11	28	10	0	4	29	8	0	7	38	9	0	171	0	1	0	0
Total Survey	146	284	145	0	275	540	216	3	131	777	173	1	249	1,179	298	2	4,413	4	20	9	14

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	20	30	21	0	39	61	36	0	13	104	27	1	35	123	35	0	544	1	2	1	4
4:15 PM	13	26	14	0	36	62	28	0	13	105	18	0	32	134	30	0	511	1	5	4	0
4:30 PM	21	44	13	0	26	67	19	0	17	86	16	0	29	122	30	2	490	0	0	1	0
4:45 PM	12	45	25	0	39	60	24	0	23	103	20	0	17	165	46	0	579	0	4	1	3
5:00 PM	24	35	10	0	34	94	37	1	17	75	14	0	45	166	41	0	592	2	1	0	5
5:15 PM	16	33	24	0	39	69	28	2	24	99	30	0	27	159	38	0	586	0	2	1	0
5:30 PM	15	43	20	0	35	64	13	0	13	108	20	0	36	172	41	0	580	0	5	1	2
5:45 PM	25	28	18	0	27	63	31	0	11	97	28	0	28	138	37	0	531	0	1	0	0
Total Survey	146	284	145	0	275	540	216	3	131	777	173	1	249	1,179	298	2	4,413	4	20	9	14

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	302	496	798	0	536	399	935	3	546	831	1,377	0	953	611	1,564	0	2,337	2	12	3	10
%HV	1.0%				1.5%				2.4%				1.3%				1.5%				
PHF	0.84				0.79				0.89				0.89				0.94				

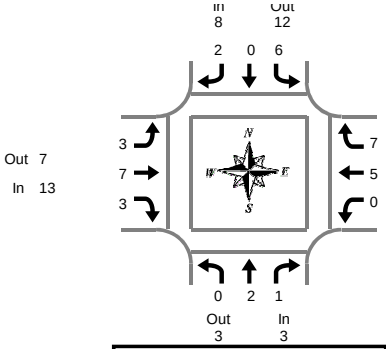
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	67	156	79	302	147	287	102	536	77	385	84	546	125	662	166	953	2,337
%HV	0.0%	1.3%	1.3%	1.0%	4.1%	0.0%	2.0%	1.5%	3.9%	1.8%	3.6%	2.4%	0.0%	0.8%	4.2%	1.3%	1.5%
PHF	0.67	0.76	0.73	0.84	0.85	0.76	0.67	0.79	0.71	0.86	0.70	0.89	0.69	0.92	0.86	0.89	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	66	145	73	0	140	250	107	0	66	398	81	1	113	544	141	2	2,124	2	11	7	7
4:15 PM	70	150	62	0	135	283	108	1	70	369	68	0	123	587	147	2	2,172	3	10	6	8
4:30 PM	73	157	72	0	138	290	108	3	81	363	80	0	118	612	155	2	2,247	2	7	3	8
4:45 PM	67	156	79	0	147	287	102	3	77	385	84	0	125	662	166	0	2,337	2	12	3	10
5:00 PM	80	139	72	0	135	290	109	3	65	379	92	0	136	635	157	0	2,289	2	9	2	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Warner Parrott Rd

Tuesday, April 04, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:45 PM to 5:45 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	1	2	3	0	0	1	1	4
4:05 PM	0	1	0	1	1	1	0	2	0	1	1	2	1	0	0	1	6
4:10 PM	0	0	0	0	0	1	1	2	0	1	0	1	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	2	3	4
4:20 PM	0	1	0	1	1	1	0	2	0	0	0	0	0	2	0	2	5
4:25 PM	0	0	0	0	1	1	0	2	0	0	1	1	0	0	0	0	3
4:30 PM	0	1	2	3	1	0	0	1	1	1	1	3	0	0	0	0	7
4:35 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
4:40 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	1	1	2	4
4:45 PM	0	0	1	1	0	0	1	1	0	0	1	1	0	0	0	0	3
4:50 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:55 PM	0	1	0	1	1	0	0	1	0	3	0	3	0	0	4	4	9
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	2
5:05 PM	0	0	0	0	1	0	0	1	1	1	0	2	0	1	0	1	4
5:10 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	1	0	1	3
5:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
5:20 PM	0	0	0	0	0	0	1	1	0	0	1	1	0	2	0	2	4
5:25 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	1	2	0	3	0	0	1	1	4
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	1	1	3
5:50 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:55 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Survey	0	6	3	9	12	4	3	19	4	15	9	28	1	10	12	23	79

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	1	2	1	4	0	3	3	6	1	0	1	2	13
4:15 PM	0	1	0	1	2	2	0	4	0	1	1	2	0	3	2	5	12
4:30 PM	0	2	2	4	2	0	0	2	1	2	1	4	0	2	1	3	13
4:45 PM	0	2	1	3	1	0	1	2	0	3	1	4	0	0	4	4	13
5:00 PM	0	0	0	0	3	0	0	3	2	1	0	3	0	2	1	3	9
5:15 PM	0	0	0	0	2	0	1	3	0	0	2	2	0	2	1	3	8
5:30 PM	0	0	0	0	0	0	0	0	1	3	0	4	0	1	1	2	6
5:45 PM	0	0	0	0	1	0	0	1	0	2	1	3	0	0	1	1	5
Total Survey	0	6	3	9	12	4	3	19	4	15	9	28	1	10	12	23	79

Heavy Vehicle Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Warner Parrott Rd			Westbound Warner Parrott Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	3	6	8	12	20	13	7	20	12	14	26	36
PHF	0.25			0.50			0.54			0.50			0.60

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	2	1	3	6	0	2	8	3	7	3	13	0	5	7	12	36
PHF	0.00	0.25	0.25	0.25	0.38	0.00	0.50	0.50	0.38	0.44	0.38	0.54	0.00	0.42	0.35	0.50	0.60

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Warner Parrott Rd				Westbound Warner Parrott Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	6	3	9	6	4	2	12	1	9	6	16	1	5	8	14	51
4:15 PM	0	5	3	8	8	2	1	11	3	7	3	13	0	7	8	15	47
4:30 PM	0	4	3	7	8	0	2	10	3	6	4	13	0	6	7	13	43
4:45 PM	0	2	1	3	6	0	2	8	3	7	3	13	0	5	7	12	36
5:00 PM	0	0	0	0	6	0	1	7	3	6	3	12	0	5	4	9	28

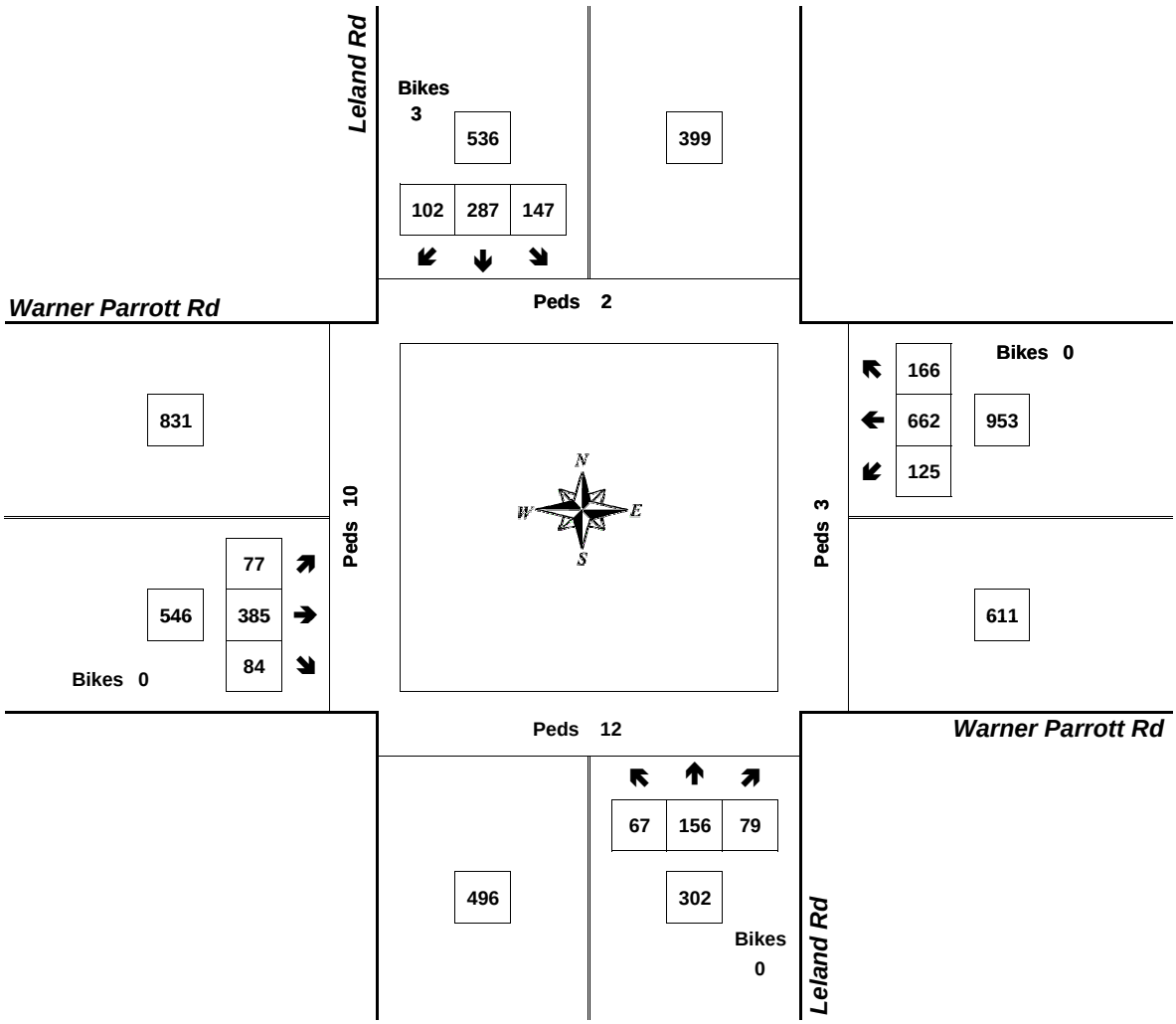
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Leland Rd & Warner Parrott Rd

4:45 PM to 5:45 PM
Tuesday, April 04, 2017



Approach	PHF	HV%	Volume
EB	0.89	2.4%	546
WB	0.89	1.3%	953
NB	0.84	1.0%	302
SB	0.79	1.5%	536
Intersection	0.94	1.5%	2,337

Count Period: 4:00 PM to 6:00 PM

TRIP GENERATION CALCULATIONS

Land Use:	**Single-Family Detached Housing**
Land Use Code:	210
Variable:	Dwelling Units
Variable Value:	77

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**15**	**43**	**58**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**49**	**28**	**77**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**367**	**367**	**734**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**382**	**382**	**764**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 84

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**16**	**47**	**63**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**53**	**31**	**84**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**400**	**400**	**800**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**416**	**416**	**832**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 73

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**14**	**41**	**55**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**46**	**27**	**73**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**347**	**347**	**694**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**362**	**362**	**724**

Source: TRIP GENERATION, Ninth Edition

LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.

LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

Intersection	
Int Delay, s/veh	1.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	19	21	132	2	7	81
Future Vol, veh/h	19	21	132	2	7	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	2	2	5	5
Mvmt Flow	24	26	165	3	9	101

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	285	166	0	0	168	0
Stage 1	166	-	-	-	-	-
Stage 2	119	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	710	884	-	-	1392	-
Stage 1	868	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	705	884	-	-	1392	-
Mov Cap-2 Maneuver	705	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	905	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.9	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	789	1392	-
HCM Lane V/C Ratio	-	-	0.063	0.006	-
HCM Control Delay (s)	-	-	9.9	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	0	5	0	0	2	2	155	0	4	85	43
Future Vol, veh/h	31	0	5	0	0	2	2	155	0	4	85	43
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	40	0	6	0	0	3	3	199	0	5	109	55

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	353	353	138	355	380	200	165	0	0	200	0	0
Stage 1	148	148	-	205	205	-	-	-	-	-	-	-
Stage 2	205	205	-	150	175	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	606	575	916	604	556	846	1419	-	-	1366	-	-
Stage 1	859	779	-	802	736	-	-	-	-	-	-	-
Stage 2	802	736	-	857	758	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	601	570	915	596	552	845	1419	-	-	1366	-	-
Mov Cap-2 Maneuver	601	570	-	596	552	-	-	-	-	-	-	-
Stage 1	856	775	-	800	734	-	-	-	-	-	-	-
Stage 2	798	734	-	848	754	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.2	9.3	0.1	0.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1419	-	-	845	631	1366	-	-
HCM Lane V/C Ratio	0.002	-	-	0.003	0.073	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9.3	11.2	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	9	3	10	1	20	0	187	2	8	122	3
Future Vol, veh/h	6	9	3	10	1	20	0	187	2	8	122	3
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	8	11	4	13	1	25	0	237	3	10	154	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	434	417	157	422	417	243	159	0	0	239	0	0
Stage 1	178	178	-	238	238	-	-	-	-	-	-	-
Stage 2	256	239	-	184	179	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	536	530	894	540	525	793	1427	-	-	1310	-	-
Stage 1	828	756	-	763	706	-	-	-	-	-	-	-
Stage 2	753	711	-	815	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	512	525	893	526	520	789	1427	-	-	1304	-	-
Mov Cap-2 Maneuver	512	525	-	526	520	-	-	-	-	-	-	-
Stage 1	827	749	-	763	706	-	-	-	-	-	-	-
Stage 2	724	711	-	793	742	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.7	10.7	0	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1427	-	-	670	559	1304	-	-
HCM Lane V/C Ratio	-	-	-	0.059	0.041	0.008	-	-
HCM Control Delay (s)	0	-	-	10.7	11.7	7.8	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

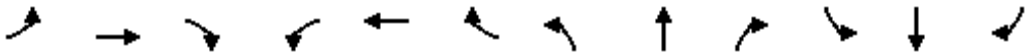
Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	358	6	90	191	43	297
Future Vol, veh/h	358	6	90	191	43	297
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	381	6	96	203	46	316

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	390	0	784	197
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	397	-
Critical Hdwy	-	-	4.19	-	7.315	6.915
Critical Hdwy Stg 1	-	-	-	-	6.515	-
Critical Hdwy Stg 2	-	-	-	-	6.115	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1142	-	298	815
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	630	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1142	-	278	813
Mov Cap-2 Maneuver	-	-	-	-	278	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	576	-

Approach	EB	WB	NE
HCM Control Delay, s	0	2.7	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	278	813	-	-	1142	-
HCM Lane V/C Ratio	0.165	0.389	-	-	0.084	-
HCM Control Delay (s)	20.5	12.2	-	-	8.4	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	1.9	-	-	0.3	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	388	54	32	183	76	73	317	85	111	113	56
Future Volume (vph)	147	388	54	32	183	76	73	317	85	111	113	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1815		1671	3151		1736	1750		1703	1681	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1815		1671	3151		1736	1750		1703	1681	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	158	417	58	34	197	82	78	341	91	119	122	60
RTOR Reduction (vph)	0	4	0	0	39	0	0	7	0	0	13	0
Lane Group Flow (vph)	158	471	0	34	240	0	78	425	0	119	169	0
Confl. Peds. (#/hr)	9		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.4	32.7		3.0	21.3		8.3	44.5		11.5	47.7	
Effective Green, g (s)	14.4	32.7		3.0	21.3		8.3	44.5		11.5	47.7	
Actuated g/C Ratio	0.13	0.30		0.03	0.19		0.08	0.41		0.10	0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	232	541		45	611		131	709		178	730	
v/s Ratio Prot	c0.09	c0.26		0.02	0.08		0.04	c0.24		c0.07	c0.10	
v/s Ratio Perm												
v/c Ratio	0.68	0.87		0.76	0.39		0.60	0.60		0.67	0.23	
Uniform Delay, d1	45.5	36.5		53.0	38.6		49.1	25.6		47.3	19.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.0	14.2		51.4	0.4		7.1	3.7		9.1	0.7	
Delay (s)	53.4	50.7		104.4	39.0		56.2	29.3		56.4	20.2	
Level of Service	D	D		F	D		E	C		E	C	
Approach Delay (s)		51.4			46.1			33.4			34.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	7	103	1	19	144
Future Vol, veh/h	1	7	103	1	19	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	8	123	1	23	171

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	340	123	0	0	124	0
Stage 1	123	-	-	-	-	-
Stage 2	217	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	660	933	-	-	1469	-
Stage 1	907	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	649	933	-	-	1469	-
Mov Cap-2 Maneuver	649	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.1	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	885	1469	-
HCM Lane V/C Ratio	-	-	0.011	0.015	-
HCM Control Delay (s)	-	-	9.1	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	0	2	0	1	0	2	115	0	0	174	25
Future Vol, veh/h	17	0	2	0	1	0	2	115	0	0	174	25
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	21	0	2	0	1	0	2	140	0	0	212	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	374	373	228	374	389	140	244	0	0	140	0	0
Stage 1	228	228	-	145	145	-	-	-	-	-	-	-
Stage 2	146	145	-	229	244	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	587	561	816	587	549	913	1328	-	-	1437	-	-
Stage 1	779	719	-	863	781	-	-	-	-	-	-	-
Stage 2	861	781	-	778	708	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	585	559	815	584	547	913	1328	-	-	1437	-	-
Mov Cap-2 Maneuver	585	559	-	584	547	-	-	-	-	-	-	-
Stage 1	777	718	-	861	779	-	-	-	-	-	-	-
Stage 2	858	779	-	776	707	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.2	11.6	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1328	-	-	547	603	1437	-	-
HCM Lane V/C Ratio	0.002	-	-	0.002	0.038	-	-	-
HCM Control Delay (s)	7.7	0	-	11.6	11.2	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	9	2	3	1	9	0	129	3	24	197	9
Future Vol, veh/h	5	9	2	3	1	9	0	129	3	24	197	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	6	11	2	4	1	11	0	152	4	28	232	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	453	450	237	455	454	155	242	0	0	156	0	0
Stage 1	294	294	-	155	155	-	-	-	-	-	-	-
Stage 2	159	156	-	300	299	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	520	508	807	519	505	896	1313	-	-	1430	-	-
Stage 1	719	673	-	852	773	-	-	-	-	-	-	-
Stage 2	848	772	-	713	670	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	504	496	807	500	493	895	1313	-	-	1430	-	-
Mov Cap-2 Maneuver	504	496	-	500	493	-	-	-	-	-	-	-
Stage 1	719	658	-	851	772	-	-	-	-	-	-	-
Stage 2	837	771	-	683	655	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.1	10.1	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1313	-	-	719	524	1430	-	-
HCM Lane V/C Ratio	-	-	-	0.021	0.036	0.02	-	-
HCM Control Delay (s)	0	-	-	10.1	12.1	7.6	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

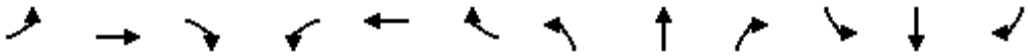
Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	342	26	399	430	18	202
Future Vol, veh/h	342	26	399	430	18	202
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	360	27	420	453	19	213

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	394	0	1676	201
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	1295	-
Critical Hdwy	-	-	4.115	-	7.345	6.945
Critical Hdwy Stg 1	-	-	-	-	6.545	-
Critical Hdwy Stg 2	-	-	-	-	6.145	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1169	-	68	804
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	197	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1169	-	49	799
Mov Cap-2 Maneuver	-	-	-	-	49	-
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	126	-

Approach	EB	WB	NE
HCM Control Delay, s	0	4.7	19.9
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	799	-	-	1169	-
HCM Lane V/C Ratio	0.387	0.266	-	-	0.359	-
HCM Control Delay (s)	118.9	11.1	-	-	9.8	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	1.4	1.1	-	-	1.7	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	394	86	125	662	166	67	156	79	147	287	102
Future Volume (vph)	78	394	86	125	662	166	67	156	79	147	287	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1798		1787	3450		1787	1770		1770	1776	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1798		1787	3450		1787	1770		1770	1776	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	419	91	133	704	177	71	166	84	156	305	109
RTOR Reduction (vph)	0	10	0	0	27	0	0	22	0	0	15	0
Lane Group Flow (vph)	83	500	0	133	854	0	71	228	0	156	399	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.3	24.6		7.5	26.8		4.4	22.5		8.5	26.6	
Effective Green, g (s)	5.3	24.6		7.5	26.8		4.4	22.5		8.5	26.6	
Actuated g/C Ratio	0.07	0.30		0.09	0.33		0.05	0.28		0.10	0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	545		165	1140		96	491		185	582	
v/s Ratio Prot	0.05	c0.28		c0.07	0.25		0.04	0.13		c0.09	c0.22	
v/s Ratio Perm												
v/c Ratio	0.72	0.92		0.81	0.75		0.74	0.46		0.84	0.68	
Uniform Delay, d1	37.2	27.3		36.1	24.2		37.8	24.3		35.6	23.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.9	20.4		24.1	2.7		25.5	3.1		27.9	6.4	
Delay (s)	57.1	47.6		60.2	26.9		63.2	27.4		63.5	30.0	
Level of Service	E	D		E	C		E	C		E	C	
Approach Delay (s)		49.0			31.3			35.3			39.2	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	81.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	22	137	2	7	84
Future Vol, veh/h	1	22	137	2	7	84
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	2	2	5	5
Mvmt Flow	1	28	171	3	9	105

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	296	174	0	0	174	0
Stage 1	173	-	-	-	-	-
Stage 2	123	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	699	875	-	-	1385	-
Stage 1	862	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	694	874	-	-	1384	-
Mov Cap-2 Maneuver	694	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.3	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	864	1384	-
HCM Lane V/C Ratio	-	-	0.033	0.006	-
HCM Control Delay (s)	-	-	9.3	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	0	5	2	2	20	2	161	0	7	88	45
Future Vol, veh/h	31	0	5	2	2	20	2	161	0	7	88	45
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	40	0	6	3	3	26	3	206	0	9	113	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	387	374	143	376	402	207	172	0	0	207	0	0
Stage 1	161	161	-	213	213	-	-	-	-	-	-	-
Stage 2	226	213	-	163	189	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	575	560	910	585	540	839	1411	-	-	1358	-	-
Stage 1	846	769	-	794	730	-	-	-	-	-	-	-
Stage 2	781	730	-	844	748	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	551	554	909	576	534	838	1411	-	-	1358	-	-
Mov Cap-2 Maneuver	551	554	-	576	534	-	-	-	-	-	-	-
Stage 1	844	763	-	792	728	-	-	-	-	-	-	-
Stage 2	753	728	-	832	742	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.7	9.9	0.1	0.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1411	-	-	772	583	1358	-	-
HCM Lane V/C Ratio	0.002	-	-	0.04	0.079	0.007	-	-
HCM Control Delay (s)	7.6	0	-	9.9	11.7	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	1	10	1	21	0	195	2	8	127	3
Future Vol, veh/h	5	0	1	10	1	21	0	195	2	8	127	3
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	6	0	1	13	1	27	0	247	3	10	161	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	451	433	164	432	434	253	166	0	0	249	0	0
Stage 1	184	184	-	248	248	-	-	-	-	-	-	-
Stage 2	267	249	-	184	186	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	522	519	886	532	514	783	1418	-	-	1299	-	-
Stage 1	822	751	-	754	699	-	-	-	-	-	-	-
Stage 2	743	704	-	815	744	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	497	514	885	528	509	779	1418	-	-	1293	-	-
Mov Cap-2 Maneuver	497	514	-	528	509	-	-	-	-	-	-	-
Stage 1	821	744	-	754	699	-	-	-	-	-	-	-
Stage 2	713	704	-	807	737	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	11.8	10.7	0	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1418	-	-	669	536	1293	-	-
HCM Lane V/C Ratio	-	-	-	0.061	0.014	0.008	-	-
HCM Control Delay (s)	0	-	-	10.7	11.8	7.8	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

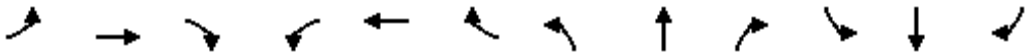
Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	361	10	120	199	45	298
Future Vol, veh/h	361	10	120	199	45	298
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	384	11	128	212	48	317

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	398	0	861	200
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	469	-
Critical Hdwy	-	-	4.19	-	6.615	6.915
Critical Hdwy Stg 1	-	-	-	-	5.815	-
Critical Hdwy Stg 2	-	-	-	-	5.415	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1134	-	312	811
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	631	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1134	-	275	809
Mov Cap-2 Maneuver	-	-	-	-	275	-
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	559	-

Approach	EB	WB	NE
HCM Control Delay, s	0	3.2	13.4
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	275	809	-	-	1134	-
HCM Lane V/C Ratio	0.174	0.392	-	-	0.113	-
HCM Control Delay (s)	20.8	12.3	-	-	8.6	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	1.9	-	-	0.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	394	54	35	190	79	76	330	88	115	118	58
Future Volume (vph)	152	394	54	35	190	79	76	330	88	115	118	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1818		1671	3158		1736	1753		1703	1686	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1818		1671	3158		1736	1753		1703	1686	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	163	424	58	38	204	85	82	355	95	124	127	62
RTOR Reduction (vph)	0	6	0	0	60	0	0	11	0	0	20	0
Lane Group Flow (vph)	163	476	0	38	229	0	82	439	0	124	169	0
Confl. Peds. (#/hr)	9		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.1	23.2		2.9	16.0		6.8	26.1		7.6	26.9	
Effective Green, g (s)	10.1	23.2		2.9	16.0		6.8	26.1		7.6	26.9	
Actuated g/C Ratio	0.13	0.30		0.04	0.21		0.09	0.34		0.10	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	542		62	649		151	588		166	582	
v/s Ratio Prot	c0.09	c0.26		0.02	0.07		0.05	c0.25		c0.07	0.10	
v/s Ratio Perm												
v/c Ratio	0.71	0.88		0.61	0.35		0.54	0.75		0.75	0.29	
Uniform Delay, d1	32.5	26.0		36.9	26.5		34.0	22.9		34.2	18.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.0	14.9		16.6	0.3		3.9	8.4		16.6	1.3	
Delay (s)	42.4	40.8		53.5	26.8		38.0	31.3		50.8	19.8	
Level of Service	D	D		D	C		D	C		D	B	
Approach Delay (s)		41.2			29.9			32.3			32.1	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	77.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	7	107	1	20	150
Future Vol, veh/h	1	7	107	1	20	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	9	134	1	25	188

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	372	134	0	0	135	0
Stage 1	134	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	633	920	-	-	1456	-
Stage 1	897	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	621	920	-	-	1456	-
Mov Cap-2 Maneuver	621	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	791	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.2	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	868	1456	-
HCM Lane V/C Ratio	-	-	0.012	0.017	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	1.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	1	2	1	1	12	2	120	1	23	181	26
Future Vol, veh/h	18	1	2	1	1	12	2	120	1	23	181	26
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	22	1	2	1	1	15	2	146	1	28	221	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	454	446	238	447	462	147	253	0	0	148	0	0
Stage 1	294	294	-	152	152	-	-	-	-	-	-	-
Stage 2	160	152	-	295	310	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	520	510	806	525	500	905	1318	-	-	1427	-	-
Stage 1	719	673	-	855	775	-	-	-	-	-	-	-
Stage 2	847	775	-	718	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	500	497	805	512	487	905	1318	-	-	1427	-	-
Mov Cap-2 Maneuver	500	497	-	512	487	-	-	-	-	-	-	-
Stage 1	717	657	-	853	773	-	-	-	-	-	-	-
Stage 2	830	773	-	698	647	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.3	9.5	0.1	0.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1318	-	-	811	519	1427	-	-
HCM Lane V/C Ratio	0.002	-	-	0.021	0.049	0.02	-	-
HCM Control Delay (s)	7.7	0	-	9.5	12.3	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	0	3	1	9	0	134	3	25	205	9
Future Vol, veh/h	4	0	0	3	1	9	0	134	3	25	205	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	5	0	0	4	1	11	0	158	4	29	241	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	470	467	246	465	471	160	252	0	0	162	0	0
Stage 1	305	305	-	160	160	-	-	-	-	-	-	-
Stage 2	165	162	-	305	311	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	507	496	798	511	494	890	1302	-	-	1423	-	-
Stage 1	709	666	-	847	769	-	-	-	-	-	-	-
Stage 2	842	768	-	709	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	491	484	798	501	482	889	1302	-	-	1423	-	-
Mov Cap-2 Maneuver	491	484	-	501	482	-	-	-	-	-	-	-
Stage 1	709	650	-	846	768	-	-	-	-	-	-	-
Stage 2	831	767	-	692	646	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.4	10.1	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1302	-	-	715	491	1423	-	-
HCM Lane V/C Ratio	-	-	-	0.021	0.01	0.021	-	-
HCM Control Delay (s)	0	-	-	10.1	12.4	7.6	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	-	-

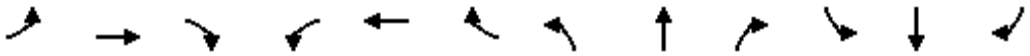
Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	356	32	410	440	19	215
Future Vol, veh/h	356	32	410	440	19	215
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	375	34	432	463	20	226

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	415	0	1727	211
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	1328	-
Critical Hdwy	-	-	4.115	-	6.645	6.945
Critical Hdwy Stg 1	-	-	-	-	5.845	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1148	-	87	792
Stage 1	-	-	-	-	645	-
Stage 2	-	-	-	-	245	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1148	-	54	787
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	153	-

Approach	EB	WB	NE
HCM Control Delay, s	0	4.8	19.1
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	54	787	-	-	1148	-
HCM Lane V/C Ratio	0.37	0.288	-	-	0.376	-
HCM Control Delay (s)	106.6	11.4	-	-	10	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	1.3	1.2	-	-	1.8	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	401	90	130	689	173	76	162	86	153	299	106
Future Volume (vph)	80	401	90	130	689	173	76	162	86	153	299	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1795		1787	3449		1787	1767		1770	1776	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1795		1787	3449		1787	1767		1770	1776	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	427	96	138	733	184	81	172	91	163	318	113
RTOR Reduction (vph)	0	9	0	0	24	0	0	21	0	0	13	0
Lane Group Flow (vph)	85	514	0	138	893	0	81	242	0	163	418	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.7	28.1		9.2	31.6		5.1	23.3		11.1	29.3	
Effective Green, g (s)	5.7	28.1		9.2	31.6		5.1	23.3		11.1	29.3	
Actuated g/C Ratio	0.06	0.31		0.10	0.35		0.06	0.26		0.12	0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	112	562		183	1215		101	458		219	580	
v/s Ratio Prot	0.05	c0.29		c0.08	c0.26		0.05	0.14		c0.09	c0.24	
v/s Ratio Perm												
v/c Ratio	0.76	0.91		0.75	0.74		0.80	0.53		0.74	0.72	
Uniform Delay, d1	41.3	29.6		39.1	25.4		41.8	28.5		37.9	26.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.1	19.5		16.1	2.3		35.2	4.3		12.8	7.5	
Delay (s)	66.4	49.1		55.2	27.7		77.0	32.8		50.8	34.1	
Level of Service	E	D		E	C		E	C		D	C	
Approach Delay (s)		51.6			31.3			43.2			38.7	
Approach LOS		D			C			D			D	

Intersection Summary					
HCM 2000 Control Delay	39.3	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.82				
Actuated Cycle Length (s)	89.7	Sum of lost time (s)	18.0		
Intersection Capacity Utilization	75.7%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Intersection	
Int Delay, s/veh	1.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	23	137	2	9	84
Future Vol, veh/h	1	23	137	2	9	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	25	149	2	10	91

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	261	150	0	0	151	0
Stage 1	150	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	728	896	-	-	1430	-
Stage 1	878	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	723	896	-	-	1430	-
Mov Cap-2 Maneuver	723	-	-	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.2	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	887	1430	-
HCM Lane V/C Ratio	-	-	0.029	0.007	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	3	5	2	4	40	2	162	0	11	95	45
Future Vol, veh/h	31	3	5	2	4	40	2	162	0	11	95	45
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	40	4	6	3	5	51	3	208	0	14	122	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	421	394	152	398	423	209	180	0	0	209	0	0
Stage 1	180	180	-	214	214	-	-	-	-	-	-	-
Stage 2	241	214	-	184	209	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	546	546	900	566	526	836	1402	-	-	1356	-	-
Stage 1	826	754	-	793	729	-	-	-	-	-	-	-
Stage 2	767	729	-	822	733	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	503	537	899	552	518	835	1402	-	-	1356	-	-
Mov Cap-2 Maneuver	503	537	-	552	518	-	-	-	-	-	-	-
Stage 1	824	744	-	791	727	-	-	-	-	-	-	-
Stage 2	713	727	-	802	724	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.4	10	0.1	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1402	-	-	776	536	1356	-	-
HCM Lane V/C Ratio	0.002	-	-	0.076	0.093	0.01	-	-
HCM Control Delay (s)	7.6	0	-	10	12.4	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	1	10	1	39	0	216	2	13	136	3
Future Vol, veh/h	5	0	1	10	1	39	0	216	2	13	136	3
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	6	0	1	13	1	49	0	273	3	16	172	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	513	484	175	483	485	280	177	0	0	276	0	0
Stage 1	208	208	-	275	275	-	-	-	-	-	-	-
Stage 2	305	276	-	208	210	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	475	486	874	492	481	756	1405	-	-	1270	-	-
Stage 1	799	734	-	729	681	-	-	-	-	-	-	-
Stage 2	709	685	-	792	727	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	436	479	873	486	474	752	1405	-	-	1264	-	-
Mov Cap-2 Maneuver	436	479	-	486	474	-	-	-	-	-	-	-
Stage 1	798	723	-	729	681	-	-	-	-	-	-	-
Stage 2	658	685	-	780	716	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.7	10.9	0	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1405	-	-	671	476	1264	-	-
HCM Lane V/C Ratio	-	-	-	0.094	0.016	0.013	-	-
HCM Control Delay (s)	0	-	-	10.9	12.7	7.9	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-

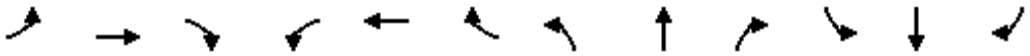
Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	361	11	127	199	47	316
Future Vol, veh/h	361	11	127	199	47	316
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	384	12	135	212	50	336

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	399	0	877	201
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	484	-
Critical Hdwy	-	-	4.19	-	6.615	6.915
Critical Hdwy Stg 1	-	-	-	-	5.815	-
Critical Hdwy Stg 2	-	-	-	-	5.415	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1133	-	305	810
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	621	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1133	-	267	808
Mov Cap-2 Maneuver	-	-	-	-	267	-
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	546	-

Approach	EB	WB	NE
HCM Control Delay, s	0	3.4	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	267	808	-	-	1133	-
HCM Lane V/C Ratio	0.187	0.416	-	-	0.119	-
HCM Control Delay (s)	21.6	12.6	-	-	8.6	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	2.1	-	-	0.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	404	54	35	194	79	76	330	88	115	118	61
Future Volume (vph)	160	404	54	35	194	79	76	330	88	115	118	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1819		1671	3161		1736	1753		1703	1681	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1819		1671	3161		1736	1753		1703	1681	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	172	434	58	38	209	85	82	355	95	124	127	66
RTOR Reduction (vph)	0	6	0	0	57	0	0	11	0	0	22	0
Lane Group Flow (vph)	172	486	0	38	237	0	82	439	0	124	171	0
Confl. Peds. (#/hr)	3		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.5	23.4		2.9	15.8		6.8	26.0		7.6	26.8	
Effective Green, g (s)	10.5	23.4		2.9	15.8		6.8	26.0		7.6	26.8	
Actuated g/C Ratio	0.13	0.30		0.04	0.20		0.09	0.33		0.10	0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	238	546		62	641		151	585		166	578	
v/s Ratio Prot	c0.10	c0.27		0.02	0.08		0.05	c0.25		c0.07	0.10	
v/s Ratio Perm												
v/c Ratio	0.72	0.89		0.61	0.37		0.54	0.75		0.75	0.30	
Uniform Delay, d1	32.3	26.0		36.9	26.8		34.1	23.1		34.2	18.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.3	16.2		16.6	0.4		3.9	8.6		16.6	1.3	
Delay (s)	42.6	42.2		53.6	27.1		38.0	31.6		50.9	20.0	
Level of Service	D	D		D	C		D	C		D	B	
Approach Delay (s)		42.3			30.2			32.6			32.1	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.9

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	9	107	1	22	150
Future Vol, veh/h	1	9	107	1	22	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	11	127	1	26	179

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	359	128	0	0	129	0
Stage 1	128	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Critical Hdwy	7.1	6.2	-	-	4.11	-
Critical Hdwy Stg 1	6.1	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	600	927	-	-	1463	-
Stage 1	881	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	591	927	-	-	1463	-
Mov Cap-2 Maneuver	591	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	760	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.2	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	877	1463	-
HCM Lane V/C Ratio	-	-	0.014	0.018	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	2.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	4	2	1	2	30	2	122	1	49	183	26
Future Vol, veh/h	18	4	2	1	2	30	2	122	1	49	183	26
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	22	5	2	1	2	37	2	149	1	60	223	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	534	515	240	516	529	149	256	0	0	150	0	0
Stage 1	360	360	-	154	154	-	-	-	-	-	-	-
Stage 2	174	155	-	362	375	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	460	466	804	473	458	903	1315	-	-	1425	-	-
Stage 1	662	630	-	853	774	-	-	-	-	-	-	-
Stage 2	833	773	-	661	621	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	422	442	803	449	434	903	1315	-	-	1425	-	-
Mov Cap-2 Maneuver	422	442	-	449	434	-	-	-	-	-	-	-
Stage 1	660	599	-	851	772	-	-	-	-	-	-	-
Stage 2	795	771	-	622	590	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.7	9.6	0.1	1.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1315	-	-	824	443	1425	-	-
HCM Lane V/C Ratio	0.002	-	-	0.049	0.066	0.042	-	-
HCM Control Delay (s)	7.7	0	-	9.6	13.7	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	0	3	1	14	1	159	10	40	233	9
Future Vol, veh/h	4	0	0	3	1	14	1	159	10	40	233	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	5	0	0	4	1	16	1	187	12	47	274	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	578	576	279	570	575	194	285	0	0	200	0	0
Stage 1	374	374	-	196	196	-	-	-	-	-	-	-
Stage 2	204	202	-	374	379	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	430	431	765	435	431	853	1266	-	-	1378	-	-
Stage 1	651	621	-	810	742	-	-	-	-	-	-	-
Stage 2	803	738	-	651	618	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	407	413	765	421	413	852	1266	-	-	1378	-	-
Mov Cap-2 Maneuver	407	413	-	421	413	-	-	-	-	-	-	-
Stage 1	650	596	-	808	741	-	-	-	-	-	-	-
Stage 2	785	737	-	624	593	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.9	10.4	0	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1266	-	-	693	407	1378	-	-
HCM Lane V/C Ratio	0.001	-	-	0.031	0.012	0.034	-	-
HCM Control Delay (s)	7.8	0	-	10.4	13.9	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	-	-

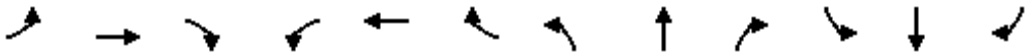
Intersection	
Int Delay, s/veh	6.4

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	356	35	430	440	21	226
Future Vol, veh/h	356	35	430	440	21	226
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	375	37	453	463	22	238

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	419	0	1770	213
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	1370	-
Critical Hdwy	-	-	4.115	-	6.645	6.945
Critical Hdwy Stg 1	-	-	-	-	5.845	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1145	-	82	790
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	233	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1145	-	49	785
Mov Cap-2 Maneuver	-	-	-	-	49	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	141	-

Approach	EB	WB	NE
HCM Control Delay, s	0	5	21.6
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	785	-	-	1145	-
HCM Lane V/C Ratio	0.451	0.303	-	-	0.395	-
HCM Control Delay (s)	128.7	11.6	-	-	10.2	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	1.7	1.3	-	-	1.9	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	407	90	130	700	173	76	162	86	153	299	115
Future Volume (vph)	85	407	90	130	700	173	76	162	86	153	299	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1796		1787	3451		1787	1767		1770	1771	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1796		1787	3451		1787	1767		1770	1771	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	433	96	138	745	184	81	172	91	163	318	122
RTOR Reduction (vph)	0	9	0	0	23	0	0	21	0	0	15	0
Lane Group Flow (vph)	90	520	0	138	906	0	81	242	0	163	425	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.9	27.9		8.5	30.5		4.3	25.0		11.2	31.9	
Effective Green, g (s)	5.9	27.9		8.5	30.5		4.3	25.0		11.2	31.9	
Actuated g/C Ratio	0.07	0.31		0.09	0.34		0.05	0.28		0.12	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	553		167	1161		84	487		218	623	
v/s Ratio Prot	0.05	c0.29		c0.08	c0.26		0.05	0.14		c0.09	c0.24	
v/s Ratio Perm												
v/c Ratio	0.78	0.94		0.83	0.78		0.96	0.50		0.75	0.68	
Uniform Delay, d1	41.7	30.5		40.3	27.0		43.1	27.5		38.3	25.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	28.5	24.3		27.1	3.5		85.6	3.6		13.1	6.0	
Delay (s)	70.2	54.9		67.4	30.5		128.7	31.1		51.4	31.0	
Level of Service	E	D		E	C		F	C		D	C	
Approach Delay (s)		57.1			35.3			54.1			36.5	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	30	189	3	10	116
Future Vol, veh/h	1	30	189	3	10	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	38	236	4	13	145

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	408	238	0	0	240	0
Stage 1	238	-	-	-	-	-
Stage 2	170	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	599	801	-	-	1327	-
Stage 1	802	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	592	801	-	-	1327	-
Mov Cap-2 Maneuver	592	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	851	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.8	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	792	1327	-
HCM Lane V/C Ratio	-	-	0.049	0.009	-
HCM Control Delay (s)	-	-	9.8	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	43	0	7	3	3	29	3	222	0	6	122	62
Future Vol, veh/h	43	0	7	3	3	29	3	222	0	6	122	62
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	55	0	9	4	4	37	4	285	0	8	156	79

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	526	506	197	509	545	286	237	0	0	286	0	0
Stage 1	213	213	-	293	293	-	-	-	-	-	-	-
Stage 2	313	293	-	216	252	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	466	472	849	478	449	758	1336	-	-	1270	-	-
Stage 1	794	730	-	719	674	-	-	-	-	-	-	-
Stage 2	702	674	-	791	702	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	436	466	848	469	443	757	1336	-	-	1270	-	-
Mov Cap-2 Maneuver	436	466	-	469	443	-	-	-	-	-	-	-
Stage 1	790	724	-	715	671	-	-	-	-	-	-	-
Stage 2	661	671	-	777	696	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.9	10.7	0.1	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1336	-	-	680	468	1270	-	-
HCM Lane V/C Ratio	0.003	-	-	0.066	0.137	0.006	-	-
HCM Control Delay (s)	7.7	0	-	10.7	13.9	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.5	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	1	14	1	29	0	268	3	11	175	4
Future Vol, veh/h	7	0	1	14	1	29	0	268	3	11	175	4
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	9	0	1	18	1	37	0	339	4	14	222	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	618	596	225	594	596	346	228	0	0	343	0	0
Stage 1	253	253	-	341	341	-	-	-	-	-	-	-
Stage 2	365	343	-	253	255	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	404	420	819	415	416	695	1346	-	-	1199	-	-
Stage 1	756	701	-	672	637	-	-	-	-	-	-	-
Stage 2	658	641	-	749	695	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	376	414	818	410	410	692	1346	-	-	1193	-	-
Mov Cap-2 Maneuver	376	414	-	410	410	-	-	-	-	-	-	-
Stage 1	755	691	-	672	637	-	-	-	-	-	-	-
Stage 2	619	641	-	738	685	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	14.2	12.1	0	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1346	-	-	561	403	1193	-	-
HCM Lane V/C Ratio	-	-	-	0.099	0.025	0.012	-	-
HCM Control Delay (s)	0	-	-	12.1	14.2	8.1	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

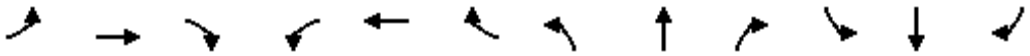
Intersection	
Int Delay, s/veh	7.4

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	497	9	129	274	62	410
Future Vol, veh/h	497	9	129	274	62	410
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	529	10	137	291	66	436

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	541	0	1105	272
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	568	-
Critical Hdwy	-	-	4.19	-	6.615	6.915
Critical Hdwy Stg 1	-	-	-	-	5.815	-
Critical Hdwy Stg 2	-	-	-	-	5.415	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1002	-	220	729
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1002	-	189	727
Mov Cap-2 Maneuver	-	-	-	-	189	-
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	489	-

Approach	EB	WB	NE
HCM Control Delay, s	0	2.9	19.3
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	189	727	-	-	1002	-
HCM Lane V/C Ratio	0.349	0.6	-	-	0.137	-
HCM Control Delay (s)	33.9	17.1	-	-	9.2	-
HCM Lane LOS	D	C	-	-	A	-
HCM 95th %tile Q(veh)	1.5	4	-	-	0.5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	543	75	46	262	109	105	454	122	159	162	80
Future Volume (vph)	209	543	75	46	262	109	105	454	122	159	162	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1814		1671	3150		1736	1749		1703	1679	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1814		1671	3150		1736	1749		1703	1679	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	225	584	81	49	282	117	113	488	131	171	174	86
RTOR Reduction (vph)	0	4	0	0	36	0	0	8	0	0	14	0
Lane Group Flow (vph)	225	661	0	49	363	0	113	611	0	171	246	0
Confl. Peds. (#/hr)	9		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	19.8	42.1		4.2	26.5		12.5	41.8		12.9	42.2	
Effective Green, g (s)	19.8	42.1		4.2	26.5		12.5	41.8		12.9	42.2	
Actuated g/C Ratio	0.17	0.35		0.04	0.22		0.11	0.35		0.11	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	294	641		58	701		182	614		184	595	
v/s Ratio Prot	c0.13	c0.36		0.03	0.12		0.07	c0.35		c0.10	0.15	
v/s Ratio Perm												
v/c Ratio	0.77	1.03		0.84	0.52		0.62	1.00		0.93	0.41	
Uniform Delay, d1	47.4	38.5		57.1	40.6		51.0	38.5		52.6	29.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.3	43.8		65.1	0.6		6.4	35.2		45.9	2.1	
Delay (s)	58.6	82.3		122.1	41.3		57.4	73.7		98.5	31.1	
Level of Service	E	F		F	D		E	E		F	C	
Approach Delay (s)		76.3			50.1			71.2			57.9	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	67.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	10	148	1	27	206
Future Vol, veh/h	1	10	148	1	27	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	12	176	1	32	245

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	487	177	0	0	177	0
Stage 1	177	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	543	871	-	-	1405	-
Stage 1	859	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	529	871	-	-	1405	-
Mov Cap-2 Maneuver	529	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	729	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.4	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	823	1405	-
HCM Lane V/C Ratio	-	-	0.016	0.023	-
HCM Control Delay (s)	-	-	9.4	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	0	3	0	1	0	3	165	0	0	249	36
Future Vol, veh/h	24	0	3	0	1	0	3	165	0	0	249	36
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	29	0	4	0	1	0	4	201	0	0	304	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	536	536	327	536	558	201	349	0	0	201	0	0
Stage 1	327	327	-	209	209	-	-	-	-	-	-	-
Stage 2	209	209	-	327	349	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	459	454	719	459	441	845	1215	-	-	1365	-	-
Stage 1	690	651	-	798	733	-	-	-	-	-	-	-
Stage 2	798	733	-	690	637	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	456	452	718	455	439	845	1215	-	-	1365	-	-
Mov Cap-2 Maneuver	456	452	-	455	439	-	-	-	-	-	-	-
Stage 1	687	650	-	795	730	-	-	-	-	-	-	-
Stage 2	793	730	-	686	636	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.1	13.2	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1215	-	-	439	475	1365	-	-
HCM Lane V/C Ratio	0.003	-	-	0.003	0.069	-	-	-
HCM Control Delay (s)	8	0	-	13.2	13.1	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	6	0	0	4	1	13	0	185	4	34	282	13
Future Vol, veh/h	6	0	0	4	1	13	0	185	4	34	282	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	7	0	0	5	1	15	0	218	5	40	332	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	647	642	339	640	648	221	347	0	0	223	0	0
Stage 1	419	419	-	221	221	-	-	-	-	-	-	-
Stage 2	228	223	-	419	427	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	387	395	708	391	392	824	1201	-	-	1352	-	-
Stage 1	616	593	-	786	724	-	-	-	-	-	-	-
Stage 2	779	723	-	616	589	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	368	380	708	380	377	823	1201	-	-	1352	-	-
Mov Cap-2 Maneuver	368	380	-	380	377	-	-	-	-	-	-	-
Stage 1	616	571	-	785	723	-	-	-	-	-	-	-
Stage 2	763	722	-	593	567	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	15	11	0	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1201	-	-	621	368	1352	-	-
HCM Lane V/C Ratio	-	-	-	0.034	0.019	0.03	-	-
HCM Control Delay (s)	0	-	-	11	15	7.7	0	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	18.7

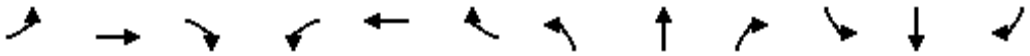
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	490	37	565	606	26	290
Future Vol, veh/h	490	37	565	606	26	290
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	516	39	595	638	27	305

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	562	0	2371	284
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	1829	-
Critical Hdwy	-	-	4.115	-	6.645	6.945
Critical Hdwy Stg 1	-	-	-	-	5.845	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1013	-	33	711
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	138	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1013	-	~ 14	706
Mov Cap-2 Maneuver	-	-	-	-	~ 14	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	57	-

Approach	EB	WB	NE
HCM Control Delay, s	0	6.5	94.9
HCM LOS			F

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	14	706	-	-	1013	-
HCM Lane V/C Ratio	1.955	0.432	-	-	0.587	-
HCM Control Delay (s)	$ 998.9	13.9	-	-	13.5	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	4.1	2.2	-	-	4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	552	120	179	949	238	96	224	113	211	411	146
Future Volume (vph)	110	552	120	179	949	238	96	224	113	211	411	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1794		1787	3448		1787	1769		1770	1774	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1794		1787	3448		1787	1769		1770	1774	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	112	563	122	183	968	243	98	229	115	215	419	149
RTOR Reduction (vph)	0	6	0	0	18	0	0	15	0	0	11	0
Lane Group Flow (vph)	112	679	0	183	1193	0	98	329	0	215	557	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.3	43.5		13.0	47.2		7.5	29.2		16.3	38.0	
Effective Green, g (s)	9.3	43.5		13.0	47.2		7.5	29.2		16.3	38.0	
Actuated g/C Ratio	0.08	0.36		0.11	0.39		0.06	0.24		0.14	0.32	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	137	650		193	1356		111	430		240	561	
v/s Ratio Prot	0.06	c0.38		c0.10	c0.35		0.05	0.19		c0.12	c0.31	
v/s Ratio Perm												
v/c Ratio	0.82	1.04		0.95	0.88		0.88	0.76		0.90	0.99	
Uniform Delay, d1	54.5	38.2		53.2	33.8		55.8	42.2		51.0	40.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	30.0	47.3		49.4	6.8		50.5	12.2		31.7	36.3	
Delay (s)	84.5	85.6		102.6	40.6		106.3	54.4		82.7	77.2	
Level of Service	F	F		F	D		F	D		F	E	
Approach Delay (s)		85.4			48.7			65.9			78.7	
Approach LOS		F			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	66.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	30	189	3	10	116
Future Vol, veh/h	1	30	189	3	10	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	33	205	3	11	126

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	355	207	0	0	209	0
Stage 1	207	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	643	833	-	-	1362	-
Stage 1	828	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	637	833	-	-	1362	-
Mov Cap-2 Maneuver	637	-	-	-	-	-
Stage 1	828	-	-	-	-	-
Stage 2	872	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.5	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	825	1362	-
HCM Lane V/C Ratio	-	-	0.041	0.008	-
HCM Control Delay (s)	-	-	9.5	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	43	0	7	3	4	34	3	222	0	8	122	62
Future Vol, veh/h	43	0	7	3	4	34	3	222	0	8	122	62
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	55	0	9	4	5	44	4	285	0	10	156	79

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	535	511	197	514	550	286	237	0	0	286	0	0
Stage 1	218	218	-	293	293	-	-	-	-	-	-	-
Stage 2	317	293	-	221	257	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	459	469	849	474	446	758	1336	-	-	1270	-	-
Stage 1	789	726	-	719	674	-	-	-	-	-	-	-
Stage 2	698	674	-	786	699	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	424	462	848	464	439	757	1336	-	-	1270	-	-
Mov Cap-2 Maneuver	424	462	-	464	439	-	-	-	-	-	-	-
Stage 1	785	719	-	715	671	-	-	-	-	-	-	-
Stage 2	650	671	-	771	692	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	14.2	10.8	0.1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1336	-	-	678	456	1270	-	-
HCM Lane V/C Ratio	0.003	-	-	0.078	0.141	0.008	-	-
HCM Control Delay (s)	7.7	0	-	10.8	14.2	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.5	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	1	14	1	31	0	273	3	11	177	4
Future Vol, veh/h	7	0	1	14	1	31	0	273	3	11	177	4
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	5	5	5
Mvmt Flow	9	0	1	18	1	39	0	346	4	14	224	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	628	604	228	602	605	352	230	0	0	349	0	0
Stage 1	255	255	-	347	347	-	-	-	-	-	-	-
Stage 2	373	349	-	255	258	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.245	-	-
Pot Cap-1 Maneuver	398	415	816	410	411	689	1344	-	-	1193	-	-
Stage 1	754	700	-	667	633	-	-	-	-	-	-	-
Stage 2	652	637	-	747	692	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	368	409	815	405	405	686	1344	-	-	1187	-	-
Mov Cap-2 Maneuver	368	409	-	405	405	-	-	-	-	-	-	-
Stage 1	753	690	-	667	633	-	-	-	-	-	-	-
Stage 2	611	637	-	735	682	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	14.4	12.2	0	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1344	-	-	559	395	1187	-	-
HCM Lane V/C Ratio	-	-	-	0.104	0.026	0.012	-	-
HCM Control Delay (s)	0	-	-	12.2	14.4	8.1	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

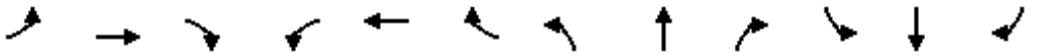
Intersection	
Int Delay, s/veh	7.5

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	497	9	130	274	62	414
Future Vol, veh/h	497	9	130	274	62	414
Conflicting Peds, #/hr	0	3	3	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	6	6	1	1
Mvmt Flow	529	10	138	291	66	440

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	541	0	1107	272
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	570	-
Critical Hdwy	-	-	4.19	-	6.615	6.915
Critical Hdwy Stg 1	-	-	-	-	5.815	-
Critical Hdwy Stg 2	-	-	-	-	5.415	-
Follow-up Hdwy	-	-	2.257	-	3.5095	3.3095
Pot Cap-1 Maneuver	-	-	1002	-	219	729
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	567	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1002	-	188	727
Mov Cap-2 Maneuver	-	-	-	-	188	-
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	488	-

Approach	EB	WB	NE
HCM Control Delay, s	0	2.9	19.5
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	188	727	-	-	1002	-
HCM Lane V/C Ratio	0.351	0.606	-	-	0.138	-
HCM Control Delay (s)	34.2	17.3	-	-	9.2	-
HCM Lane LOS	D	C	-	-	A	-
HCM 95th %tile Q(veh)	1.5	4.1	-	-	0.5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	545	75	46	263	109	105	454	122	159	162	80
Future Volume (vph)	211	545	75	46	263	109	105	454	122	159	162	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1814		1671	3150		1736	1749		1703	1679	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1814		1671	3150		1736	1749		1703	1679	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	227	586	81	49	283	117	113	488	131	171	174	86
RTOR Reduction (vph)	0	4	0	0	36	0	0	8	0	0	14	0
Lane Group Flow (vph)	227	663	0	49	364	0	113	611	0	171	246	0
Confl. Peds. (#/hr)	9		14	14		9	16		10	10		16
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	4%	4%	4%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	19.9	42.1		4.2	26.4		12.5	41.8		12.9	42.2	
Effective Green, g (s)	19.9	42.1		4.2	26.4		12.5	41.8		12.9	42.2	
Actuated g/C Ratio	0.17	0.35		0.04	0.22		0.11	0.35		0.11	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	641		58	698		182	614		184	595	
v/s Ratio Prot	c0.13	c0.37		0.03	0.12		0.07	c0.35		c0.10	0.15	
v/s Ratio Perm												
v/c Ratio	0.77	1.03		0.84	0.52		0.62	1.00		0.93	0.41	
Uniform Delay, d1	47.4	38.5		57.1	40.7		51.0	38.5		52.6	29.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.4	44.7		65.1	0.7		6.4	35.2		45.9	2.1	
Delay (s)	58.8	83.2		122.1	41.5		57.4	73.7		98.5	31.1	
Level of Service	E	F		F	D		E	E		F	C	
Approach Delay (s)		77.0			50.3			71.2			57.9	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	67.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	10	148	1	27	206
Future Vol, veh/h	1	10	148	1	27	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	5	5	1	1
Mvmt Flow	1	12	176	1	32	245

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	487	177	0	0	177	0
Stage 1	177	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	543	871	-	-	1405	-
Stage 1	859	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	529	871	-	-	1405	-
Mov Cap-2 Maneuver	529	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	729	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.4	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	823	1405	-
HCM Lane V/C Ratio	-	-	0.016	0.023	-
HCM Control Delay (s)	-	-	9.4	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	1	3	0	1	3	3	165	0	4	249	36
Future Vol, veh/h	24	1	3	0	1	3	3	165	0	4	249	36
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	3	3	3
Mvmt Flow	29	1	4	0	1	4	4	201	0	5	304	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	547	545	327	547	567	201	349	0	0	201	0	0
Stage 1	336	336	-	209	209	-	-	-	-	-	-	-
Stage 2	211	209	-	338	358	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	451	449	719	451	436	845	1215	-	-	1365	-	-
Stage 1	682	645	-	798	733	-	-	-	-	-	-	-
Stage 2	796	733	-	681	631	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	445	445	718	445	432	845	1215	-	-	1365	-	-
Mov Cap-2 Maneuver	445	445	-	445	432	-	-	-	-	-	-	-
Stage 1	679	641	-	795	730	-	-	-	-	-	-	-
Stage 2	788	730	-	673	627	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.4	10.3	0.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1215	-	-	682	464	1365	-	-
HCM Lane V/C Ratio	0.003	-	-	0.007	0.074	0.004	-	-
HCM Control Delay (s)	8	0	-	10.3	13.4	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	0	4	1	14	1	188	4	38	286	13
Future Vol, veh/h	6	0	0	4	1	14	1	188	4	38	286	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	7	0	0	5	1	16	1	221	5	45	336	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	669	663	344	661	668	225	352	0	0	227	0	0
Stage 1	434	434	-	227	227	-	-	-	-	-	-	-
Stage 2	235	229	-	434	441	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	374	384	703	379	382	819	1196	-	-	1347	-	-
Stage 1	604	585	-	780	720	-	-	-	-	-	-	-
Stage 2	773	718	-	604	580	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	354	367	703	366	365	818	1196	-	-	1347	-	-
Mov Cap-2 Maneuver	354	367	-	366	365	-	-	-	-	-	-	-
Stage 1	603	560	-	778	719	-	-	-	-	-	-	-
Stage 2	755	717	-	579	556	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	15.4	11.1	0	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1196	-	-	617	354	1347	-	-
HCM Lane V/C Ratio	0.001	-	-	0.036	0.02	0.033	-	-
HCM Control Delay (s)	8	0	-	11.1	15.4	7.8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	20

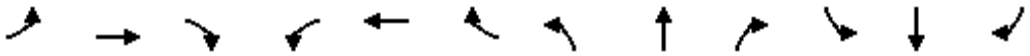
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	490	37	568	606	26	292
Future Vol, veh/h	490	37	568	606	26	292
Conflicting Peds, #/hr	0	7	7	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	140	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	516	39	598	638	27	307

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	562	0	2378	284
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	1836	-
Critical Hdwy	-	-	4.115	-	6.645	6.945
Critical Hdwy Stg 1	-	-	-	-	5.845	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	-	-	2.2095	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1013	-	33	711
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	137	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1013	-	~ 13	706
Mov Cap-2 Maneuver	-	-	-	-	~ 13	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	56	-

Approach	EB	WB	NE
HCM Control Delay, s	0	6.5	102.8
HCM LOS			F

Minor Lane/Major Mvmt	NELn1	NELn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	13	706	-	-	1013	-
HCM Lane V/C Ratio	2.105	0.435	-	-	0.59	-
HCM Control Delay (s)	$ 1100	14	-	-	13.5	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	4.2	2.2	-	-	4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	554	120	190	951	238	96	224	113	211	411	148
Future Volume (vph)	112	554	120	190	951	238	96	224	113	211	411	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1794		1787	3448		1787	1769		1770	1773	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1794		1787	3448		1787	1769		1770	1773	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	114	565	122	194	970	243	98	229	115	215	419	151
RTOR Reduction (vph)	0	6	0	0	18	0	0	15	0	0	11	0
Lane Group Flow (vph)	114	681	0	194	1195	0	98	329	0	215	559	0
Confl. Peds. (#/hr)	2		12	12		2	10		3	3		10
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.6	43.5		12.5	46.4		6.5	29.7		16.3	39.5	
Effective Green, g (s)	9.6	43.5		12.5	46.4		6.5	29.7		16.3	39.5	
Actuated g/C Ratio	0.08	0.36		0.10	0.39		0.05	0.25		0.14	0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	141	650		186	1333		96	437		240	583	
v/s Ratio Prot	0.06	c0.38		c0.11	c0.35		0.05	0.19		c0.12	c0.32	
v/s Ratio Perm												
v/c Ratio	0.81	1.05		1.04	0.90		1.02	0.75		0.90	0.96	
Uniform Delay, d1	54.3	38.2		53.8	34.5		56.8	41.8		51.0	39.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	27.7	48.2		77.8	8.2		97.6	11.4		31.7	28.5	
Delay (s)	82.0	86.5		131.5	42.7		154.4	53.1		82.7	67.9	
Level of Service	F	F		F	D		F	D		F	E	
Approach Delay (s)		85.9			55.0			75.6			72.0	
Approach LOS		F			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	68.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CENTRAL POINT RD at SKELLENGER WY, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

No Rows to Display

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
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CENTRAL POINT RD at SKELLENGER WY, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

No Rows to Display

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CENTRAL POINT RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 7

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01895	N	N	N	N	N	05/17/2014	16	CENTRAL POINT RD	INTER	3-LEG	N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										040	03,32
CITY						SA	0	WARNER-PARROTT RD	NE		STOP SIGN	N	DRY	FIX		PRVTE	SW-NE									000	040	00
						3A			05	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y		021,052,081	000		03,32
																							OR<25					
02233	N	N	N			06/11/2014	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						WE	0	WARNER-PARROTT RD	SE		L-GRN-SIG	N	DRY	REAR		PRVTE	SE-NW									000		00
						4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	53	M	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	SE-NW									012		00
																PSNGR CAR		01	DRVR	INJC	45	F	OR-Y		000	000		00
																							OR<25					
03639	N	N	N	N	N	10/01/2012	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLR	BIKE			-										110	02
CITY						MO	0	WARNER-PARROTT RD	SW		UNKNOWN	N	DRY	TURN														
						3P			05	0		N	DAY	INJ			STRGHT	01	BIKE	INJB	47	M		I XWK?	000	034		00
																	NW SE											
															01	NONE 0	TURN-L											
																PRVTE	SE-SW									000	110	00
																PSNGR CAR		01	DRVR	NONE	28	M	OR-Y		027,008	000		02
																							OR<25					
05468	N	N	N			12/18/2015	16	CENTRAL POINT RD	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR	0	WARNER-PARROTT RD	SW		STOP SIGN	N	WET	REAR		PRVTE	SW-NE									000		00
						4P			06	0		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK		000	000		00
																							OR<25					
00149	N	N	N			01/12/2015	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLR	O-1STOP	01	NONE 0	BACK											10
NO RPT						MO	0	WARNER-PARROTT RD	NW		UNKNOWN	N	DRY	BACK		PRVTE	SE-NW									000		00
						11A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		011	000		10
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	NONE	38	M	OR-Y		000	000		00
																							OR<25					
03616	N	N	N			09/25/2013	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLD	ANGL-OTH	01	NONE 0	TURN-L											02
NONE						WE	0	WARNER-PARROTT RD	CN		STOP SIGN	N	DRY	TURN		PRVTE	SW-NW									015		00
						4P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		028	000		02
																							UNK					
															02	NONE 0	STRGHT											
																PRVTE	NW-SE									000		00
																PSNGR CAR		01	DRVR	NONE	58	F	OR-Y		000	000		00
																							OR<25					
00842	N	N	N			03/07/2015	16	CENTRAL POINT RD	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L											02
NO RPT						SA	0	WARNER-PARROTT RD	CN		STOP SIGN	N	DRY	TURN		PRVTE	SW-NW									015		00
						11A			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	41	M	OR-Y		028	000		02
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NW-SE									000		00

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF OREGON CITY, CLACKAMAS COUNTY

CENTRAL POINT RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 7

SER# / INVEST	S P E D	A L C	D R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PSNGR CAR		01	DRVR	INJC	21	M	OR-Y OR<25		000	000		00

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CENTRAL POINT RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
BACKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	0	1	1	0	0	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2014														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	1
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**2**	**0**	**1**	**1**	**2**	**0**	**1**
YEAR: 2013														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2012														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**3**	**4**	**7**	**0**	**3**	**0**	**6**	**1**	**5**	**2**	**7**	**0**	**1**

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

LELAND RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 2

SER# / INVEST	S P E D	A L C	D R S G	S W U H	C O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / INJ / SVRTY	A G E	S E X	LICNS / RES / LOC	PED / ERROR	ACT	EVENT	CAUSE
00720	N	N	N			03/02/2013	16	LELAND RD	INTER	CROSS	N	N	RAIN	PED	01	NONE 0	TURN-R									02
CITY						SA	0	WARNER-PARROTT RD	SW		TRF SIGNAL	N	WET	PED		PRVTE	W -S							000		00
						8P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	42	M	OR-Y OR<25	029	000		02
																	- STRGHT W E	01	PED	INJB	14	M		I XWLK 000	035		00
04120	N	N	N			10/26/2013	16	LELAND RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NONE						SA	0	WARNER-PARROTT RD	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	S -N							000		00
						5P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	55	M	OR-Y OR<25	000	000		00
															02	NONE 0	STRGHT										
																PRVTE	E -W								000		00
																PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25	020	000		04

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LELAND RD at WARNER-PARROTT RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2013														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
PEDESTRIAN	0	1	0	1	0	1	0	0	1	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**1**	**1**	**2**	**0**	**0**
FINAL TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**1**	**1**	**2**	**0**	**0**

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

Exhibit F: Public Facilities Memorandum

TUALATIN · VANCOUVER · SALEM-KEIZER
12965 SW HERMAN RD., SUITE 100 · TUALATIN, OR 97062
AKS ENGINEERING & FORESTRY
WWW.AKS-ENG.COM
P: (503) 563-6151 F: (503) 563-6152

April 3, 2017

City of Oregon City
Planning Department
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

Re: Adequacy of Public Facilities (Water, Sanitary Sewer, Storm Drainage, and Streets) for a Zone Change on Properties located along Central Point Road (identified as Clackamas County 3 2E 07C 1001, 1100, 1180, and 1291 and 3 1E 12D 1700, and 1790)

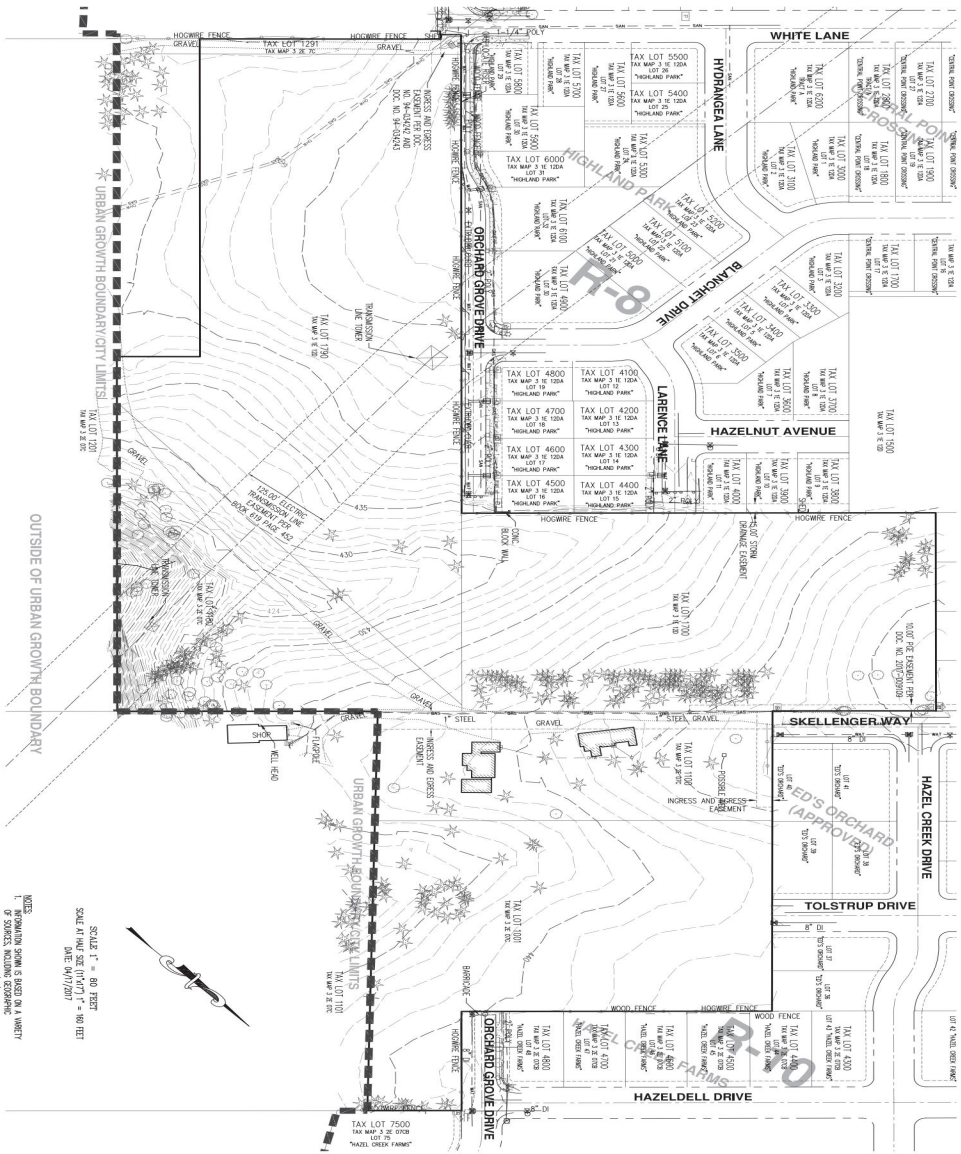
City Planning Department Staff:

AKS has performed significant engineering due diligence for the subject properties including reviewing City Master Plans for transportation and utilities, reviewing City GIS Maps and as-built records, and performing field surveys. AKS is familiar with this area, as we have performed engineering services on several projects near to and/or adjacent to the subject properties. In addition, AKS reviewed the project with City Engineering Staff. Through our extensive research, we are not aware of any deficiencies with public facilities. It is our understanding that public facilities are available and adequate for the zone change of these properties.

Sincerely,
AKS ENGINEERING & FORESTRY, LLC

Montgomery B. Hurley – PE, PLS
Principal

Exhibit G: Neighborhood Meeting Documentation



NOTES:
1. INFORMATION SHOWN IS BASED ON A VARIETY OF SOURCES, INCLUDING GEOGRAPHIC INFORMATION SYSTEMS (GIS), AERIAL PHOTOGRAPHY, SURVEY INFORMATION, AND TAX ASSESSOR MAP INFORMATION.
2. DIMENSIONS SHOWN ARE APPROXIMATE.

SCALE: 1" = 80 FEET
SCALE AT HALF SIZE (11"x17") 1" = 160 FEET
DATE: 11/17/2017

TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

DRAWN BY:	
DESIGN BY:	
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	05/09/2017

REVISIONS

JOB NUMBER 5621

SHEET

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

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FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE



SCALE 1" = 80 FEET
SCALE AT HALF SIZE (11"x17") 1" = 160 FEET
DATE: 04/17/2017

NOTES:
1. INFORMATION SHOWN IS BASED ON A VARIETY OF SOURCES, INCLUDING GEOGRAPHIC INFORMATION SYSTEMS (GIS), AERIAL PHOTOGRAPHS, AS-BUILT INFORMATION, AND TAX ASSESSOR MAP INFORMATION.
2. DIMENSIONS SHOWN ARE APPROXIMATE.

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WHEELER FARMS

OREGON CITY, OREGON
TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

PRELIMINARY SUBDIVISION LAYOUT

DESIGNED BY:
DRAWN BY:
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 05/16/2017

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER 5621

SHEET 2

AKS DRAWING FILE: 5621 NEIGHBOR PLANS.DWG | LAYOUT: 2

AKS DRAWING FILE: 5621 NEIGHBOOR PLANS.DWG | LAYOUT: 3



WHEELER FARMS

OREGON CITY TAX LOTS 1700, 1100, 1291, 1001, 1790, 1180 **OREGON** CLACKAMAS CO. TAX MAPS 3S2E07C, 3S1E12D

AERIAL PHOTO PLAN

PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED BY:
DRAWN BY: MRH
CHECKED BY:
SCALE: AS NOTED
DATE: 05/16/2017

REVISIONS

JOB NUMBER 5621

SHEET 3

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
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F: 503.563.6152
aks-eng.com

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Date: 5-18-17		South End Neighborhood Association Meeting			
#	Name:	Address:		Phone #:50	
1	Harryette Shuell	Street:	19067 Maywood St	Home:	503-722-8467
		Email:	shuell8055@comcastnet	Cell:	
2	LEE & SUE MULLER	Street:	11952 HAZEL FERN DR	Home:	
		Email:	harleylee@juno.com	Cell:	
3	CHRIS GOODELL	Street:	12965 SW HERMAN ROAD TUALATIN	Home:	
		Email:	chrisg@aks-eng.com	Cell:	
4	Tom O'Brien	Street:	19364 HAZELGROVE DR	Home:	503-723-3334
		Email:	HAVE IT	Cell:	
5	JOHN WILLIAMS	Street:	1176 SUNNY LANE	Home:	
		Email:		Cell:	
6	Brenda Wheeler	Street:	19725 Orchard Grove Drive	Home:	need email
		Email:	brendaspiderwheeler@gmail.com	Cell:	
7	Joe Wheeler	Street:	19725 Orchard Grove Dr.	Home:	
		Email:	joe.e.wheeler@comcast.net	Cell:	503.260.6104
8	Renee Buell	Street:	11835 Partlow R	Home:	208-870-1443
		Email:	reneebuell@gmail.com	Cell:	
9	Mike Day	Street:		Home:	
		Email:	Mday@orcity.org	Cell:	(503) 793-2222

Date: 5-18-17		South End Neighborhood Association Meeting			
#	Name:	Address:		Phone #:	
1	TONY KONKOL	Street:	OREGON CITY - CITY HALL	Home:	503 657.0891
		Email:		Cell:	
2	Charity Smith	Street:	19310 Tower Hill Drive	Home:	503-735-5741
		Email:		Cell:	
3	Judy Peitz	Street:	19380 Hazel Grove Dr.	Home:	503-655-7977
		Email:		Cell:	
4	Jim Peitz	Street:	" " " "	Home:	"
		Email:	jimpeitz@gmail.com.	Cell:	
5	Carol Johnson	Street:	18813 Paulsen Dr	Home:	
		Email:		Cell:	
6	Don Wheeler	Street:	19898 S. White Lane	Home:	
		Email:		Cell:	
7	Joyce Clark	Street:	18649 Joyce Ct	Home:	
		Email:	ella2luv2@q.com	Cell:	503-313-7338
8	Gary Fergus	Street:		Home:	
		Email:		Cell:	
9	Kevin Ertel	Street:	888 South End Rd	Home:	
		Email:	kpertel@hotmail.com	Cell:	

Date: 5-18-17		South End Neighborhood Association Meeting			
#	Name:	Address:		Phone #:	
1	KEITH/CHERYL STRICKLAND	Street:	18967 PAULSEN DR., O.C	Home:	
		Email:		Cell:	
2	MJ Militante	Street:	PO Box 601 OC	Home:	
		Email:	militante@att.net	Cell:	
3		Street:		Home:	
		Email:		Cell:	
4		Street:		Home:	
		Email:		Cell:	
5		Street:		Home:	
		Email:		Cell:	
6		Street:		Home:	
		Email:		Cell:	
7		Street:		Home:	
		Email:		Cell:	
8		Street:		Home:	
		Email:		Cell:	
9		Street:		Home:	
		Email:		Cell:	

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May 30, 2017

Neighborhood Meeting Minutes: Wheeler Farms Subdivision
19566 Central Point Road, Oregon City, OR

Meeting Date: May 19, 2017
Time: 7:00 PM
Location: Oregon City United Methodist Church, 18955 South End Road, Oregon City, OR

The Applicant attended a South End Neighborhood Association meeting to present details to neighbors and community members in preparation for the submission of land use applications for a zone change and subdivision. Chris Goodell, with AKS Engineering & Forestry, was present. An overview of the project location, current and future zoning, lot sizes, lot configuration, public utilities, public streets, open space tracts, and recent surrounding developments was provided. The planned applications and a general process and timeframe for the land use reviews and construction permitting process were described. Sign-in sheets and business cards were provided.

Following the presentation, attendees asked questions and/or provided general comments about the project. The following topics were discussed:

- Other projects in the area
- Traffic/ construction traffic on S. Central Point Road
- Estimated price of future homes
- Growth in area over time
- Off-site intersections
- Wheeler family history (provided by Don Wheeler)

The meeting concluded at approximately 8:00 p.m.

Sincerely,
AKS ENGINEERING & FORESTRY, LLC



Chris Goodell, AICP, LEED[AP]

Exhibit H: City Pre-Application Conference Summary

OREGON CITY

Pre-Application Conference Notes

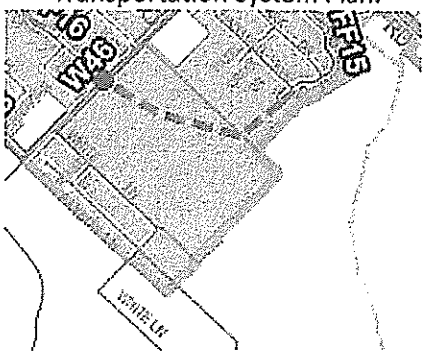
(PA 16-54, December 6, 2016)

These are preliminary notes based on the application submitted.

Proposed Project: Approximately 83± lot subdivision and rezone

General Information:

- Location: Located in the vicinity southeast of Orchard Grove Dr.
  Clackamas County Map 3-2E-07C, tax lots: 101, 1291, 1100, 1180
  Clackamas County Map 3-1E-12D, tax lots: 1700 and 1790
- Zoning: R-10 Single-Family Dwelling District
- Overlay Districts: Geologic Hazards, Natural Resource Overlay District
- Street Designations: Central Point RD: Collector
- Transportation System Plan:



Planning Review and Application Fees:
The Planning Division fees for this application are anticipated to increase on January 1st. The 2017 Planning applications and fees include-

- Subdivision: $4,136 plus $344 per lot
- Mailing Labels: $15 – or provided by applicant
- Transportation Study: $1,365 + $682 for Large Study Area/Near Key Corridor + $2,046 for Zone Change
- Zone Change: $2,798
- Natural Resource Overlay District: $1,959
- Property Line Adjustment: $1,159
- Geologic Hazards Review: See Public Works Notes

Review Process:

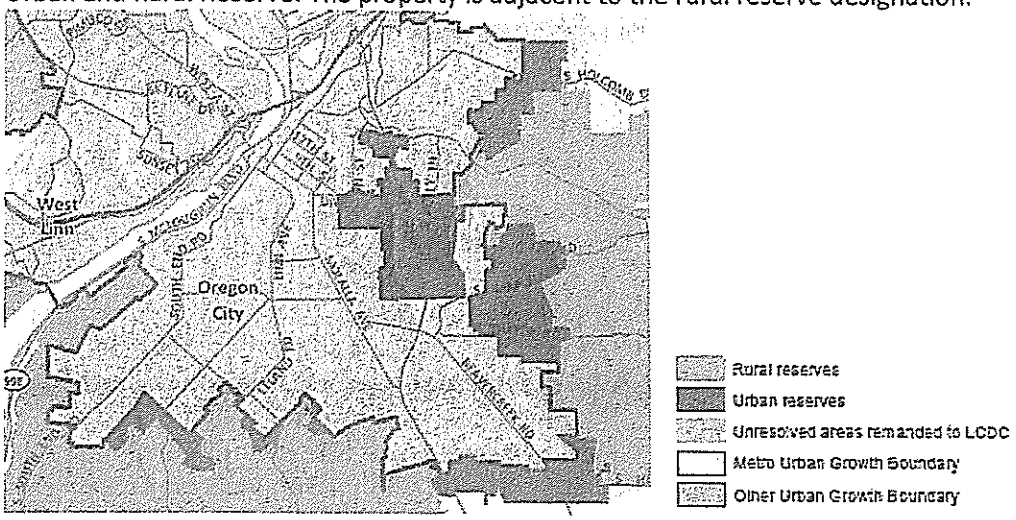
Though the Subdivision itself is a **Type II** application the Zone Change is a **Type IV** application, and thus the combined applications are subject to a Type IV process. Type IV decisions include only quasi-judicial plan amendments and zone changes. These applications involve the greatest amount of discretion and evaluation of subjective approval standards and must be heard by the city commission for final action. The process for these land use decisions is controlled by ORS 197.763. At the evidentiary hearing held

before the planning commission, all issues are addressed. If the planning commission denies the application, any party with standing (i.e., anyone who appeared before the planning commission either in person or in writing within the comment period) may appeal the planning commission denial to the city commission. If the planning commission denies the application and no appeal has been received within fourteen days of the issuance of the final decision then the action of the planning commission becomes the final decision of the city. If the planning commission votes to approve the application, that decision is forwarded as a recommendation to the city commission for final consideration. In either case, any review by the city commission is on the record and only issues raised before the planning commission may be raised before the city commission. The city commission decision is the city's final decision and is subject to review by the land use board of appeals (LUBA) within twenty-one days of when it becomes final.

Subdivision Layout

- The proposed layout generally complies with the Planning requirements within the Oregon City Municipal Code.
- The right-of-way adjacent to lot 62 and 72 is awkward and should be contain a wider width.
- Submit documentation identifying the lot averages the minimum square footage of the zoning designation and that no lot is less than 20% of that size.. The lot widths, depths, and frontage appear to comply with minimums.
- A tree removal and mitigation plan is required which must include the lot setbacks and the caliper of the trees to be removed as well as the species, caliper and location of the mitigation trees. The tree mitigation plan report shall be prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. Provide sufficient documentation if utilizing the following exemption in 17.41.040:

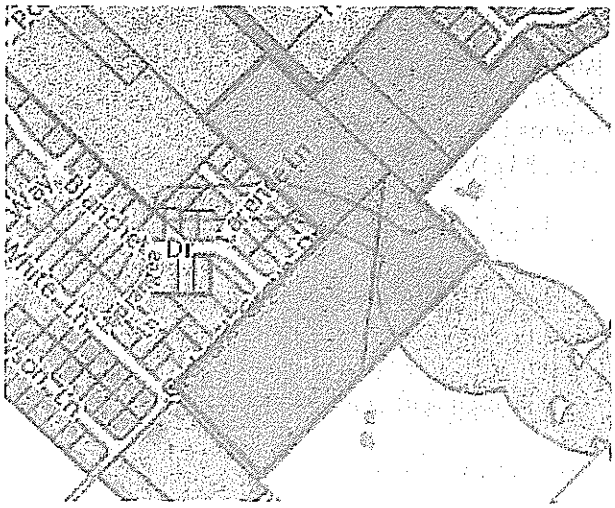
  These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930.
- Provide additional details about Tract B. Will this include a heritage tree site?
- A street tree plan including one for every 35' of frontage is required in accordance with OCMC 12.08. Please provide total frontage length in the application to demonstrate the number of street trees is correct.
- Identify all existing structures to remain and demonstrate compliance with required setbacks, lot coverage, etc.
- Urban and Rural Reserve: The property is adjacent to the rural reserve designation.



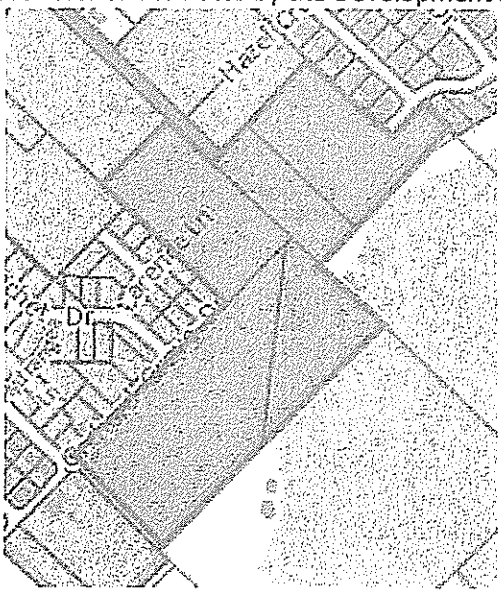
Zone Change:
Identify compliance with the Zone Change criteria in OCMC 17.68.020, which includes findings for compliance with state land use goals and the Oregon City Comprehensive Plan.

Property Line Adjustment
The proposed Property Line Adjustment is unclear, please provide additional specificity. Please provide a clear depiction of the site before and after and indicate property ownership for tax lot 1180 and 1291. If under the same ownership in the site, they are considered part of the development.

Natural Resource Overlay District (NROD)
A portion of the site is within the Natural Resource Overlay District. An application prepared by a qualified professional and in compliance with OCMC 17.49 is required.



Geologic Hazards Overlay District:
Please refer to the notes by the Development Services Department.

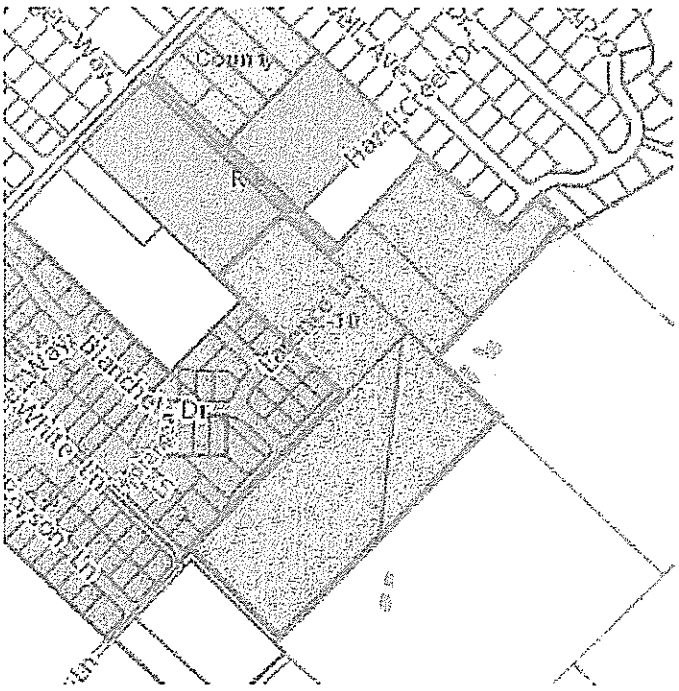


Questions from the Applicant

1. Please discuss the zone change process and confirm if the R-8 is an acceptable zone for this site.

Response: Please see the above description of the Type IV process. This may be further defined in OCMC 17.50.030.D. Criteria for the Zone Change is identified in OCMC 17.68.020.

2. Please confirm that a Comprehensive Plan Map Amendment would not be necessary with a zone change to R-8, as all tax lots are within the Low Density Residential Comprehensive Plan designation.
   Response: The Low Density Residential Comprehensive Plan designation includes the R-10, R-8 and R-6 Single-Family Dwelling Districts.
3. Please confirm the minimum and maximum residential densities in the R-8 and R-10 districts, and please confirm that the densities shown in the layouts provided are acceptable to the City.
   Response: Minimum and maximum densities are described in Title 16 as well as the zoning designation proposed. Minimum density is 80% of the maximum allowed. Lot sizes may be up to 20% smaller than the minimum, provided the subdivision averages to the minimum.
4. Please confirm if the preliminary layouts/lot configurations are acceptable to the City.
   Response: Please see the notes within this report.
5. Please confirm the required setbacks, lot dimensions, and lot areas.
   Response: Please refer to the dimensional standards of the zoning designation in 17.08 or 17.10.
6. Are there any overlay designations that will apply to this property?
   Response: Yes, please see the first section of this report.
7. Please let us know of any tree removal requirements or concerns.
   Response: Tree removal requirements are identified in OCMC 17.49 for those within the NROD and 17.41
8. Please confirm the City review procedure type and the required land use application(s).
   Response: Please see notes above.
9. Please let us know if any additional studies or analyses (natural resources, geotechnical, soils, etc.) are necessary.
   Response: Please see notes above.
10. Please discuss any pending/future Municipal Code changes and what impact those Code changes may have on this application/project.
    Response: None yet, but we will be working on code changes in 2017.



Transportation Review:

City of Oregon City | PO Box 3040 | 221 Molalla Avenue, Suite 200 | Oregon City, OR 97045
Ph (503) 722-3789 www.orcity.org

Your application was reviewed by John Replinger of Replinger and Associates, a city consultant for transportation engineering. You may contact John Replinger, at Replinger-Associates@comcast.net or at 503.719.3383.

Based on your submittal, a traffic engineer shall conduct a transportation study in conformance with the City's *Guidelines for Transportation Impact Analyses* available on the Oregon City website. Based on the information provided by the applicant, it appears the trip generation exceeds the level at which the project's transportation analysis requirements can be satisfied by submittal of a Transportation Analysis Letter (TAL). A full Transportation Impact Analysis (TIA) will be required. Among other requirements, a full TIA includes conducting traffic counts and operational analysis of impacted intersections will be required. Intersections to be analyzed include the site access and intersections of collector/collector and higher where traffic volumes from the development exceed 20 peak hour trips.
Because the proposal includes a zone change, the applicant will also need to address the requirements of Oregon's Transportation Planning Rule. Specifically, the applicant shall address the provisions of 660-12-0060 Plan and Land Use Regulation Amendments. When a zone change is proposed, a future year analysis is required assessing the impact associated with the planning horizon specified in the city's adopted Transportation System Plan.

The applicant and his traffic engineer should review the *Guidelines for Transportation Impact Analyses* and the most recent mobility standards as specified in Oregon City Municipal Code section 12.04.205.

The applicant and his traffic engineer should review the Guidelines for Transportation Impact Analyses and the most recent mobility standards as specified in Oregon City Municipal Code section 12.04.205.

Planning Division
Laura Terway, Planning Manager with the Oregon City Planning Division reviewed your pre-application. You may contact Laura Terway at 503.496.1553 or lterway@orcity.org.

Development Services Division
Wendy Marshall, Development Project Manager with the Oregon City Development Services Division reviewed your pre-application. You may contact Wendy Marshall at 503.496.1548 or wmarshall@orcity.org.

Building Division:
Your application was transmitted to our Building Official whom provided comments. You may contact Mike Roberts, Building Official, at 503.496.1517 or mroberts@orcity.org if you have any building related questions.

Clackamas County Fire:
Your application was transmitted to Mike Boumann, Lieutenant Deputy Fire Marshal of Clackamas County Fire District #1. No comments were returned regarding your application. You may contact Mr. Boumann at 503.742.2660 or at michaelbou@ccfd1.com.

Other notes:

- A neighborhood meeting is required. You are in the Hazel Grove-Westling Farms (Non-active Neighborhood Association). Contact the South End Neighborhood Association to setup a meeting.
  Chair: Bill McConnel, sena97045@gmail.com
  Vice Chair: Gary Fergus, Interim Vice Chair fergusfamily@gmail.com
  Secretary/Treasurer: vacant
- Per Annexation AN 06-02, each new home is required to pay a Police fee of $3,500 if submitted prior to July 1, 2018. Copies of the recorded agreements are attached.
- The questions regarding the park space were forwarded to Phil Lewis, Community Services Director.

- Notice of your proposed development has been provided to the State Historic Preservation Office (SHPO) and all affected tribes per OCMC chapter 17.62.040.H.
- The existing dwellings and all accessory structures shall be removed prior to final plat unless they comply with all new standards.
- Fence height limitations provided in OCMC 17.54.100.
- If you would like to build a sign for the subdivision, the sign code can be found in OCMC 15.28.
- Residential Design Standards are provided in OCMC chapter 17.20 and 17.21.
- All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance.
- No proposed changes to the Oregon City Municipal Code are proposed which would affect your proposal.

Oregon City Municipal Code Criteria:
The following chapters of the Oregon City Municipal Code (OCMC) may be applicable to this proposal:
OCMC 12.04 - Streets, Sidewalks and Public Places
OCMC 12.08 - Public and Street Trees
OCMC 13.12 – Stormwater Management
OCMC 16.08 – Subdivisions – Processes and Standards
OCMC 16.12 – Minimum Improvements and Design Standards for Land Divisions
OCMC 16.20 – Property Line Adjustments and Abandonments
OCMC 17.08 – "R-10" Single-Family Dwelling District
OCMC 17.10 – "R-8" Single-Family Dwelling District
OCMC 17.20 – Residential Design Standards
OCMC 17.41- Tree Protection Standards
OCMC 17.44 – Geologic Hazards
OCMC 17.49 – Natural Resources Overlay District
OCMC 17.50 – Administrative Processes
OCMC 17.68 – Zone Changes and Amendments

Pre-application conferences are required by Section 17.50.050 of the City Code, as follows:
A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.
B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

NOTICE TO APPLICANT: A property owner may apply for any permit they wish for their property. HOWEVER, THERE ARE NO GUARANTEES THAT ANY APPLICATION WILL BE APPROVED. No decisions are made until all reports and testimony have been submitted. This form will be kept by the Community Development Department. A copy will be given to the applicant. IF the applicant does not submit an application within six (6) months from the Pre-application Conference meeting date, a NEW Pre-Application Conference will be required.

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

DEVELOPMENT SERVICES

PRE-APPLICATION MEETING NOTES

Date: 12-6-2016

Planning Project Number:	PA 16-54
Address:	19566 Central Point Road, Oregon City, OR 97045
Map Number(s):	3-2E-07C; 3-1E-12D
Tax Lot(s):	1001, 1291, 1100, 1180; 1700, 1790
Project Name:	Wheeler Farms
Meeting Date:	December 6, 2016 (Notes updated December 28, 2016)
Reviewer(s):	Hunter Bennett-Daggett, PE

GENERAL COMMENTS

1. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements.

2. A performance bond and agreement shall be provided to the City prior to issuance of construction plans.

3. The Applicant may be required to sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties.

4. All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance. Applicant will need to complete a SDC request form, found on the City's website, for an estimate of fees.

ENGINEERING - UTILITIES

Streets

1. The proposed development includes several new streets and extensions of existing streets. All new streets within the proposed development will be functionally classified as a Local (Residential). For a residential local, the Oregon City Municipal Code (OCMC) requires a 54-foot-wide right-of-way (ROW), two (2) 16-foot-wide shared travel lanes, two (2) 5-foot-wide planter strips, two (2) 5-foot-wide sidewalks, and two (2) 0.5-foot-wide public access strips. Additional requirements include curb, gutter, street trees, and street lights.

2. The southwestern edge of the proposed development includes a narrow strip of land that will eventually be part of an extension of White Lane. This strip of land is not wide enough to create a functional half street that aligns with the existing street; however, the aligned portion will need to be dedicated as right-of-way. Fee-in-lieu payment will be required for

street improvements that cannot be constructed due to space constraints. Fee-in-lieu shall be paid to the centerline of the future street.

3. Block length standards, as outlined in OCMC 12.04.195, must be met even for proposed developments adjacent to the Urban Growth Boundary (UGB). The proposed development meets block length requirements, with the exception of the "island" created at the center, which exceeds the 530-foot max block length when considered with the relevant portion of the Ed's Orchard subdivision. As a result, a mid-block pedestrian path is required. The applicant may request that this pedestrian path requirement be waived by providing appropriate justifications, addressing such items as: location of pedestrian generators within the subdivision, number of pedestrians served, most likely routes for pedestrians through the subdivision, the availability of pedestrian routes and circulation, and the available route to Central Point Road (a Collector road).

4. With the exception of White Lane, streets in the proposed development will not be required to extend to the UGB.

5. A 10-foot-wide Public Utility Easement (PUE) will be required along the frontage of all lots.

6. Reduction to the standard improvements and right-of-way dedication may be requested through the modification process outlined in OCMC 12.04.007.

7. The proposed development includes a section of Shared-Use Path, connecting Larence Lane to Orchard Grove Drive. The standard residential local street section shall be considered acceptable for the Shared-Use Path.

8. The portion of Orchard Grove Drive that was not previously built during construction of the Highland Park subdivision shall be constructed to meet residential local street requirements. Fee-in-lieu previously paid for this unconstructed street portion shall be available for construction of the full street improvements as part of the proposed development.

9. Two large trees (54-inch and 43-inch diameter) are located within the proposed Orchard Grove Drive ROW. The applicant has requested consideration of modifications to the required street section to allow preservation of the trees. Due to the location of the trees with respect to the proposed ROW and 10-foot PUE, it does not appear feasible to protect the trees. The root systems of the trees are unknown but are likely to be negatively impacted by grading and utility construction, thereby reducing the long-term health of the trees. In addition, proximity of the root systems to the ROW and PUE causes concern for future root growth effects on utilities in the area, including curb/gutter, sidewalk, pavement, and underground pipe systems. A constrained ROW does not appear to provide adequate space for the ROW, PUE, and grading and utility construction without negative impacts to the trees. If the applicant wishes to preserve the trees, an arborist's report shall be provided addressing the City's concerns and showing that there would be no adverse impacts to the trees from the construction of the grading and underground improvements proposed in the ROW and 10-foot PUE, no long-term adverse impacts to the trees as the root system grows, and no adverse impacts to the public and private improvements as the root system grows.

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Stormwater

1. The proposed development shall adhere to the requirements of the current Stormwater and Grading Design Standards. The current Standards can be found online here:

   http://www.orcity.org/sites/default/files/final_manual_0.pdf

2. The General Threshold(s) for Applicability of the Stormwater and Grading Design Standards:

   a. *Development activities that result in **5,000 square feet of new or replaced impervious surface**, cumulative over a 5-year period, are subject to the requirements of these standards.*

3. If the above threshold is met, the Applicant must submit a completed *Site Assessment and Planning Checklist* (and other attachments as described in **Section 9.1.1**) as part of the land use application process. This submittal shall constitute a preliminary drainage report and form the basis for developing the Stormwater Management Plan described in **Section 9.1.2**. Submittal of the final Stormwater Management Plan will be required prior to issuance of Public Works permits.

4. It does not appear possible to convey stormwater from the proposed development to any existing City stormwater system by gravity. The applicant proposes to construct a new stormwater facility within the proposed development. The proposed facility shall meet the requirements of the City's Stormwater and Grading Design Standards.

5. The submitted materials for some layouts show an access easement to the proposed stormwater facility. An access road shall be provided within the easement, complying with the requirements of the Stormwater and Grading Design Standards. If the access road exceeds 300 feet in length, a truck turn-around shall be provided.

Water

1. There are existing 8-inch ductile iron water mains within Orchard Grove Drive and Larence Lane. New 8-inch ductile iron water mains shall be provided in all streets within the proposed development and shall connect to existing water mains wherever possible. Stubs shall be provided at the end of any streets with future connections.

2. The Highland Park subdivision installed a 4-inch ductile iron water main in the half-street portion of Orchard Grove Drive adjacent to White Lane. This street portion will be extended to full width by the proposed project, and the improvements shall include an 8-inch ductile iron water main that allows the 4-inch water main to be taken out of service.

3. The narrow portion of land at the southwestern edge of the proposed development that will eventually be part of an extension of White Lane is not wide enough to accommodate a water main extension along the frontage, as required. Temporary looping is required along the White Lane ROW until an 8-inch water main is extended when White Lane ROW is fully developed. Proposed water system improvements shall include an 8-inch waterline

extension to the southeast in the proposed intersection improvements of White Lane and Orchard Grove Drive with reduction to a temporary 4-inch waterline extension in an easement along proposed White Lane ROW and looped to the proposed water pipe at the street intersection of the southeasterly subdivision street.

4. Any new fire hydrants shall be located per the requirements and direction of Clackamas Fire District No. 1.

Sanitary Sewer

1. There are existing 8-inch PVC sanitary sewer pipes within Orchard Grove Drive and Larence Lane. The applicant proposes to connect to these existing sewer pipes via gravity. The City's Sanitary Sewer Master Plan calls for a new public sewer pump station in the area of the proposed development. In order to justify the deviation from the master plan, the applicant will need to demonstrate that the proposed gravity sewer can adequately serve all proposed lots and not negatively impact future development. Proposed gravity sewers shall comply with all applicable City design standards, including minimum sanitary sewer slope requirements.

2. Proposed sanitary sewer depths, slopes, and covers will need to be provided to the City to allow evaluation of shallow sewers. Where shallow sewer laterals are approved by the City, ductile iron pipe is typically required for any sewer with less than three feet of cover.

3. The narrow portion of land at the southwestern edge of the proposed development that will eventually be part of an extension of White Lane is not wide enough to accommodate a sanitary sewer extension along the frontage, as required. Fee-in-lieu will be required to allow for future extension of this sewer.

4. As part of this proposed development, any existing SFRs that are to be demolished must abandon their septic system per State, County, and City requirements. Contact the Building Department regarding abandonment requirements.

Other

1. A portion of the proposed development is within the Natural Resource Overlay District (NROD). Section 17.49 of the OCMC will need to be addressed in the application.

2. A portion of the proposed development is within the Geologic Hazard area. Section 17.44 of the OCMC will need to be addressed in the application. A geotechnical report will be required and shall provide recommendations as applicable for the proposed public and private subdivision improvements. There is a pass-through fee for the City's geotechnical peer review. Total peer review costs shall be paid by the applicant.

3. A portion of the proposed development is within the High Water Table area. The geotechnical report addressing the Geologic Hazard area shall also address high groundwater impacts on construction.

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Exhibit I: Clackamas County Assessor's Maps

This map was prepared for assessment purpose only.

SW 1/4 SEC. 7 T.3S. R.2E. W.M.
CLACKAMAS COUNTY
1" = 200'

D.L.C.
JOHN HOWLAND NO. 45
S.S. WHITE NO. 41 & 42

3 2E 7C

SW COR DLC 40
SE. COR. DLC 41
NW. COR. DLC 41
NE. COR. DLC 42
APPROX. 1/4 COR.
5362.50FT. Most Westerly Corner of S.S WHITE DLC

CENTRAL POINT ROAD
MARKET ROAD NO. 24
HAZEL DELL
HAZEL
SUNSET SPRINGS DR
ORCHARD GROVE DRIVE
PARK AVENUE
GROVE DRIVE
CREEK DR.
PARK DR.
MC CORD ROAD
STAFFORD RD.
CC RD No. 516 LELAND RD.
PUBLIC

SEE MAP

62-64
62-88
62-84
62-02
62-31
62-03
62-14
62-33

3 2E 7B
3 2E 7D
3 2E 18

F.U.-10

P. P. 1999-140

PARCEL 2

TBR

CANCELLED
1000 801
1004 900
1005 110
103 1190
400 1200
191 1011
1290
702
111
1900
890
1280

12000
12300
12500
19500
19800
20000

1007 19500
1009 19510
1008 19520
1010 19530
1006 19532
1003 3.69
1002 1.81 Ac. 19538
1001 4.21Ac.
1100 2.13Ac.
1101 17.85 Ac. 19588
1191 0.14Ac.
1180 2.63Ac.
1201 20.55Ac. 19898
1291 0.26Ac.
790 0.53Ac.
791 1.22Ac.
700 1.67Ac. 19521
701 3.78Ac. 19525
601 0.89 Ac. 19573
600 3.05 Ac.
800 13.40Ac.
500 0.46 Ac. 19585
501 0.46Ac. 19593
390 0.23Ac.
391 0.19Ac.
290 0.75Ac.
300 1.50Ac. 19613
301 0.42Ac. 19629
200 3.02Ac. 19657
105 0.68Ac. 19667
100 1.30Ac. 19673
107 0.85Ac. 19661
199 2.98 Ac.
106 1.00 Ac. 19663
104 2.41 Ac. 19665
192 0.74Ac.
101 3.21 Ac. 19681
102 13.43 Ac. 19659
109 8.83Ac. 19691
108 0.94Ac
182 0.23Ac
198 2.00Ac.

Subject Properties

Subject Property

PGE McLOUGHLIN to St MARYS SUB.
SEE PGE DWG No. CB 518-23

See BPA DWG No. 125107

B. P. A.

EASEMENT

WLY COR. JOHN HOWLAND DLC NO. 45

644.7' Sely Line of S.S. White DLC No. 45
N Wly. Line of John Howland DLC No. 45

SEE MAP 3 2E 18

BOOK 29
3 2E 7C

RLR 2/12/69

This map was prepared for assessment purpose only.

SE 1/4 SEC. 12 T.3S. R. 1E. W.M.
CLACKAMAS COUNTY
1"=200'

DLC.
M. M. Mc CARVER NO. 41
S. S. WHITE NO. 42

3 1E 12D

SALMONBERRY DR.
SKELLENGER DRIVE
HAZELNUT CT.
GROVE
HAZEL DR.
HAZELNUT
VINCENT WAY
GERANIUM DRIV
WESTWOOD DR.
KOLAR DRIV
DAHLIA TERRACE
DERRINGER DRIVE
PLACE
AVENUE
HUMMINGBIRD LOOP [PVT.]
[PVT.]
PARISH RD
C.O. RD.
POND
PAYSON
RENEE WAY
LANE
PUBLIC ROADWAY
CENTRAL PT RD
M K T
W. H. WHITE
BURNETT
D.L.C.
B. P. A. EASEMENT
PGE. McLOUGHLIN to St MARYS SUB
SEE PGE. DWG. No. CB 518-22
SELY LINE M. M. McCARVER D.L.C. NO. 41
1/4 COR.

11500
11800
12000
19500

CENTER SEC. 1E 12B

SEE MAP 3 1E 12A

SEE MAP 3 1E 12C

SEE MAP 3 2E 7C

SEE MAP 3 1E 13

SEE MAP 3 1E 12DD

SEE MAP 3 1E 12DA

SEE MAP 62-02

SEE MAP 3 1E 13

PP 1998 -108
PARCEL 1
PARCEL 2
PARCEL 3
703 0.60 Ac. 19187
704 0.60 Ac. 19188
705 0.27 Ac. 19189

62-64 1E
62-14
62-84
62-88
62-64
62-03
62-33
62-64
62-02

12DB
12DC

TBR
TBR
TBR

100 1.00 Ac. 19531
1500 5.61 Ac.
1501 0.93 Ac. 19624
1505 1.00 Ac. 19706
1701 5.13 Ac. 19584
1700 4.62 Ac.
1790 8.48 Ac.

AG/F

CANCELLED

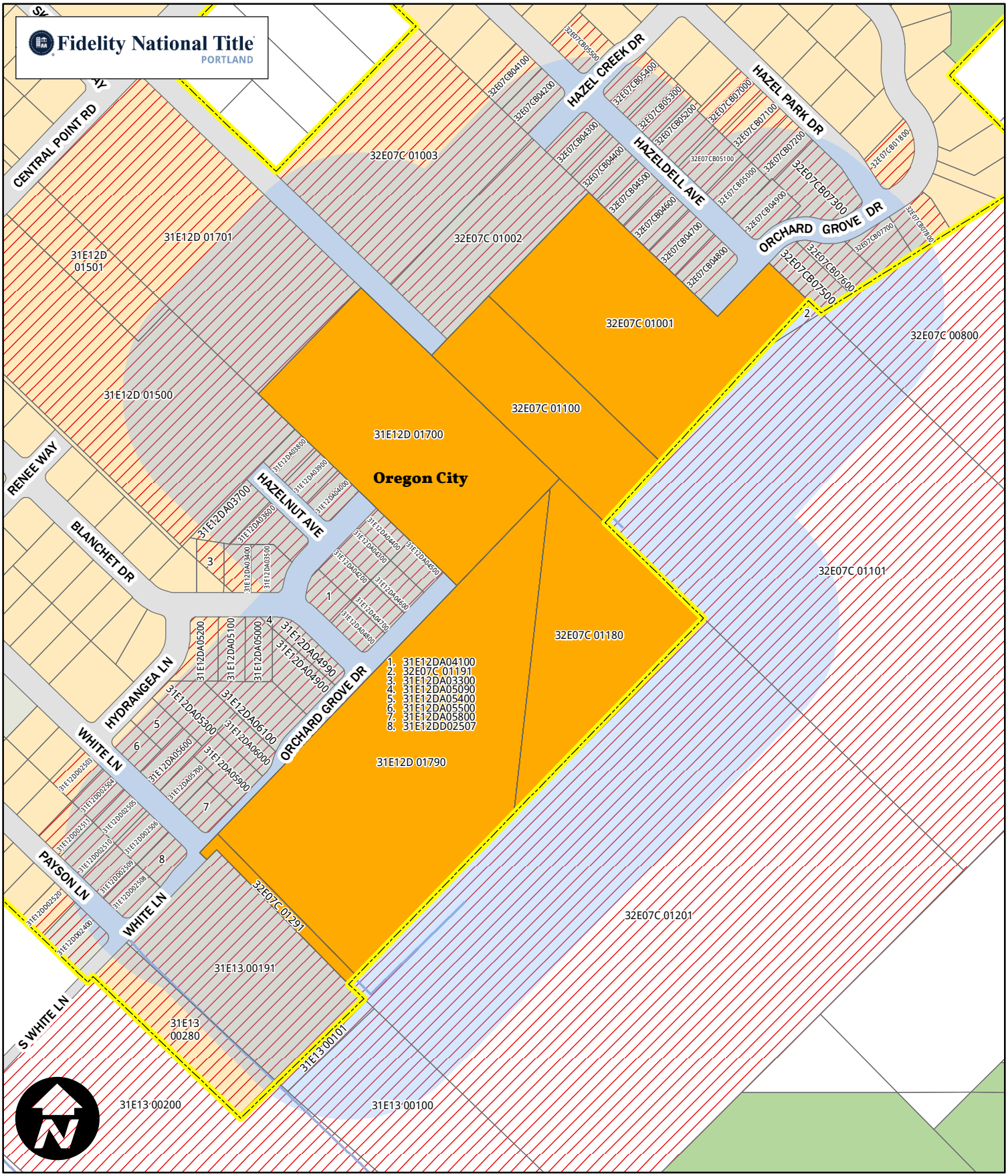
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1504	301
200	302
700	303
702	304
1490	305
800	306
900	400
901	401
1000	402
1100	500
1200	600
1300	1502
1400	1506
1401	1503
1402	1593
	1600

Subject Properties

20000

3 1E 12D
BOOK 27

Exhibit J: Mailing Labels



Public Notification Search

300 Feet

Subject
Notification
Incorporated city
Radius
Home Owners Association
City limits
Taxlots
Other

Prepared by: Fidelity National Title
Data: CoreLogic, Metro RLIS
Date: 3/14/2017
This information is reliable, but not guaranteed. It is not a survey.

31E12D 01501
Naomi Lawyer
19624 Central Point Rd
Oregon City, OR 97045

31E12D 01500
Naomi Lawyer
19624 Central Point Rd
Oregon City, OR 97045

31E12D 01700
Wheeler Enterprises LLC
19566 Central Point Rd
Oregon City, OR 97045

31E13 00100
William J L Vandermolen
20016 White Ln
Oregon City, OR 97045

31E13 00200
William J L Vandermolen
20016 White Ln
Oregon City, OR 97045

32E07C 00800
West Rictor
19500 Orchard Grove Dr
Oregon City, OR 97045

32E07C 01001
Wheeler Enterprises LLC
19566 Central Point Rd
Oregon City, OR 97045

32E07C 01002
Rian Park Development Inc
Po Box 2559
Oregon City, OR 97045

32E07C 01003
Rian Park Development Inc
Po Box 2559
Oregon City, OR 97045

32E07C 01100
David Wheeler Sr.
19566 Central Point Rd
Oregon City, OR 97045

32E07C 01180
David Wheeler Sr.
19566 Central Point Rd
Oregon City, OR 97045

32E07C 01201
Donald & Roxanne Wheeler
19898 White Ln
Oregon City, OR 97045

31E13 00101
Donald & Michele Jahn
19918 White Ln
Oregon City, OR 97045

31E13 00191
Donald & Michele Jahn
19918 White Ln
Oregon City, OR 97045

31E13 00280
William J L Vandermolen
20016 White Ln
Oregon City, OR 97045

31E12D 01790
Wheeler Enterprises LLC
19566 Central Point Rd
Oregon City, OR 97045

32E07C 01291
Donald & Roxanne Wheeler
19898 White Ln
Oregon City, OR 97045

32E07C 01101
David Wheeler Jr.
19588 Central Point Rd
Oregon City, OR 97045

32E07C 01191
David Wheeler Jr.
19588 Central Point Rd
Oregon City, OR 97045

31E12DD02400
Payson Farms Homeowners Assoc
722 Main St #D
Oregon City, OR 97045

31E12DD02503
Joshua Lewis Bell
11839 White Ln
Oregon City, OR 97045

31E12DD02504
Joshua Cantley
11845 White Ln
Oregon City, OR 97045

31E12DD02505
Julie & Tyler Newsome
11851 White Ln
Oregon City, OR 97045

31E12DD02506
Bryan Esler
11857 White Ln
Oregon City, OR 97045

31E12DD02507
Brian Fosmark
11863 White Ln
Oregon City, OR 97045

31E12DD02508
Jo Ann Rose
11860 Payson Ln
Oregon City, OR 97045

31E12DD02509
Adam Holtgrew
11854 Payson Ln
Oregon City, OR 97045

31E12DD02510
R Martin Berglund
2209 Quail Point Ter
Medford, OR 97504

31E12DD02511
Maryann Meaney
11842 Payson Ln
Oregon City, OR 97045

31E12DD02520
Jessica & Brian Graham
11853 Payson Ln
Oregon City, OR 97045

31E12D 01701
Rian Park Development Inc
Po Box 2559
Oregon City, OR 97045

32E07CB01800
David Shoup
19483 Orchard Grove Dr
Oregon City, OR 97045

32E07CB04100
Eric & Hanh Batdorf
12069 Hazeldell Ave
Oregon City, OR 97045

32E07CB04200
Jesse & Tammy Baldwin
12079 Hazeldell Ave
Oregon City, OR 97045

32E07CB04300
Roger Dunigan
12099 Hazeldell Ave
Oregon City, OR 97045

32E07CB04400
Timothy & Amy Manzella
12101 Hazeldell Ave
Oregon City, OR 97045

32E07CB04500
Brian & Shawn Ziettlow
12111 Hazeldell Ave
Oregon City, OR 97045

32E07CB04600
Leo Marsh
12121 Hazeldell Ave
Oregon City, OR 97045

32E07CB04700
Jeffrey & Kathleen Boeckel
12131 Hazeldell Ave
Oregon City, OR 97045

32E07CB04800
Scott & Brenda Martin
12141 Hazeldell Ave
Oregon City, OR 97045

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Dennis Kennedy
12140 Hazeldell Ave
Oregon City, OR 97045

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Charles & Sherry Gregory
12130 Hazeldell Ave
Oregon City, OR 97045

32E07CB05100
Jonathan & Mary Heins
12120 Hazeldell Ave
Oregon City, OR 97045

32E07CB05200
Howard & Pamela Burge
12110 Hazeldell Ave
Oregon City, OR 97045

32E07CB05300
Michael & Sarah Eubanks
12100 Hazeldell Ave
Oregon City, OR 97045

32E07CB05400
Henry Miller III
12090 Hazeldell Ave
Oregon City, OR 97045

32E07CB05500
Douglas & Tamami Thurston
12070 Hazeldell Ave
Oregon City, OR 97045

32E07CB07000
Gregory Hoff
12109 Hazel Park Dr
Oregon City, OR 97045

32E07CB07100
Richard & Jill Durr
12119 Hazel Park Dr
Oregon City, OR 97045

32E07CB07200
Michael & Shelley McCoy
12129 Hazel Park Dr
Oregon City, OR 97045

32E07CB07300
Alice Co-E Hayden
19493 Orchard Grove Dr
Oregon City, OR 97045

32E07CB07500
West Rictor
19500 Orchard Grove Dr
Oregon City, OR 97045

32E07CB07600
David Sundquist
19496 Orchard Grove Dr
Oregon City, OR 97045

32E07CB07700
Terry Boyd
19492 Orchard Grove Dr
Oregon City, OR 97045

32E07CB07800
George & Linda Myers
19488 Orchard Grove Dr
Oregon City, OR 97045

31E12DA04900
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA05000
Eric Piper
11855 Blanchet Dr
Oregon City, OR 97045

31E12DA05100
Brian Grigsby
11849 Blanchet Dr
Oregon City, OR 97045

31E12DA05200
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA05300
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA05400
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

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Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

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Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

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Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA05800
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA05900
Kevin Sr & Karma McDowell
11858 White Ln
Oregon City, OR 97045

31E12DA06000
Brenda & Joseph Wheeler
19725 Orchard Grove Dr
Oregon City, OR 97045

31E12DA06100
Stone Bridge Homes Nw LLC
19717 Orchard Grove Dr
Oregon City, OR 97045

31E12DA03300
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

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Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

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Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA03600
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA03700
Jon & Lynnette McHenry
12072 Hazelnut Ave
Oregon City, OR 97045

31E12DA03800
Marie Laird Jensen
12071 Hazelnut Ave
Oregon City, OR 97045

31E12DA03900
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA04000
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA04100
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA04200
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA04300
Debra & Douglas Steele
19722 Larence Ln
Oregon City, OR 97045

31E12DA04400
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA04500
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA04600
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA04700
Dawn Ashpole
19691 Orchard Grove Dr
Oregon City, OR 97045

31E12DA04800
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA04990
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

31E12DA05090
Stone Bridge Homes Nw LLC
4230 Galewood St #100
Lake Oswego, OR 97035

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

September 5, 2017

Ms. Christina Robertson-Gardiner
City of Oregon City
PO Box 3040
Oregon City, OR 97045

SUBJECT: REVIEW OF TRANSPORTATION IMPACT STUDY – WHEELER FARMS SUBDIVISION – TP17-03 & ZC17-03

Dear Ms. Robertson-Gardiner:

In response to your request, I have reviewed the materials submitted in support of the proposed Wheeler Farms Subdivision. The relevant materials included the project narrative, site plan and the Transportation Impact Study (TIS). The TIS is dated June 15, 2017 and was prepared under the direction of Todd E. Mobley, PE of Lancaster Engineering.

The proposed subdivision with 77 lots is located south east of S Central Point Road between S White Lane and S Hazeldell Avenue. The proposed subdivision also intersects with Skellenger Way and with Blanchet Drive. The site totals approximately 22.56 acres. Most of the site is utilized for agricultural purposes with only one single-family dwelling on the property. Several new local street segments would be constructed to serve the subdivision and create extensions to adjacent parcels. The principal new street, identified as Orchard Grove Drive, would run roughly parallel with S Central Point Road and connect from S White Lane to Hazeldell Avenue. The proposal involves rezoning of the parcel from R10 to R8, which slightly increases the total number of lots to be developed on the property.

The TIS provides a basis upon which the subdivision proposal can be evaluated for transportation impacts.

Comments

1. ***Study Area.*** The study addresses the appropriate intersections. The engineer evaluated traffic patterns and traffic volumes and evaluated five locations. The key intersections were:

    - S Central Point Road at Blanchet Drive
    - S Central Point Road at Skellenger Way
    - S Central Point Road at Hazeldell Avenue
    - S Central Point Road at Warner Parrott Road

- Warner Milne Road at Linn Avenue/Leland Road

The study area is appropriate.

2. ***Traffic Counts.*** The traffic counts were conducted in April 2017 at the intersections identified in #1, above. Traffic counts were conducted during the AM and PM peak periods. The base year traffic volumes appear reasonable.

3. ***Trip Generation.*** The TIS presents information on trip generation from the construction of 77 single-family dwellings. The trip generation rates were taken from the Institute of Transportation Engineers' *Trip Generation Manual.* The subdivision is predicted to produce 57 new AM peak hour trips, 76 new PM peak hour trips, and 724 new weekday trips.

4. ***Trip Distribution.*** The engineer's trip distribution shows 25 percent of traffic going to and from the west on S Partlow Road; 20 percent to and from the north on Linn Avenue; 25 percent to and from the east on Warner Parrott Avenue; 15 percent to and from the east on McCord Road; and lesser percentages spread among other streets.

   For access to and from the subdivision, the engineer predicts that the primary access to S Central Point Road will be spread among Skellenger Way, Blanchet Drive, and Hazeldell Avenue.

   The distribution of trips at the various site access points and the general distribution to major streets appear reasonable.

5. ***Traffic Growth.*** To account for background traffic growth, the traffic counts for the study area intersections were adjusted by 2 percent per year. This was done for the two-year period prior to completion of the subdivision and for the 2035 analysis done in connection with the proposed zone change. The traffic growth assumptions and methodology appear reasonable.

6. ***Analysis.*** Traffic volumes were calculated for the intersections described in #1, above. At each location, the level of service (LOS) and delay calculations and the volume-to-capacity (v/c) ratios were provided to assess traffic operations relative to the city's and ODOT's operational standards. The analysis was undertaken for the AM and PM peak hours and included year 2017 existing conditions, 2019 background conditions, 2019 total traffic conditions with build out of the subdivision, 2035 background conditions, and 2035 conditions with the proposed zone change.

   According to the engineer, the all of the study area intersections are calculated to meet the city's operational standard in 2019 with or without the proposed subdivision. The

intersections of S Central Point Road with Blanchet Drive, Skellenger Way, and Hazeldell Avenue are predicted to operate at level of service (LOS) C or better and a volume-to-capacity ratio (v/c) of 0.10 or better during all analysis years.

The left turns from Warner Parrott Road to S Central Point Road are predicted to meet operational standards even in 2035 with the development. The predicted v/c is 0.60 during the PM peak hour. Left turns from Central Point Road to Warner Parrott Road are not subject to the city's operational standard.

The intersection of Warner Parrott/Warner Milne Road with Leland Road/Linn Avenue is expected to meet operational standards in 2019 with or without the development. By 2035, however, the intersection is predicted to exceed capacity either with or without the development. The impact of the development is very small. As noted in the TIS, the city's adopted Transportation System Plan includes a roundabout as a solution to address capacity issues at this location.

The engineer concluded no mitigation measures are necessary to address the impact of the proposed development. I concur with his conclusions.

7. ***Turn Lanes at Site Entrance(s).*** The proposed subdivision does not result in any new intersections involving collector or arterial streets. No analysis of left turns at site access points is required.

8. ***Crash Information.*** The TIS provides crash information for the most recent five-year period for the locations identified in #1, above. There were no reported crashes at the intersection of S Central Point Road with Blanchet Drive, Skellenger Way, or Hazeldell Avenue. There were seven reported crashes at Warner Parrott/S Central Point Road, which results in a modest crash rate. There were two reported crashes at the intersection of Warner Parrot with Leland Road/Linn Avenue, which results in a very low crash rate. The engineer concludes there are no apparent crash patterns or safety deficiencies associated with design and no need for safety mitigation at the study area intersections. I concur.

9. ***Pedestrian and Bicycle Facilities.*** The narrative and site plan indicate pedestrian facilities would be provided within the development.

10. ***Site Plan and Access.*** The subdivision proposes access to S Central Point Road via White Lane, Blanchet Drive, Skellenger Way, and Hazeldell Avenue. Due to the configuration of the subdivision and its location, minimal traffic can be expected to use White Lane. The subdivision proposes a new street, identified as Orchard Grove Drive, which would run roughly parallel with S Central Point Road and connect from S White Lane to Hazeldell Avenue. The subdivision plat shows stub streets that would connect

with adjacent parcels inside the urban growth boundary (ugb). No stub streets are shown to the southeast since the property borders the ugb.

11. ***Intersection Spacing.*** Five new intersections would be created along Orchard Grove Drive and two others involving lesser streets. The intersection spacing is appropriate given the existing local street layout and the constraints including the power line easement.

12. ***Sight Distance.*** There is no reason to expect that adequate sight distance will not be provided at any of the new local street intersections.

13. ***Consistency with the Transportation System Plan (TSP).*** The project narrative indicates frontage improvements would be made to city standards. The subdivision will also contribute to increased connectivity in the area.

14. ***Transportation Planning Rule (TPR) Analysis.*** As noted above, the proposal involves rezoning from R-10 to R-8. The TIS notes that in a worst case development scenario this would increase the number of dwellings by a maximum of 11. The proposed rezoning of the property from R-10 to R-8 would have negligible impacts on the operations of any study area intersections and does not change the functional classification of any existing or planned transportation facility.

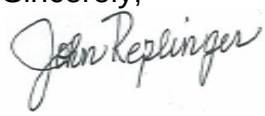
15. ***Conclusions and Recommendations.*** The engineer concludes that traffic operations would be adequate at all analyzed intersections. He concludes no mitigation is needed for traffic operations. He concludes no safety mitigation is necessary. I concur with the conclusions of the applicant's engineer.

Conclusion and Recommendations

I find that the TIS provides an adequate basis upon which to assess the impacts of the proposed subdivision. I agree that off-site mitigation for traffic impacts is not required.

If you have any questions or need any further information concerning this review, please contact me at replinger-associates@comcast.net.

Sincerely,



John Replinger, PE
Principal

Oregon City\2017\TP17-03

West Susan Rictor
19500 Orchard Grove Drive
Oregon City, OR

To the City Planning Commission,

I live on Orchard Grove Drive in the Hazel Creek Farm neighborhood. My husband and I worked with an architect and we designed our dream home that we had built. Our lot is 12,593 sq ft and my home is 4,300 sq ft. I am not going to be a short term resident of my home, I plan on staying here for many more years and continue to make improvements on my home.

I knew when we built here that someday there would be a neighborhood connecting to ours. It made sense to me that an addition to the neighborhood would be a continuation of what was already here. Houses in our neighborhood sell very quickly and it is a sought after location in Oregon City. My neighbors maintain their homes and it is a cohesive group of homes. When I have visitors come to my home they often tell me that I live in a nice neighborhood.
The neighborhood across Central Point Rd from us is also similar to our neighborhood.

Now we have a new neighborhood going in next to us. It has been requested to change the zoning from R 10 to R 8. When I took a look at the plot map I saw very few lots that are 8,000 sq ft lots. In the proposed development there are only 8 lots that are 8,000 sq ft or more. That is a small percentage of the proposed lots. There are some very large lots. The 3 lots that are 60 ft wide and are almost 450 ft deep are a strange plan. Since there are a few very large lots it allows for many smaller lots and still be R 8.

The new development borders my property. The proposed lot next to me is a little over 7,000 sq ft and the plot map continues with 10 other lots that most of them are a little over 6,000 sq ft lots continuing down the street. With the zoning change these new homes have different setbacks from my neighborhood. I think that the change is going to be a noticeable difference of how my home is set back from the street to the set back of 10 or 15 feet of the homes proposed. My other neighbors living on Hazel Dell Rd. have homes built on over 10,000 sq ft lots. They will be backed by houses that are 7,000 or almost 8,000 sq ft lots.

The Hazel Creek development is on the outskirts of Oregon City and borders small farm land. Some of the lots will never have homes built behind them. Some of the lots plotted in the new development also border land that probably won't be developed. I think that the neighboring development that is proposed is prime property that would attract new home owners that want to have larger lots and be in an HOA which helps give them some protection in keeping their neighborhood a desirable place to live.

I looked at the plot map for Ed's Orchard. This is the development that has been started that borders Central Point Rd and the Hazel Creek Farm development. It is also zoned R 8. The lots sizes in that development don't have the extreme difference in sizes. The lots being developed that are connected to our development are mostly over 10,000 sq ft lots. It appears to me that there is a little more continuity to our neighborhood.

I am hoping that you will agree to continuing our neighborhood with a similar development of homes. I think that there is profit for the developers and selling potential to keeping the area R 10.

Thank You,

West Susan Rictor

West Susan Rictor

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Staff Report

File Number: PC 17-118

Agenda Date: 10/9/2017

Status: Agenda Ready

To: Planning Commission

Agenda #: 3b

From: Christina Robertson-Gardiner

File Type: Planning Item

SUBJECT:
PZ 17-01: Comprehensive Plan Amendment, ZC-17-04: Zone Change, SP 17-114: Minor Site Plan and Design Review to allow for Oregon City Community Development offices to relocate to an annex building at the former Mt. Pleasant School at 1232 Linn Avenue. The annex is located at 698 Warner Parrott Road at the intersection of Linn Avenue and Warner Parrot Road.

RECOMMENDED ACTION (Motion):
Staff recommends the Planning Commission forward a recommendation for Approval with Conditions to the City Commission for this application.

BACKGROUND:
On September 25, 2017 the Planning Commission opened the hearing, heard staff and applicant's presentation. The Planning Commission kept the record open and continued the hearing to October 9, 2017 for additional public comment, deliberations and a decision.

The applicant is seeking approval for a Zone Change from “R-10” Single-Family Dwelling District and “R-3.5” Dwelling District to “I” Institutional District and from “MR” Medium Density Residential Comprehensive Plan Designation to “QP” Public/Quasi-Public as well as minor exterior alterations with a Minor Site Plan and Design Review to allow for Oregon City Community Development offices to relocate to the Mt. Pleasant Annex

The purpose of this application is to relocate the Oregon City Community Development Department to the Mt. Pleasant Annex. In order for the Planning and Building Divisions, which comprise the Community Development Department, to utilize the site approval is sought for the following:

- An amendment to the Comprehensive Plan Map from MR (Medium Density) to QP (Public/Quasi-Public) for tax lots 2000, 2003, 2008 (0.42 acres);
- A Zone Change from R-3.5 (Dwelling District) for tax lots 2000, 2003, 2008 (0.42 acres) and from R-10 (Single Family Dwelling District) for tax lot 100 (8.07 acres) to I (Institutional); and
- Minor Site Plan and Design Review for exterior building alterations for the 6,850 square foot Annex on the south-east of the site including a new roof with an enhanced entryway, additional windows on the east and south façade (including replacement of a door) as well as minor site changes including additional landscaping, bicycle parking, benches, and

interior sidewalks No new buildings or additions are proposed. Any future development will be analyzed for compliance with the applicable criteria with the associated public review process. This proposal will not affect the ability of the elementary school to remain onsite.

The transportation impact of the Comprehensive Plan Amendment and Zone Change is proposed to be mitigated by placing a limit on the number of automobile trips created by the uses on the 8.49 acres site. Known as a trip cap, the limit would restrict the transportation impact of the uses onsite at any given time to be no more than the transportation impact of the site when all the structures were used as an elementary school. In order to determine the transportation impact of the site, a study was conducted by Kittelson and Associates to determine the number of previous and future cars entering and exiting the site over the course of a day, as well as in the am and pm peak by utilizing the ITE Manual.

Future development on the site shall be limited to uses that in aggregate produce no more than the AM and PM peak hour trips. All new or alterations to the existing uses on the property shall submit an accounting of the trips generated through previously approved land use actions and business licenses for the entire subject site associated with the proposal and demonstrate that the proposal complies with both the maximum AM and PM peak hour trip caps. In order to keep an accurate tally of trips over time, the City will review this accounting either:

- As part of the land use review required for the development, in cases where no business license is required;
- As part of reviewing an application for a business license, in cases where no land use review is required; or
- Both, where a land use approval and a business license are required.

BUDGET IMPACT:
Amount:
FY(s):
Funding Source:



ensive Plan Amendment
nge
ite Plan Review

Mt. Pleasant Annex



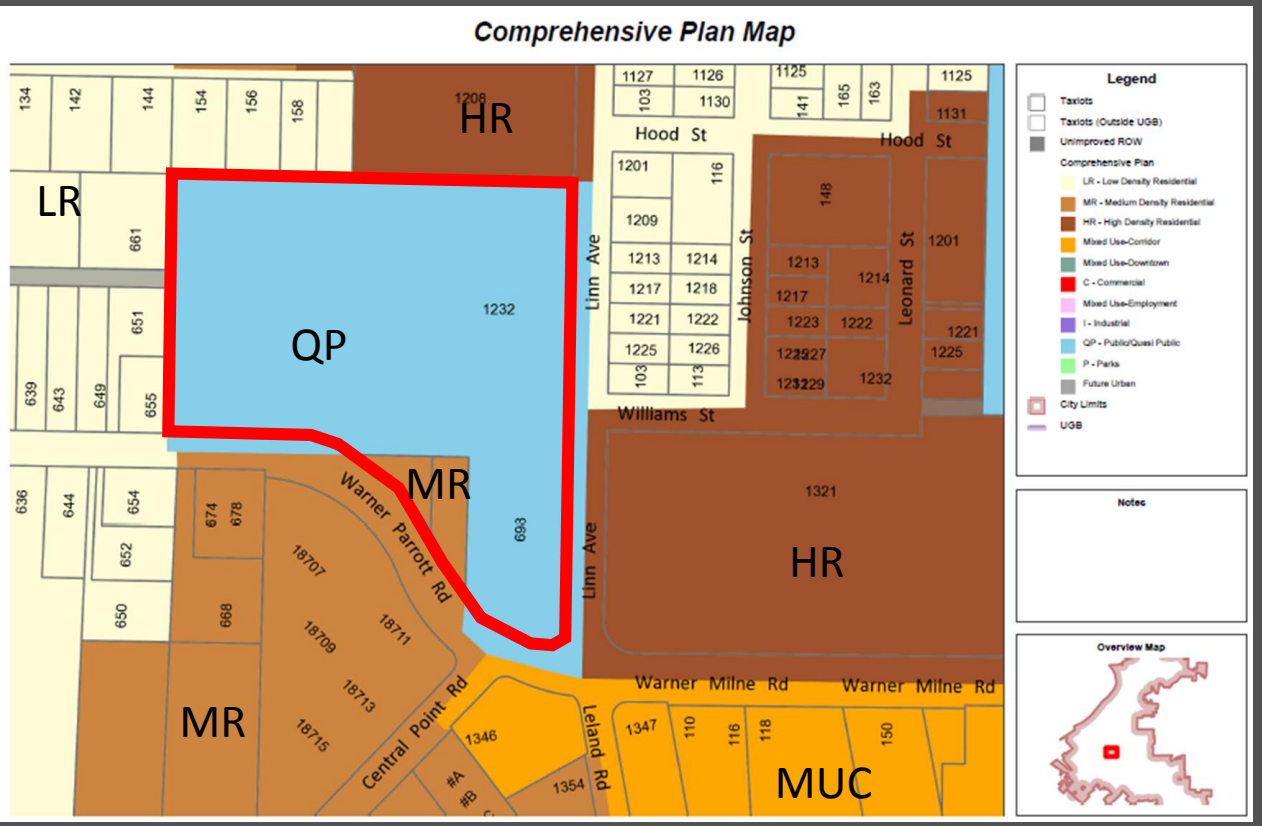


Proposed Applications

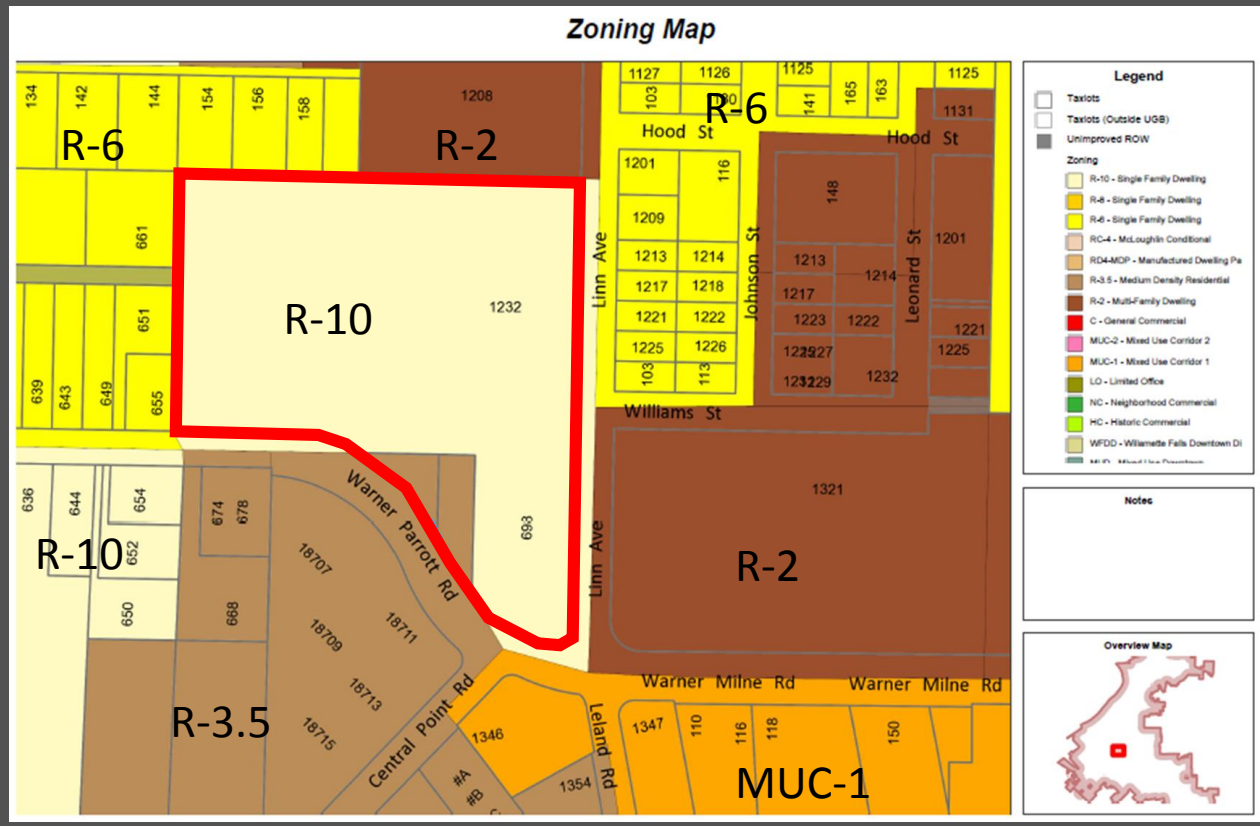
- Comprehensive Plan Amendment
- Zone Change
- Minor Site Plan and Design Review

Comprehensive Plan Amendment and Zone Change

MR to Public/Quasi-Public

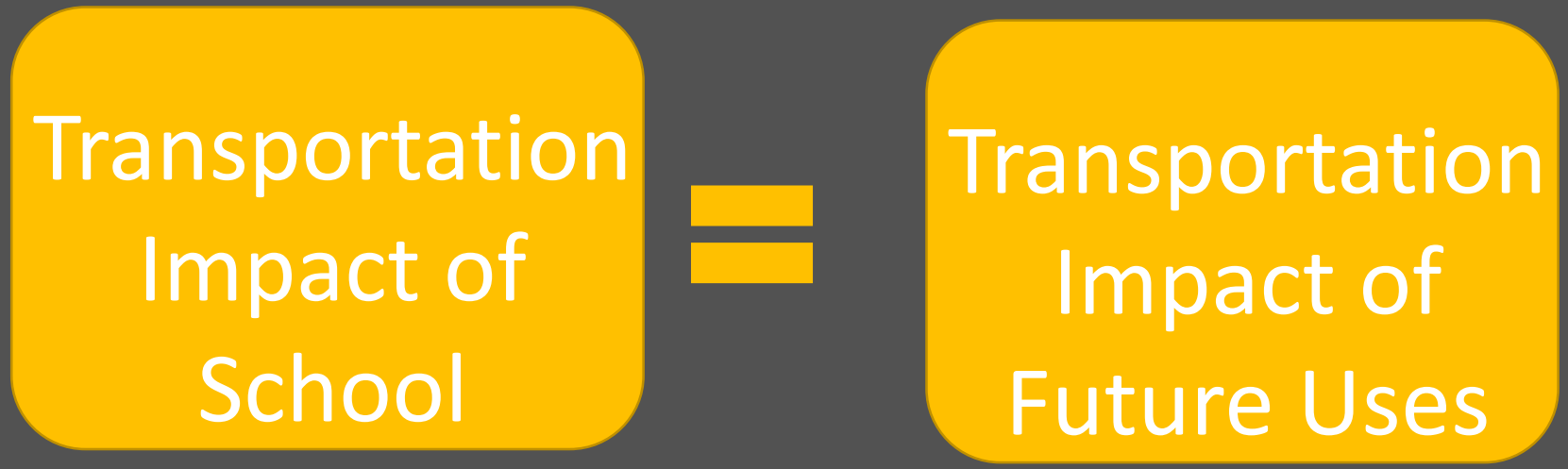


R-10/R3.5 to Institutional



Proposed Trip Cap: 238am and 143pm Peak Hour Trips

Trip Cap



238AM and 143PM Peak Hour Trips Measured:

- Land Use Review
- Business License Review
- Both

Minor Site Plan and Design Re

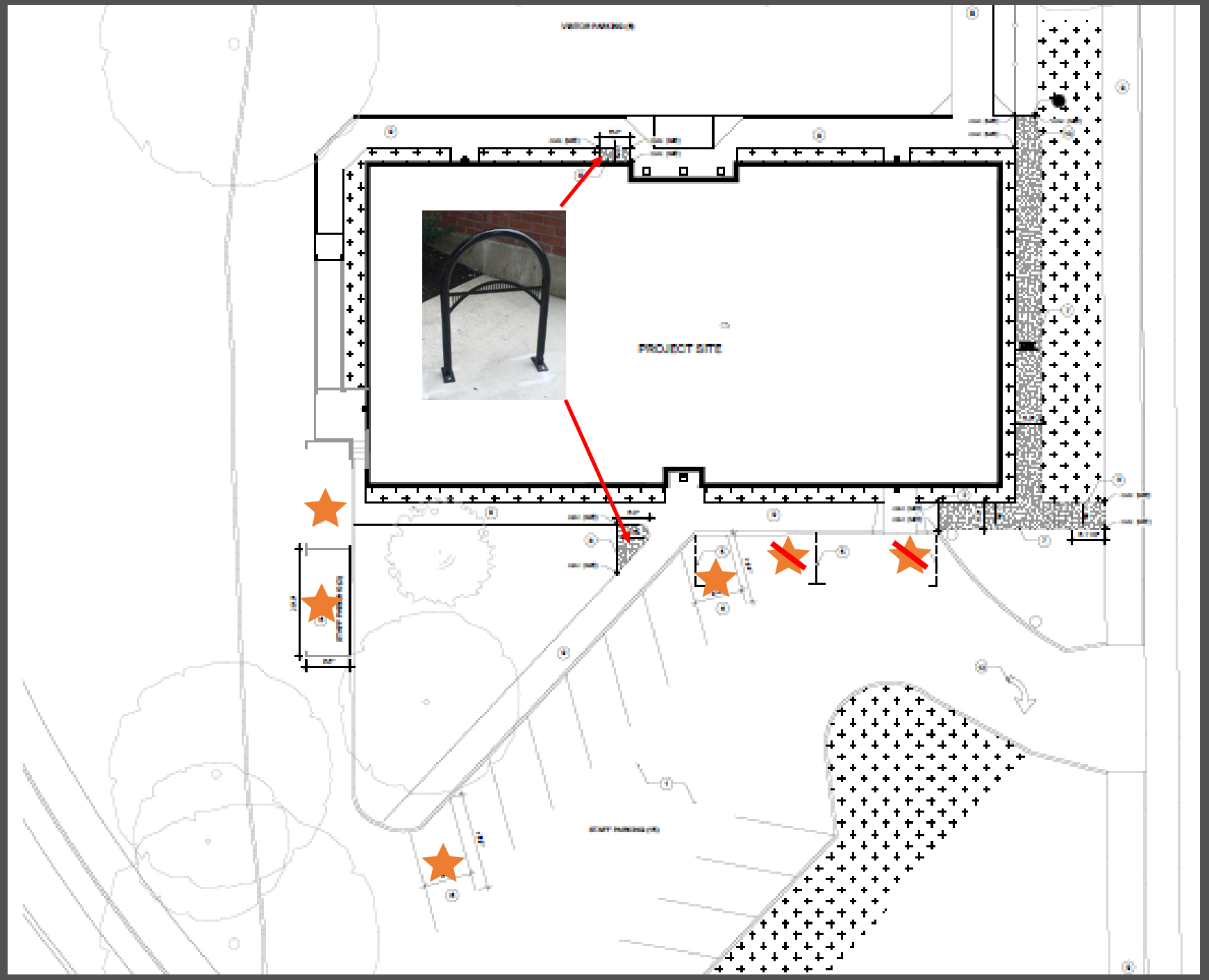


- Roof
- Siding
- Windows/Doors

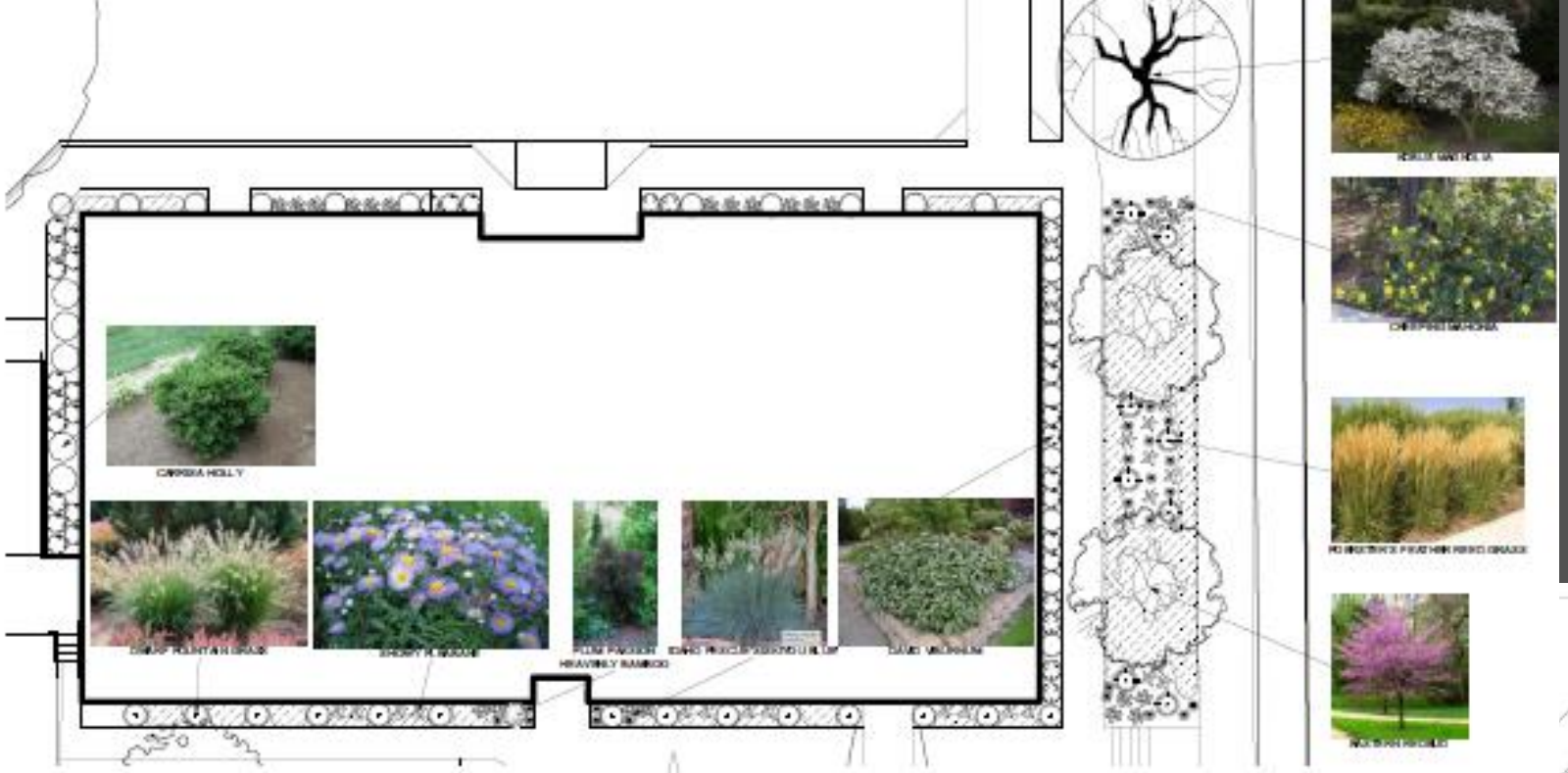
- Landsca
- Parking

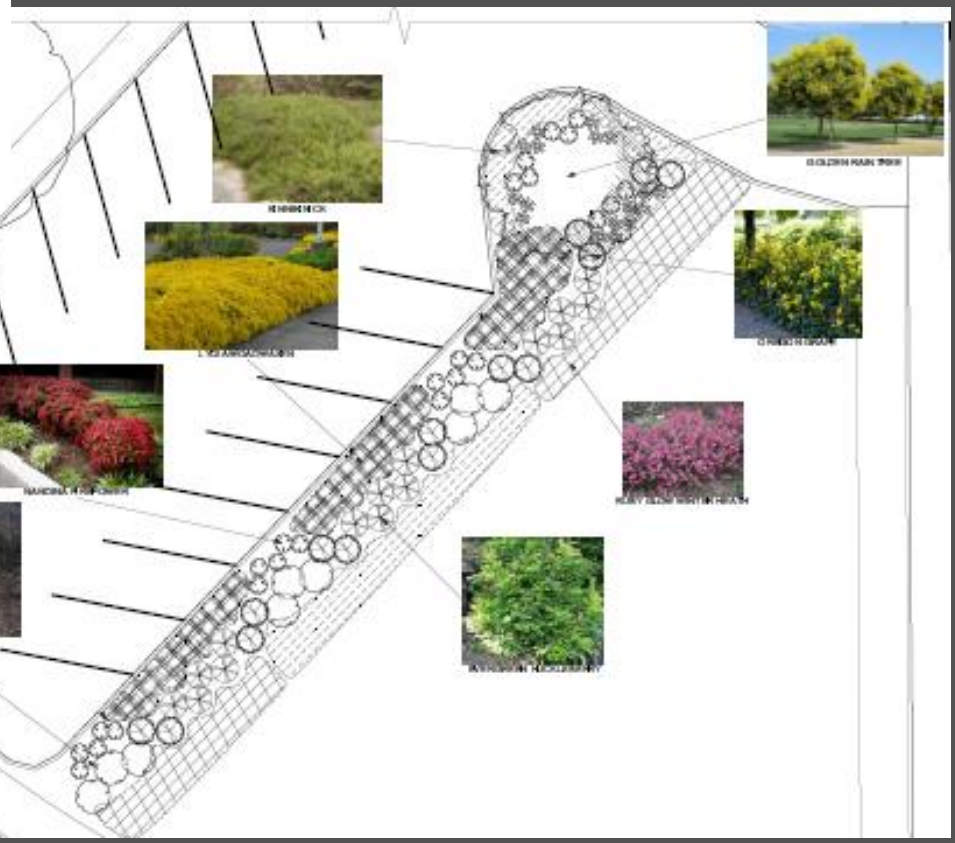
Picnic Bench
Flag Pole

4 New
Parking Stalls



2 Parking Stalls
Removed





Landscaping Plan


Front (Facing Intersection)


Rear (Facing School)





Cement Panel Board Painted

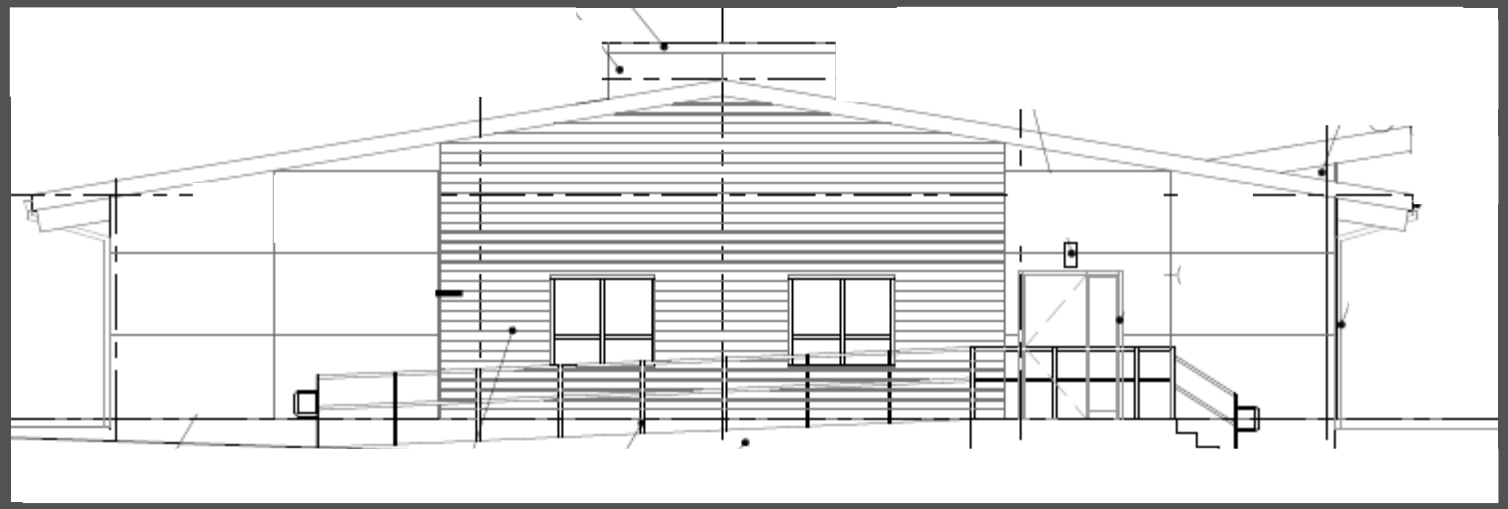


Cement Panel Lap Siding Painted



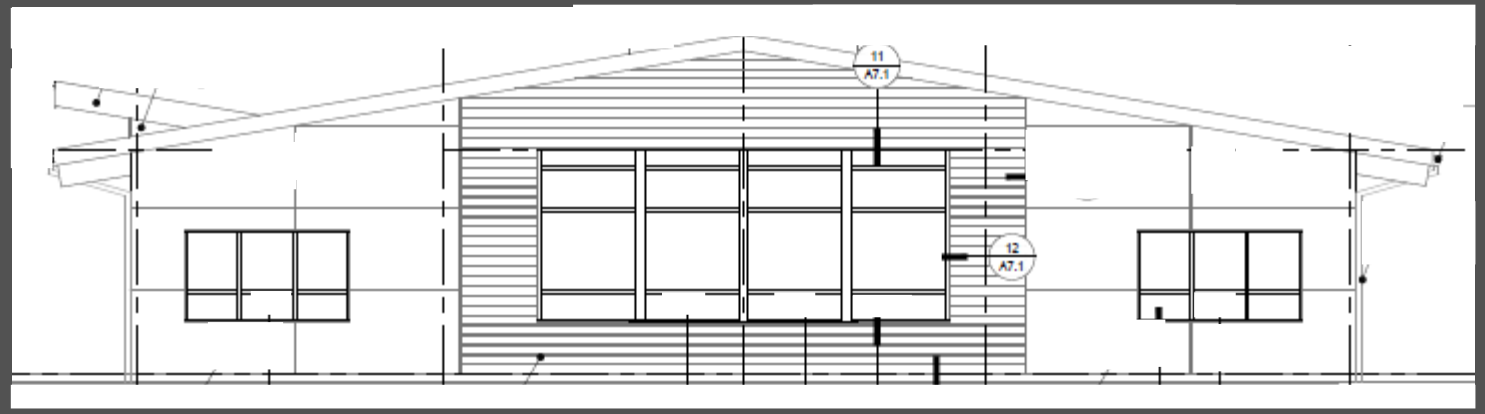
Dark Bronze Aluminum Windows

West



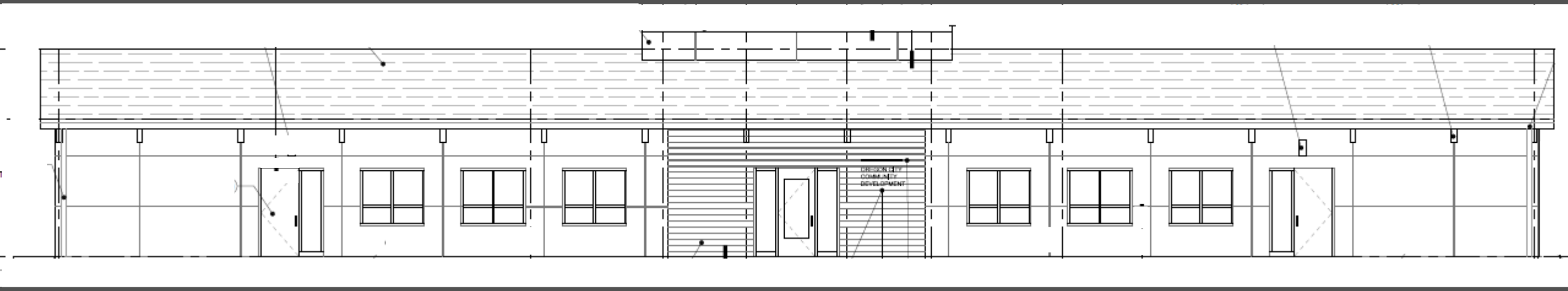


East (Facing Linn Ave.)



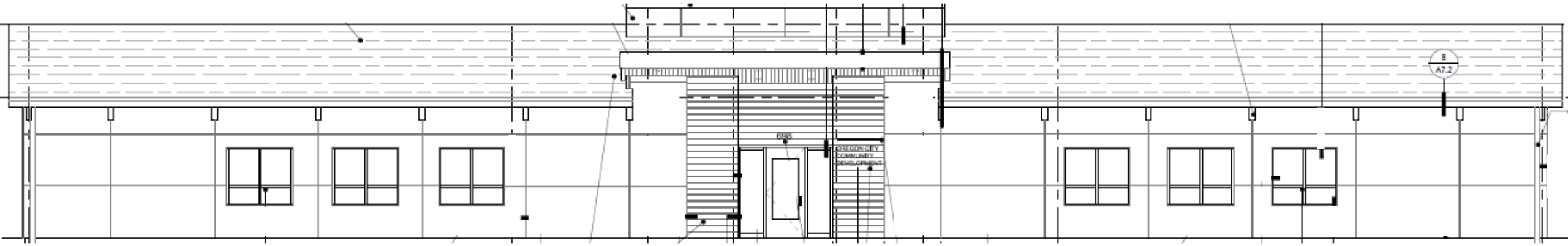


North (Facing School)



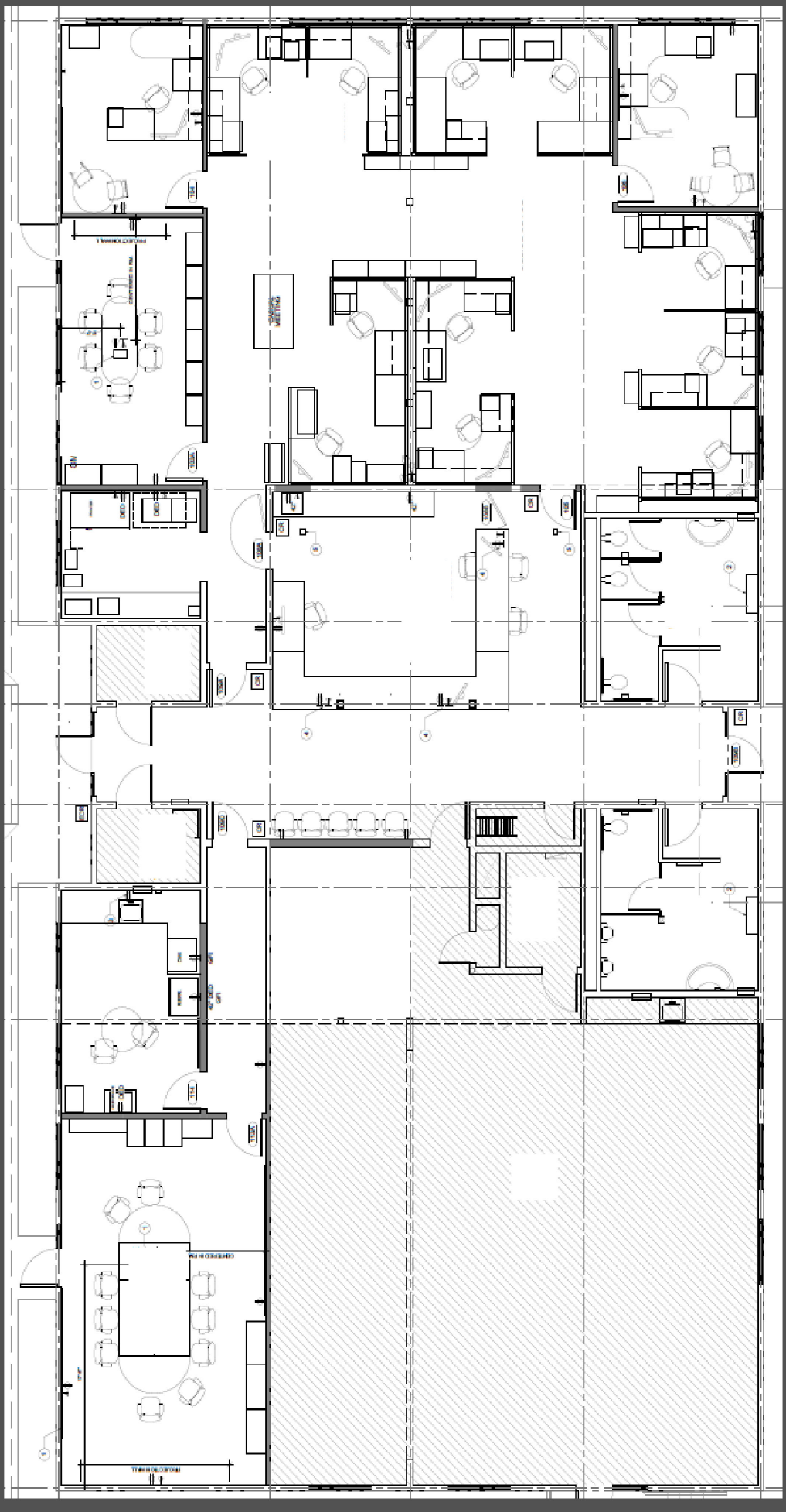


South (Facing Intersection)









17.68.020 - Criteria.

The criteria for a zone change and amendments to the Comprehensive Plan are set forth as follows:

A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

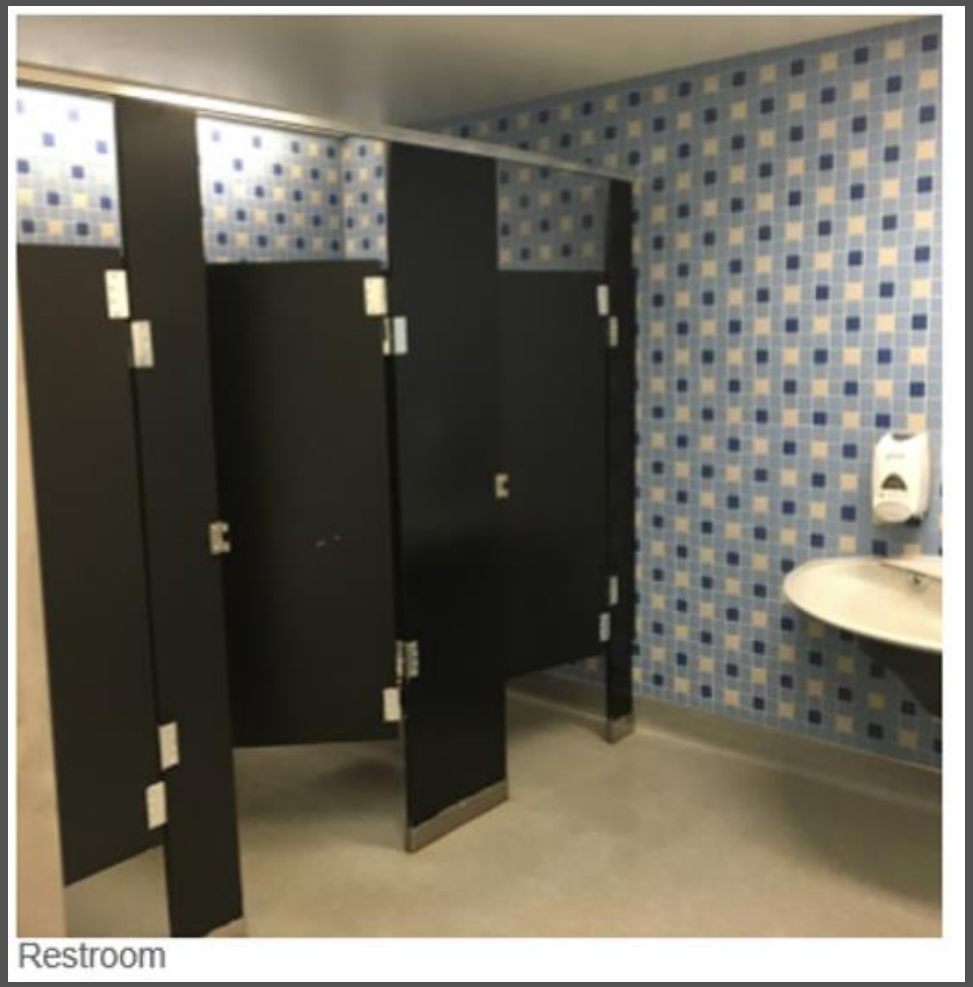
B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

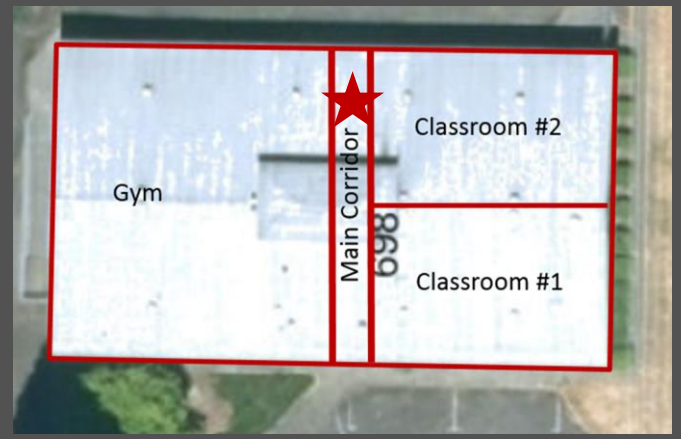
C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

Internal Photos- for Context

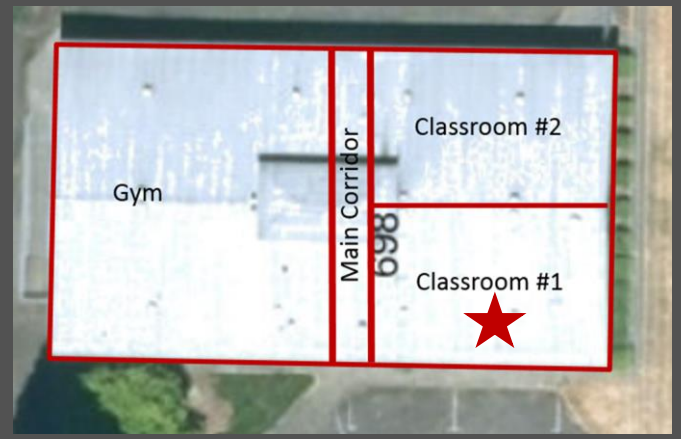
Main Corridor


Restroom





Classroom #1

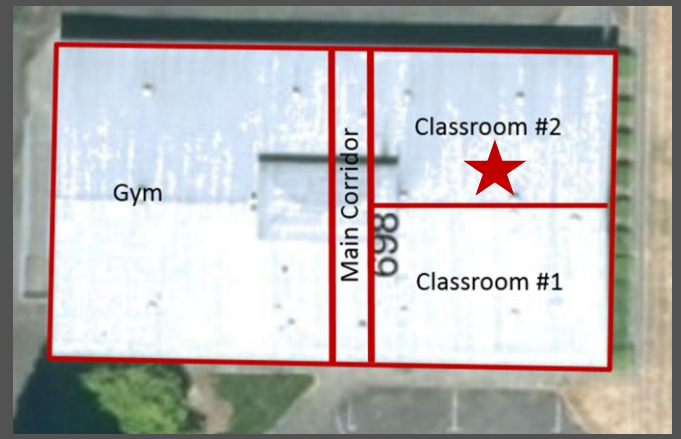






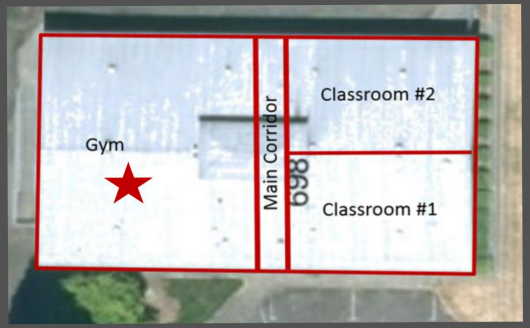
Classroom #2


Casework








Gym
Main Corridor
698
Classroom #2
Classroom #1


CrossFit
FORGING ELITE FITNESS


ROGUE
CrossFit
FORGING ELITE FITNESS

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE IV APPLICATION
STAFF REPORT AND RECOMMENDATION
September 18, 2017

FILE NUMBER: PZ 17-01: Comprehensive Plan Amendment
ZC-17-04: Zone Change
SP 17-114: Minor Site Plan and Design Review

APPLICANT: ZCS Engineering
Zach Stokes, PE
524 Main Street, Suite 2
Oregon City, OR 97045

OWNER: City of Oregon City
PO Box 3040
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

REQUEST: The applicant is seeking approval for a Zone Change from "R-10" Single-Family Dwelling District and "R-3.5" Dwelling District to "I" Institutional District and from "MR" Medium Density Residential Comprehensive Plan Designation to "QP" Public/Quasi-Public as well as minor exterior alterations with a Minor Site Plan and Design Review to allow for Oregon City Community Development offices to relocate to the Mt. Pleasant Annex.

LOCATION: 1232 Linn Avenue/698 Warner Parrott Road/No Address, Oregon City, Oregon 97045
Clackamas County Map 3-2E-06DB, Tax Lots 100, 2000, 2003 & 2008

REVIEWERS: Christina Robertson-Gardiner, AICP, Senior Planner
Wendy Marshall, Development Services Manager
Sang Pau, Development Projects Engineer

RECOMMENDATION: No Recommendation.

PROCESS: Type IV decisions include only quasi-judicial plan amendments and zone changes. These applications involve the greatest amount of discretion and evaluation of subjective approval standards and must be heard by the city commission for final action. The process for these land use decisions is controlled by ORS 197.763. At the evidentiary hearing held before the planning commission, all issues are addressed. If the planning commission denies the application, any party with standing (i.e., anyone who appeared before the planning commission either in person or in writing) may appeal the planning commission denial to the city commission. If the planning commission denies the application and no appeal has been received within ten days of the issuance of the final decision then the action of the planning commission becomes the final decision of the city. If the planning commission votes to approve the application, that decision is forwarded as a recommendation to the city

commission for final consideration. In either case, any review by the city commission is on the record and only issues raised before the planning commission may be raised before the city commission. The city commission decision is the city's final decision and is appealable to the land use board of appeals (LUBA) within twenty-one days of when it becomes final.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722-3789.

RECOMMENDED CONDITIONS OF APPROVAL
Files PZ 17-01: Comprehensive Plan Amendment, ZC-17-04: Zone Change, and SP 17-114: Minor Site Plan and Design Review

(P) = Verify that condition of approval has been met with the Planning Division.

1. Future development on the site shall be limited to uses that in aggregate produce no more than 238 AM and 143 PM peak hour trips. All new or alterations to the existing uses on the property shall submit an accounting of the trips generated through previously approved land use actions and business licenses for the entire subject site associated with the proposal and demonstrate that the proposal complies with both the maximum AM and PM peak hour trip caps. In order to keep an accurate tally of trips over time, the City will review this accounting either: (1) as part of the land use review required for the development, in cases where no business license is required; (2) as part of reviewing an application for a business license, in cases where no land use review is required; or (3) both, where a land use approval and a business license are required. (P)
2. Prior to issuance of a certificate of occupancy, the applicant shall provide documentation from a lighting specialist demonstrating compliance with the lighting requirements in OCMC 17.62.065.
3. Prior to issuance of a Certificate of Occupancy, the applicant shall ensure that any new mechanical equipment can meet the screening standards set forth in OCMC 17.62.050 (a) 20.

I. BACKGROUND:

1. Existing Conditions

The subject site, is known ad Mt. Pleasant, and abuts Linn Avenue to the east, Warner Parrott Road to the south, and the eastern terminus of platted Marshall Street to the west. The site consists of 4 separate tax lots and is approximately 8.49 acres in size. There are sidewalks along a portion of Warner Parrott Road, the entirety of the Linn Avenue frontage, and across the vacated section of Warner Parrott Road. A public access easement exists on the property's west side connecting Warner Parrott Road to platted Marshall Street.

The majority of the site is comprised of athletic fields, play areas, and landscaped areas. The site is generally flat, and is gated and fenced. There are two driveways off of Warner Parrott Road and two off of Linn Avenue. The subject site is currently constructed with

40 parking stalls, an additional 13 stalls fenced behind the northern portion of the building which are currently fenced, and 22 adjacent parallel on-street stalls.

The site has been utilized as an elementary school for a significant length of time. It is currently developed with three structures connected by breezeways totaling approximately 32,000 square feet and a 4,500 square foot metal building which are all occupied by Marylhurst School which serves children from preschool through middle school. Marylhurst leases a majority of the subject site from the City of Oregon City, with a lease which is valid until June of 2019.

An additional 6,850 square foot structure located closest to the intersection of Linn Avenue and Warner Parrott, referred to as the Annex, is not within the scope of the Marlyhurst lease. Though a portion of the facility is used as training facility/gym for the Police Department a majority of the space is unused or minimally used for storage.

Public water mains exists in Linn Avenue, Warner Parrott Road, and the vacated section of Warner Parrott Road. Public sewer mains exist in Linn Avenue, Warner Parrott Road, the vacated section of Warner Parrott Road, and adjacent to the eastern tax lot line of lot 2000. A public stormwater line exists in a portion of Linn Avenue and a portion of Warner Parrott Road. A public easement for storm water crosses the property's northwest corner.

Figure 1. Vicinity Map



Figure 2. Aerial Image of Project Site


LINN AVENUE
WILLIAMS STREET
WARNER-PARROTT ROAD
Annex
WARNER-MILNE ROAD
CENTRAL POINT ROAD
LEVAND ROAD

Figures 3-7. Photos of the Annex



Southern Entrance



Southeast Corner



Northern Entrance



East Facade



West Facade

Figure 8. Current Zoning Map

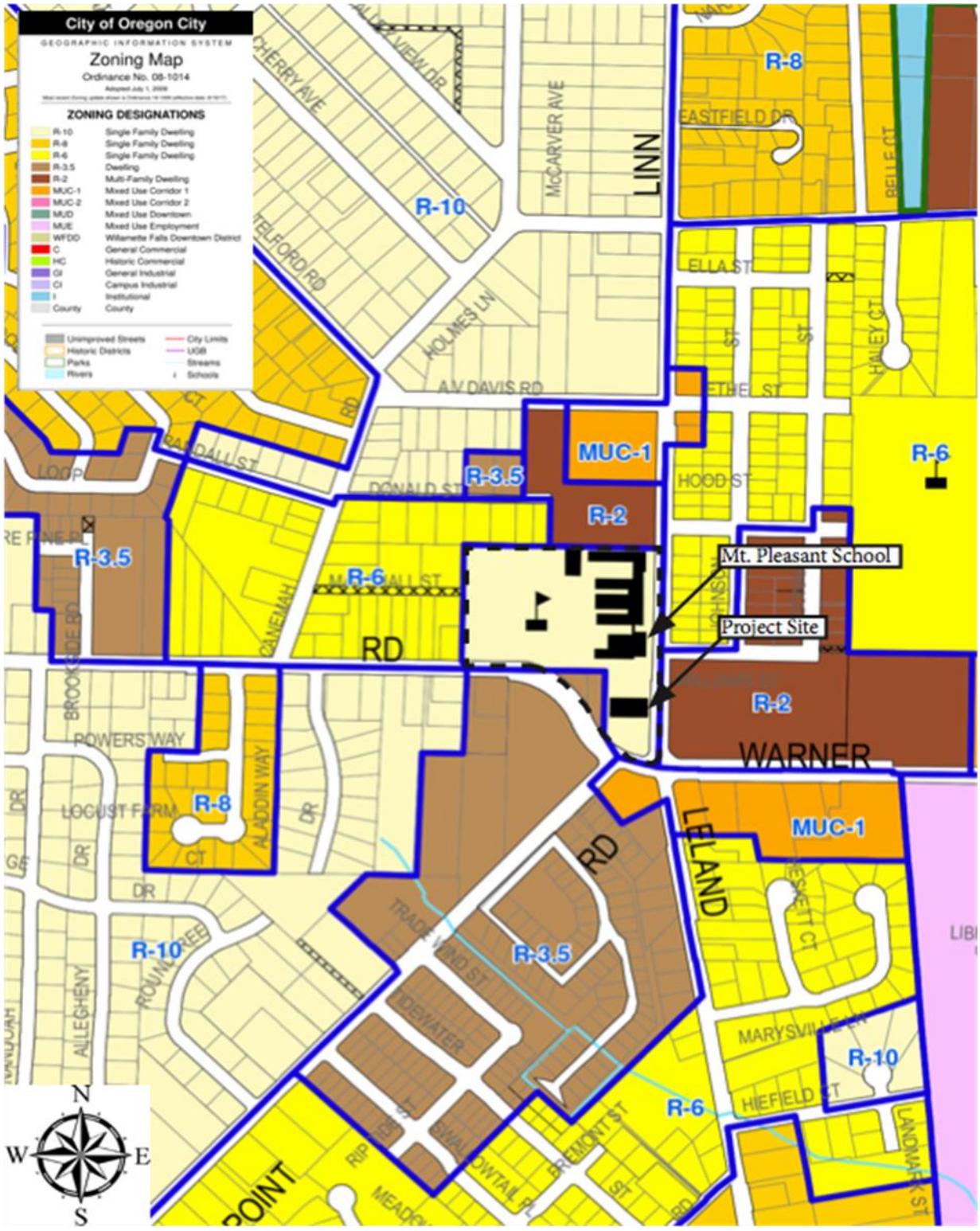
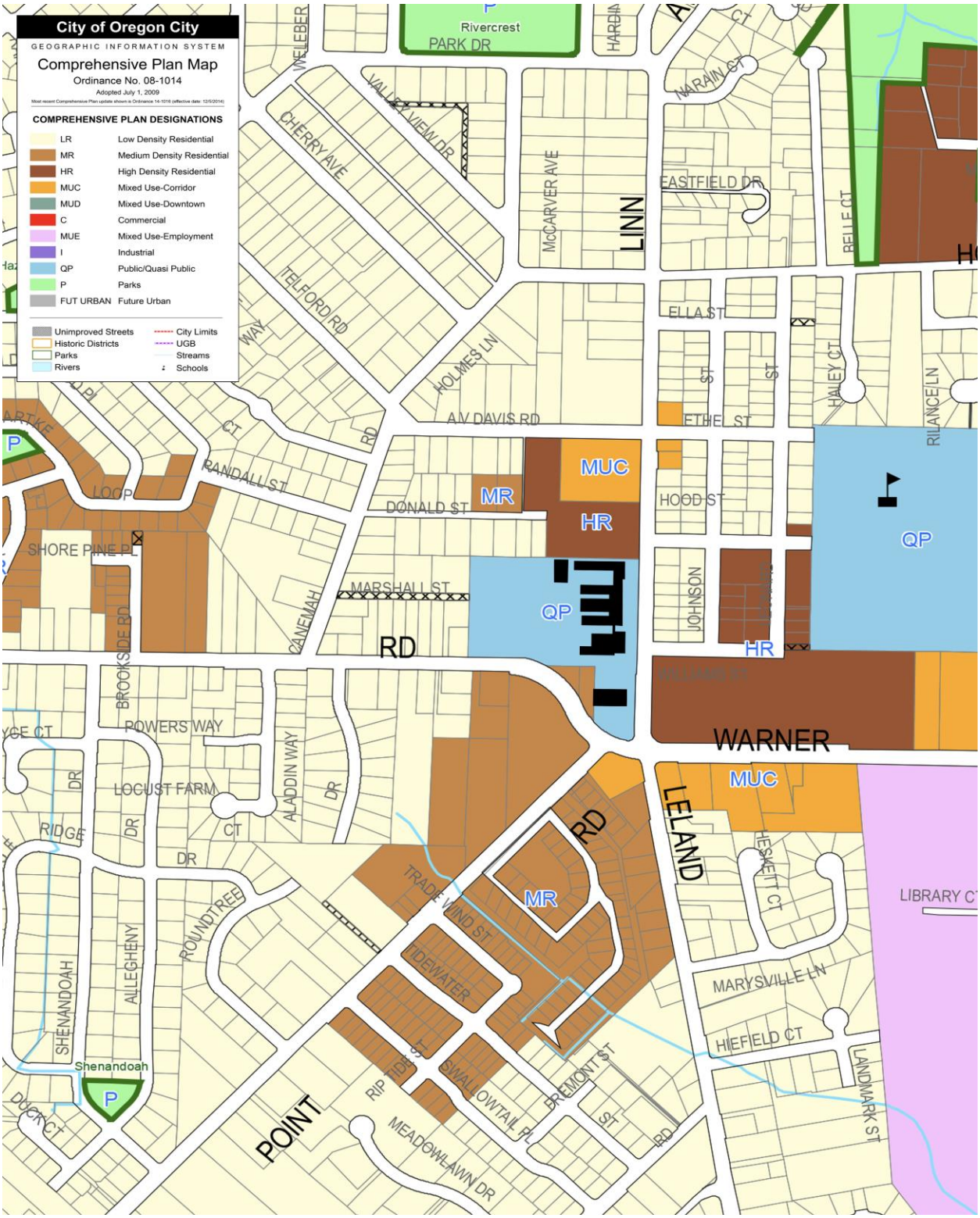


Figure 9. Current Comprehensive Plan Map


City of Oregon City
GEOGRAPHIC INFORMATION SYSTEM
Comprehensive Plan Map
Ordinance No. 08-1014
Adopted July 1, 2009
COMPREHENSIVE PLAN DESIGNATIONS
LR Low Density Residential
MR Medium Density Residential
HR High Density Residential
MUC Mixed Use-Corridor
MUD Mixed Use-Downtown
C Commercial
MUE Mixed Use-Employment
I Industrial
QP Public/Quasi Public
P Parks
FUT URBAN Future Urban
Unimproved Streets
Historic Districts
Parks
Rivers
City Limits
UGB
Streams
Schools
Rivercrest
PARK DR
WELEBER
CHERRY AVE
VALLEY VIEW DR
TELFORD RD
McCARVER AVE
LINN
NARAIN CT
EASTFIELD DR
BELLE CT
ELLA ST
HOLMES LN
A.V. DAVIS RD
ETHEL ST
HALEY CT
RILANCE LN
RANDALL ST
LOOP
DONALD ST
MUC
MR
HR
HOOD ST
QP
SHORE PINE PL
MARSHALL ST
CANEMAH
BROOKSIDE RD
JOHNSON
RD
WARNER
POWERS WAY
LOCUST FARM
ALADDIN WAY
RIDGE
CT
DR
ROUNDTREE
TRADE WIND ST
TIDEWATER
LELAND
HESKETT CT
LIBRARY CT
MARYSVILLE LN
HIEFIELD CT
LANDMARK ST
SHENANDOAH
ALLEGHENY
Shenandoah
DUCK CT
POINT
RIP TIDE CT
SWALLOWTAIL PL
BREMONT ST
MEADOWLAWN DR

II. **Project Description**

The purpose of this application is to relocate the Oregon City Community Development Department to the Mt. Pleasant Annex. In order for the Planning and Building Divisions, which comprise the Community Development Department, to utilize the site approval is sought for the following:

- An amendment to the Comprehensive Plan Map from MR (Medium Density) to QP (Public/Quasi-Public) for tax lots 2000, 2003, 2008 (0.42 acres);
- A Zone Change from R-3.5 (Dwelling District) for tax lots 2000, 2003, 2008 (0.42 acres) and from R-10 (Single Family Dwelling District) for tax lot 100 (8.07 acres) to I (Institutional); and
- Minor Site Plan and Design Review for exterior building alterations for the 6,850 square foot Annex on the south-east of the site including a new roof with an enhanced entryway, additional windows on the east and south façade (including replacement of a door) as well as minor site changes including additional landscaping, bicycle parking, benches, and interior sidewalks.

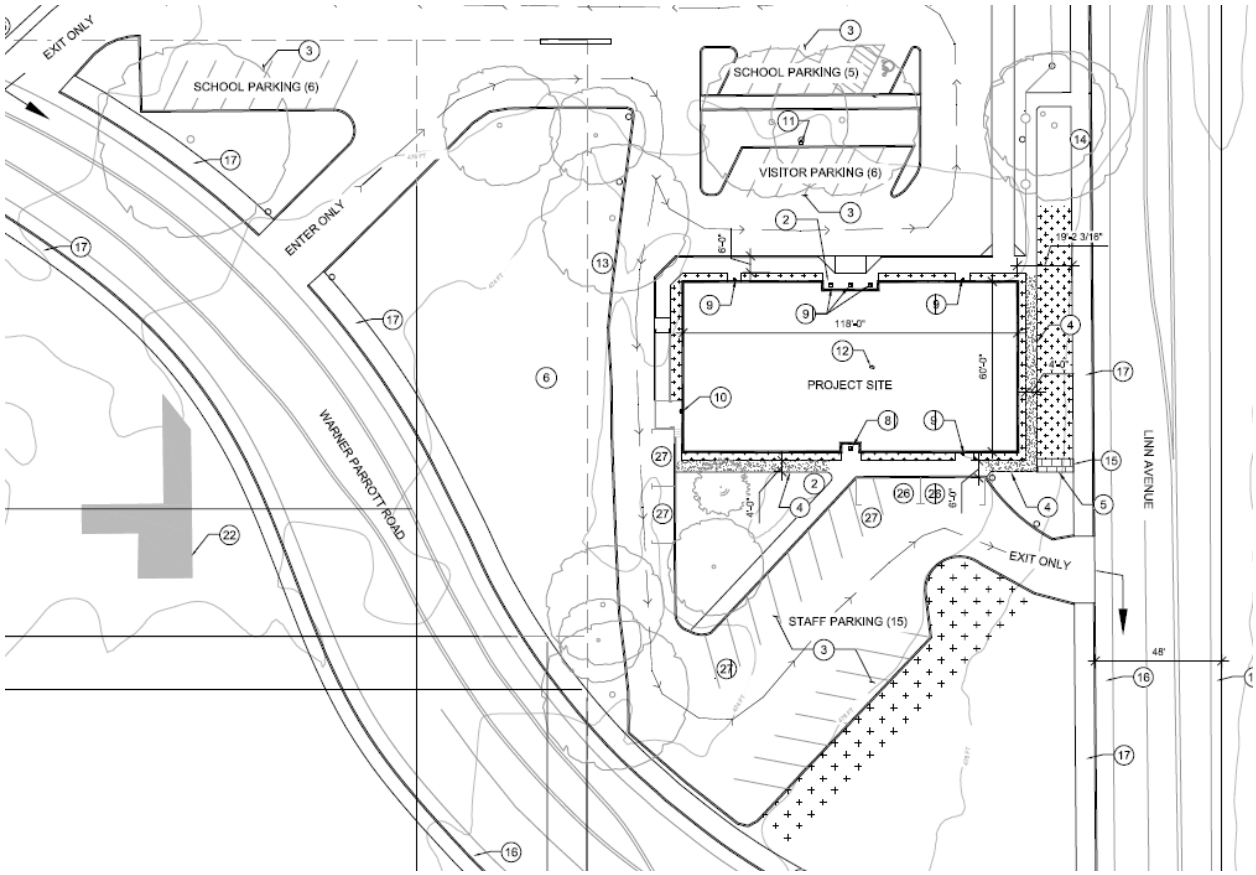
No new buildings or additions are proposed. Any future development will be analyzed for compliance with the applicable criteria with the associated public review process. This proposal will not affect the ability of the elementary school to remain onsite.

The transportation impact of the Comprehensive Plan Amendment and Zone Change is proposed to be mitigated by placing a limit on the number of automobile trips created by the uses on the 8.49 acres site. Known as a trip cap, the limit would restrict the transportation impact of the uses onsite at any given time to be no more than the transportation impact of the site when all the structures were used as an elementary school. In order to determine the transportation impact of the site, a study was conducted by Kittelson and Associates to determine the number of previous and future cars entering and exiting the site over the course of a day, as well as in the am and pm peak by utilizing the ITE Manual.

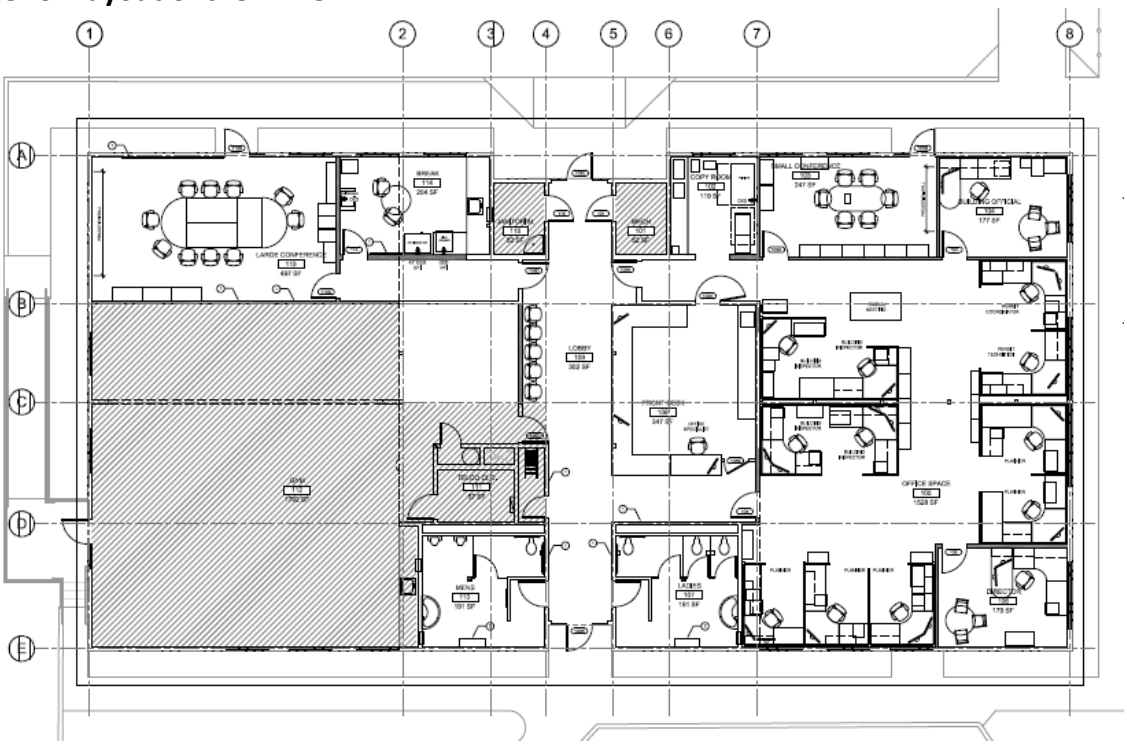
Future development on the site shall be limited to uses that in aggregate produce no more than the AM and PM peak hour trips. All new or alterations to the existing uses on the property shall submit an accounting of the trips generated through previously approved land use actions and business licenses for the entire subject site associated with the proposal and demonstrate that the proposal complies with both the maximum AM and PM peak hour trip caps. In order to keep an accurate tally of trips over time, the City will review this accounting either:

- As part of the land use review required for the development, in cases where no business license is required;
- As part of reviewing an application for a business license, in cases where no land use review is required; or
- Both, where a land use approval and a business license are required.

Site Plan for Minor Site Plan and Design Review



Interior Layout of the Annex



The Comprehensive Plan guides the City with goals, policies, and a map identifying general types of development. Properties are assigned a Comprehensive Plan designation to broadly define the character of a site as well as a more specific zoning designation. For example, properties designed as "LR" Low Density Residential in the Comprehensive Plan may be within the "R-10", "R-8" or "R-6" Single-Family Districts. Properties designated identified as "MR" Medium Density Residential in the Comprehensive Plan may have a zoning designation of "R-5" or "R-3.5" Dwelling Districts. Currently, more than 8 acres of the site has a Comprehensive Plan designation of "QP" Public/Quasi-Public but a zoning designation of "R-10" Single-Family Dwelling District. According to the Comprehensive Plan QP is defined as:

> Public and Quasi-Public (QP) — publicly owned lands other than city parks, such as schools, cemeteries, undeveloped lands, open space, government buildings and public utility facilities, such as the sewage treatment plant and water reservoirs.

The proposal would alter the designations of the site so the entire site is within the "QP" Public/Quasi-Public Comprehensive Plan designation and zoned within the "I" Institutional District. According to Chapter 17.39 of the Oregon City Municipal Code the "I" Institutional District is designated as:

> The purpose of this district is designed to facilitate the development of major public institutions, government facilities and parks and ensure the compatibility of these developments with surrounding areas. The I—Institutional zone is consistent with the public/quasi public and park designations on the comprehensive plan map.

III. ANALYSIS AND FINDINGS: Oregon City Municipal Code

CHAPTER 17.68.020 ZONE CHANGES AND AMENDMENTS

17.68.010 *Initiation of the Amendment.*
A text amendment to this title or the Comprehensive Plan, or an amendment to the zoning map or the Comprehensive Plan map, may be initiated by:
A. A resolution request by the City Commission;
B. An official proposal by the Planning Commission;
C. An application to the Planning Division presented on forms and accompanied by information prescribed by the planning commission.
D. A Legislative request by the Planning Division
All requests for amendment or change in this title shall be referred to the Planning Commission.
Finding: Complies as Proposed. The applicant, on behalf of the property owner, is submitting this application to initiate an amendment to the Comprehensive Plan and Zone Change for the subject site in accordance with OCMC 17.68.010.c. The property owners agree by and through their signature on the main application.

17.68.020.A *The proposal shall be consistent with the goals and policies of the comprehensive plan.*

Goal 1: Citizen Involvement

Goal 1.1 *Citizen Involvement Program Implement a Citizen Involvement Program that will provide an active and systematic process for citizen participation in all phases of the land-use decision making process to enable citizens to consider and act upon a broad range of issues affecting the livability, community sustainability, and quality of neighborhoods and the community as a whole.*

Policy 1.1.1 - Utilize neighborhood associations as the vehicle for neighborhood-based input to meet the requirements of the Land Conservation and Development Commission (LCDC) Statewide Planning Goal 1, Citizen Involvement. The Citizen Involvement Committee (CIC) shall serve as the officially recognized citizen committee needed to meet LCDC Statewide Planning Goal 1.

Goal 1.2 *Community and Comprehensive Planning - Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.*

Policy 1.2.1 - Encourage citizens to participate in appropriate government functions and land-use planning.

Goal 1.3 *Community Education - Provide education for individuals, groups, and communities to ensure effective participation in decision-making processes that affect the livability of neighborhoods.*

Goal 1.4 *Community Involvement - Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.*

Policy 1.4.1 - Notify citizens about community involvement opportunities when they occur.

Finding: Complies as Proposed. The Oregon City code includes provisions to insure that citizen involvement is guaranteed for individual citizens, neighborhood associations, property owners, and special interest groups. The proposal was presented to the City Commission at a series of meetings, as well as before the Citizen Involvement Committee and Rivercrest Neighborhood Association prior to submittal of the application. Once deemed complete, notice of the application will be sent to the Citizen Involvement Committee, neighborhood associations, a variety of agencies and members of the public, surrounding property owners (within 300 feet), and posted for public notification on the city's website as well as in two newspapers. The physical site will also be posted prior to the required public hearing. Citizens have been, and will be, afforded multiple opportunities to be involved with the review process.

Goal 2: Land Use

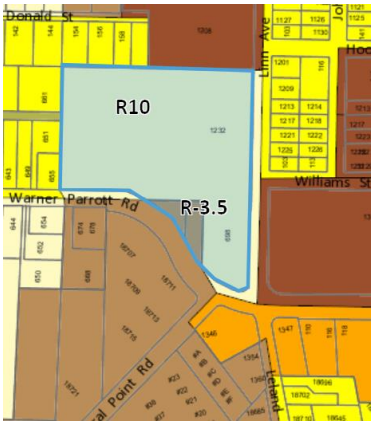
Goal 2.1: *Ensure that property planned for residential, commercial, office and industrial uses is used efficiently and that land is developed following principles of sustainable development.*

Finding: Complies as Proposed. The existing site has the following designations:

7.49 acres	Comp. Plan: Quasi-Public	Zoning: R-10
0.4 acres	Comp. Plan: Medium Density Residential	Zoning: R-3.5 Dwelling District

The proposal would amend the Comprehensive Plan designation for 0.4 acres from "MR" Medium Density Residential to "QP" Public/Quasi-Public so the entire site would be within the QP Comprehensive Plan designation and the zoning for the site is proposed to be amended to "I" Institutional. The site is owned by the City of Oregon City and the proposal would allow for government offices onsite. The site is located near many non-residential uses, creating an opportunity to efficiently utilize land and infrastructure while support a cohesive use with nearby properties. Currently, the site is encumbered by school structures, parking lots, driveways, drive aisles, and play fields and areas associated with the school structures as well as a training facility/gym for the Police. The proposal would allow for government office use of the site, a use similar in impact to the existing use. Warner Parrott Road serves as an effective transition from the residential zone to the south to the proposed Institutional zone.

Existing Zoning



Existing Comprehensive Plan Designation



Goal 2.3: Corridors: *Focus transit-oriented, higher intensity, mixed-use development along selected transit corridors.*

Finding: Complies as Proposed. Both Linn Avenue and Warner Parrott Road are classified as minor arterials and Tri-Met currently runs adjacent to the subject site with a bus stop along the Linn Avenue frontage. The subject site is adjacent to much higher density designations such as "MUC-1" Mixed Use Corridor District and "R-2" Multi-Family Residential District and near other higher density uses such as Mixed Use Employment as well as General Commercial. Aside from the zoning, the site has been historically used as an elementary school, a use with impacts similar to that of government offices, with similar hours of operations and the proposed transportation impact results in similar traffic impacts. The current school and proposed local government offices are transit-oriented, higher intensity development, appropriate for the location proposed.

Goal 2.4: *Neighborhood Livability - Provide a sense of place and identity for residents and visitors by protecting and maintaining neighborhoods as the basic unit of community life in Oregon City while implementing the goals and policies of the other sections of the Comprehensive Plan.*
Policy 2.4.2 Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.

Policy 2.4.4 Where environmental constraints reduce the amount of buildable land, and/or where adjacent land differs in uses or density, implement Comprehensive Plan and zoning designations that encourage compatible transitional uses.
Policy 2.4.5 - Ensure a process is developed to prevent barriers in the development of neighborhood schools, senior and childcare facilities, parks, and other uses that serve the needs of the immediate area and the residents of Oregon City.

Finding: Complies as Proposed. The site is currently primarily utilized as an elementary school with a small police training facility/gym. The area is characterized by a variety of commercial and institutional uses and zoning designations coupled with a transit line to support nearby residences and the greater community. The variety of nearby uses include churches, an assortment of commercial businesses, offices, residences, and a school. Linn Avenue and Warner Parrott Road serve as natural transition to adjacent residential, multi-family, institutional, and commercial uses. The proposed Comprehensive Plan amendment and Zone Change would allow the City to utilize the Annex for the Community Development Department while retaining an elementary school as the primary use of the site and the vibrancy of the immediate area. Future uses of the site are limited to those identified within the Institutional District. The site has been historically used as an elementary school, a use with impacts similar to that of government offices, with similar hours of operations and the proposed transportation impact results in similar traffic impacts.

The "I" Institutional District proposed for the site is within the QP Comprehensive Plan Designation, of which approximately 8 acres of the site is already designated. The proposed comprehensive plan and zone change would support the surrounding uses and zoning without altering the impacts to the community. The applicant has proposed a trip cap to limit the amount of transportation impacts of the proposal to not exceed that of the elementary school.

Goal 2.7: *Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.*
Policy 2.7.1 Maintain a sufficient land supply within the city limits and the Urban Growth Boundary to meet local, regional, and state requirements for accommodating growth.
Policy 2.7.2 Use the 11 land-use classifications on the Oregon City Comprehensive Plan Land-Use Map to determine the zoning classifications that may be applied to parcels.

Finding: Complies as Proposed. The proposal includes an amendment to the Comprehensive Plan Map from MR (Medium Density) to QP (Public/Quasi-Public) and a Zone Change from R-3.5 (Dwelling District) for tax lots 2000, 2003, 2008 (0.42 acres) and from R-10 (Single Family Dwelling District) for tax lot 100 (8.07 acres) to I (Institutional). Currently 8.07 acres have a comprehensive plan designation of Public/Quasi-Public and are used as an elementary school but is zoned "R-10" Single-Family Dwelling District. The Institutional District is consistent with the "QP" Public/Quasi-Public designation of the Comprehensive Plan, of which a vast majority of the subject site is already within the Public/Quasi-Public Comprehensive Plan designation. The proposal would allow the subject site to be under a single cohesive Comprehensive Plan designation as well as the associated zoning designation. The rezoning of 8.49 acres is not expected to negatively impact the supply of residentially zoned property and is a minor addition to the Institutional zoned property supply.

Goal 3: ***Agricultural Land: requires local governments "to preserve and maintain agricultural lands."***

Finding: Complies as Proposed. This goal is not applicable; there is no agricultural land associated with this proposal.

Goal 4: Forest Lands

Finding: Complies as Proposed. This goal is not applicable; no forest lands are designated within the City limits.

Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

Finding: Complies as Proposed. Exterior alterations are proposed to the Annex building, which is less than 50 years in age, constructed in 1977 or 1978. The main building of Mt. Pleasant School is over 50 year old, though nothing is being proposed at this time on that portion of the site. There are no locally or nationally designated scenic, historic or natural resources impacted with the proposed development. The stormwater manual equally protects the site for water quality purposes under the current use and with the proposed zoning designation.

Goal 6: Quality of Air, Water and Land Resources

Goal 6.1 *Air Quality- Promote the conservation, protection and improvement of the quality of the air in Oregon City.*

Policy 6.1.1 Promote land-use patterns that reduce the need for distance travel by single-occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.

Finding: Complies as Proposed. The proposed comprehensive plan and zone change amendments allow for the relocation of City facilities and the reuse of an existing Annex building. The proposal would allow a more efficient use of property located in a commercial areas and on a transit route reducing the need for distance travel by single-occupancy vehicle, thus promoting the conservation, protection and improvement of the quality of the air in the city.

Goal 7: Natural Hazards

Finding: Complies as Proposed. This goal is not applicable. There are no natural hazards associated with this site.

Goal 8: Parks and Recreation

Finding: Complies as Proposed. The proposed amendments preserve the ability to develop/maintain the site for public use, including parks and playfields.

Goal 9: Economic Development

Improve Oregon City's Economic Health - Provide a vital, diversified, innovative economy including an adequate supply of goods and services and employment opportunities to work toward an economically reasonable, ecologically sound and socially equitable economy.

Finding: Complies as Proposed. The proposed Comprehensive Plan and Zone Change amendments would bring 8.49 acres of property into the Institutional zone and remove it from the residential zone, allowing the property to be utilized in association with higher employment opportunities such as government office.

> ***Goal 10: Housing***
> ***Goal 10.1****: Provide for the planning, development and preservation of a variety of housing types and lot sizes.*
> *Policy 10.1.1*
> *Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.*
> *Policy 10.1.3*
> *Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.*
> *Policy 10.1.4*
> *Aim to reduce the isolation of income groups within communities by encouraging diversity in housing types within neighborhoods consistent with the Clackamas County Consolidated Plan, while ensuring that needed affordable housing is provided.*

Finding: Complies as Proposed. Since 2002, both land use decisions to increase density and policies have encouraged additional housing development. For example, units have been created through approval of zone changes that allowed greater density as well as through the creation of a variety of housing types ranging from single-family to multi-family and care facilities. With the adoption of the Comprehensive Plan in 2004, the City amended the Municipal Code to allow construction of one accessory dwelling unit in every place in which a single-family home is allowed and adopted cottage housing with density bonuses. These two unit types provided an opportunity for more diverse, and often affordable, housing opportunities within existing neighborhoods.

Moreover, the City has planned for at least 5,762 dwelling units as follows:

- The City created and approved concept plans for three areas (South End, Beavercreek, Park Place) recently brought into the UGB. The Park Place Concept Plan provides capacity for 1,091 dwelling units, the South End Concept Plan provides capacity for 1,210 dwelling units and the Beavercreek Road Concept Plan provides capacity for 1,023 dwelling units for a total of 3,324 units within the urban growth boundary.
- Since October 1, 2002, the City has granted permits for more than 2,600 dwelling units.

In addition, the City adopted a new mixed use zones, including the MUC-1, MUC-2, MUD, HC, NC and C that allows for the development of housing which is limited by building height, parking standards, lot coverage, etc (though there are some restrictions in NC). While not counted as contributing to needed housing goals in the City's Housing Technical Report (2002), the capacity from the new mixed use zones, is estimated at a potential 8,000 dwelling units within the City limits. Approximately 66% of the City is currently within the R-10, R-8, R-6, R-3.5

and R-2 zoning designations while only 7.35% of the City is zoned "I" Institutional District. Therefore, the approval of this Comprehensive Plan amendment and zone change will expand the housing types and options available within the City.

Zoning in City Limits – Acres:
C = 160.86 (2.49%)
CI = 164.66 (2.55%)
County = 245.38 (3.79%)
GI = 220.32 (3.4%)
HC = 8.82 (0.14%)
I = 475.31 (7.35%)
MUC1 = 168.46 (2.6%)
MUC2 = 44.66 (0.69%)
MUD = 510.19 (7.89%)
MUE = 156.88 (2.43%)
R2 = 262.22 (4.05%)
R3.5 = 424.15 (6.56%)
R6 = 893.99 (13.82%)
R8 = 1095.97 (16.95%)
R10 = 1589.11 (24.57%)
ROAD = 13.18 (0.2%)
WFDD = 30.44 (0.47%)

Due to the existing use of the site as well as the opportunity for residential uses throughout the City, the proposal complies with this goal.

Goal 10.2 *Provide and maintain an adequate supply of affordable housing.*
Policy 10.2.1
Retain affordable housing potential by evaluating and restricting the loss of land reserved or committed to residential use. When considering amendments to the Comprehensive Plan Land-Use Map, ensure that potential loss of affordable housing is replaced.

Finding: Complies as Proposed. As demonstrated in the analysis in Goal 10.1, the City has provided opportunities to allow an increase in the number of dwelling units within Oregon City as well as adopted standards which allow for smaller dwelling units which will likely be lower in cost. Approximately 8 acres of the subject site is within the "R-10" Single-Family Dwelling District, while less than 0.5 acres of the site is within the "R-3.5" Dwelling District. Though the school is used as a school, the zoning designation permits the property to be subdivided for the construction of homes. The 10,000 square foot minimum lot size in the R-10 district generally results in the development of homes which are high in price.

The value of a single-family home in Oregon City is $371,200, less than a majority of similarly sized cities and less than the average in Clackamas County which is $392,400.

Figure 6: July 2017 Home Values from Zillow.com

City	Home Value (July, 2017)
Lake Oswego	$597,300
West Linn	$500,200
Happy Valley	$485,900
Tualatin	$434,800
Sherwood	$414,700
Tigard	$402,700
Oregon City	**$371,200**
Newberg	$305,500

Due to the existing use of the site as well as the opportunity for residential uses throughout the City, the proposal complies with this goal.

> ***Goal 11: Public Facilities***
> ***Goal 11.1:*** *Serve the health, safety, education, welfare and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.*
> *Policy 11.1.3: Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.*

Finding: Complies as Proposed. The proposed comprehensive plan and zone change amendments would allow additional public facilities to be located on the site. The amendments would have a positive effect by allowing a public use property accessible by multi-modes of transportation, and central to a majority of the Community Development customers. The majority of the surrounding area is built-out and public facilities and services such as sanitary sewer, storm sewer, and water are in place and do not need to be extended.

> *Policy 11.1.4: Support development on underdeveloped or vacant buildable land within the city where public facilities and services are available or can be provided and where land-use compatibility can be found relative to the environment, zoning, and Comprehensive Plan goals.*

Finding: Complies as Proposed. The proposal supports the relocation of the City's Community Development Department to the 6,850 square foot structure previously occupied by a school, while the existing elementary school onsite will continue to operate. The comprehensive plan and zone change amendments make it possible for the underutilized site to house additional community governmental services in a location accessible to the public.

> **Goal 11.11** Civic Facilities Strategically locate civic facilities to provide efficient, cost-effective, accessible, and customer friendly service to Oregon City residents.

Finding: Complies as Proposed. The comprehensive plan and zone change amendments make it feasible for the site to house civic facilities in an established neighborhood, providing efficient, cost-effective (re-use of existing structures), accessible service to the city's residents.

Policy 11.11.1 Locate City facilities in a way that ensures customer service and provides easy access to the majority of residents. Access should be provided for the physically impaired and for those traveling by transit, bicycle, or foot.

Finding: Complies as Proposed. The proposed comprehensive plan and zone change amendments allow government services to be provided on an existing site in a developed section of the city. The site is easily accessible for residents of all abilities and whom travel by multiple modes of transportation.

Policy 11.11.2 Investigate options for obtaining or building a new City Hall.

Finding: Complies as Proposed. Since the Comprehensive Plan was adopted, a new City Hall was established. The proposed comprehensive plan and zone change amendments create an option for the relocation of City Hall and other city departments to the site. However, development is limited on the site by a transportation trip cap which has been proposed.

Policy 11.11.3 Implement measures to maximize and leverage resources and increase services to the public.

Finding: Complies as Proposed. The city owns the subject property and currently leases a portion for use as a school. The zone change and comprehensive plan amendments would allow for continued use of a portion of the site as a school and the relocation of the Community Development Department after interior and exterior remodeling is complete. The amendments would also permit the relocation of other city departments to the site in the future, if desired. Future development is subject to additional review processes.

Policy 11.11.4 Incorporate measures to meet long-term rising demand for services. Provide for future needs of increased staff, space and storage when purchasing or building new city facilities.

Finding: Complies as Proposed. The city owns the subject property and currently leases a majority for use as an elementary school. The zone change and comprehensive plan amendments would allow for continued use of a portion of the site as a school and the relocation of the Community Development Department after interior and exterior remodeling of the vacant structure is complete. The amendments would also permit the relocation of other city departments to the site in the future, if desired.

17.68.020.B. *That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed in the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.*

Finding: Complies as Proposed. As the trip cap limits the amount of development allowed onsite, demand for public facilities and services will not be significantly increased as a result of the proposed comprehensive plan and zone change amendments. No new services are required for the proposed relocation of Community Development and the range of uses and

development allowed by the zone is capable of being serviced prior to issuance of a certificate of occupancy.

17.68.020.C *The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.*

Finding: Complies as Proposed. The subject site is adjacent to Warner Parrott Road and Linn Avenue, both designated as Minor Arterials in the Transportation System Plan. The applicant is proposing to establish a trip cap limiting the amount of traffic of future uses to that created by the site to the prior use as a school. The trip cap then makes the land uses authorized by the proposed comprehensive plan and zone change amendment consistent with the existing and planned function, capacity and level of service of the transportation system. The proposed amendments will not result in significant impacts on the transportation system. Please refer to the trip cap findings within this report.

17.68.020.D *Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.*

> ***Statewide Planning Goal 1****: Citizen Involvement. Goal 1 calls for "the opportunity for citizens to be involved in all phases of the planning process." It requires each city and county to have a citizen involvement program containing six components specified in the goal. It also requires local governments to have a committee for citizen involvement (CCI) to monitor and encourage public participation in planning.*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 1.

> ***Statewide Planning Goal 2:*** *Land Use Planning. Goal 2 outlines the basic procedures of Oregon's statewide planning program. It says that land use decisions are to be made in accordance with a comprehensive plan, and that suitable "implementation ordinances" to put the plan's policies into effect must be adopted. It requires that plans be based on "factual information"; that local plans and ordinances be coordinated with those of other jurisdictions and agencies; and that plans be reviewed periodically and amended as needed.*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 2.

> ***Statewide Planning Goal 3:*** *Agricultural Lands. Goal 3 defines "agricultural lands." It then requires counties to inventory such lands and to "preserve and maintain" them through farm zoning. Details on the uses allowed in farm zones are found in ORS Chapter 215 and in Oregon Administrative Rules, Chapter 660, Division 33.*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 3.

> ***Statewide Planning Goal 4:*** *Forest Lands. This goal defines forest lands and requires counties to inventory them and adopt policies and ordinances that will "conserve forest lands for forest uses."*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 4.

Statewide Planning Goal 5: *Open Spaces, Scenic and Historic Area, and Natural Resources.*
Goal 5 covers more than a dozen natural and cultural resources such as wildlife habitats and wetlands. It establishes a process for each resource to be inventoried and evaluated. If a resource or site is found to be significant, a local government has three policy choices: preserve the resource, allow proposed uses that conflict with it, or strike some sort of a balance between the resource and the uses that would conflict with it.

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 5.

Statewide Planning Goal 6: *Air, Water and Land Resources Quality. This goal requires local comprehensive plans and implementing measures to be consistent with state and federal regulations on matters such as groundwater pollution.*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 6.

Statewide Planning Goal 7: *Areas Subject to Natural Hazards*. *Goal 7 deals with development in places subject to natural hazards such as floods or landslides. It requires that jurisdictions apply "appropriate safeguards" (floodplain zoning, for example) when planning for development there.*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 7.

Statewide Planning Goal 8: Recreational Needs. *This goal calls for each community to evaluate its areas and facilities for recreation and develop plans to deal with the projected demand for them. It also sets forth detailed standards for expedited siting of destination resorts.*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 8.

Statewide Planning Goal 9: Economic Development. *Goal 9 calls for diversification and improvement of the economy. It asks communities to inventory commercial and industrial lands, project future needs for such lands, and plan and zone enough land to meet those needs.*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 9.

Statewide Planning Goal 10: Housing. *This goal specifies that each city must plan for and accommodate needed housing types, such as multifamily and manufactured housing. It requires each city to inventory its buildable residential lands, project future needs for such lands, and plan and zone enough buildable land to meet those needs. It also prohibits local plans from discriminating against needed housing types.*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 10.

Statewide Planning Goal 11: *Public Facilities and Services. Goal 11 calls for efficient planning of public services such as sewers, water, law enforcement, and fire protection. The goal's central concept is that public services should to be planned in accordance with a community's needs and capacities rather than be forced to respond to development as it occurs.*

Finding: Complies as Proposed. Addressed in Comprehensive Plan Goal 11.

Statewide Goal 12: Transportation. *The goal aims to provide "a safe, convenient and economic transportation system." It asks for communities to address the needs of the "transportation disadvantaged."*

Finding: Complies with Condition. The subject site is adjacent to Linn Avenue and Warner Parrott, both designated as minor arterials in the Transportation System Plan. To avoid impacts to the transportation facilities beyond those that would be possible under the present zonings, the applicant proposes to establish a trip cap limiting the amount of traffic of future uses to that created by the prior and existing school uses. By limiting the amount of trips that would be allowed from future development within the area proposed for comprehensive plan and zone changes, equal to that of possible under the present zoning, the transportation impacts of the amendments would be no greater on the transportation system than what present zoning would allow. The proposed amendments will not result in significant impacts on the transportation system. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

Statewide Planning Goal 13. *Energy Conservation. Goal 13 declares that "land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles."*

Finding: Complies as Proposed. The proposal is to amend the comprehensive plan map and zone map, permitting additional public uses on the property. By re-using the existing Annex building to house the Community Development Department and potentially other city departments, energy is being conserved. The proposed building changes, where possible, will utilize energy efficient practices, and the site changes will increase the connectivity to and through the site. The proposed amendments encourage the re-development and re-use of the site at a location easily accessed by residents.

Statewide Planning Goal 14: Urbanization. *This goal requires cities to estimate future growth and needs for land and then plan and zone enough land to meet those needs. It calls for each city to establish an "urban growth boundary" (UGB) to "identify and separate urbanizable land from rural land." It specifies seven factors that must be considered in drawing up a UGB. It also lists four criteria to be applied when undeveloped land within a UGB is to be converted to urban uses.*

Finding: Complies as Proposed. The city owns the property in question and proposes to meet the future growth needs by relocating the Community Development Department and potentially other city departments to a site previously and currently used as a school. The proposed amendments would allow in-fill and re-use of an existing under-utilized property, reducing some pressure to expand the urban growth boundary. The re-development of the site contributes to the urbanization of the city and balances the negative effects by limiting the transportation impact to the existing impact of the school.

Statewide Planning Goal 15: *Willamette River Greenway. Goal 15 sets forth procedures for administering the 300 miles of greenway that protects the Willamette River.*

Finding: Complies as Proposed. This goal is not directly applicable to the proposed amendments and use of the property as the site is not within the designated Willamette River Greenway.

Statewide Planning Goal 16: Estuarine Resources
Statewide Planning Goal 17: Coastal Shorelands
Statewide Planning Goal 18: Beaches and Dunes
Statewide Planning Goal 19: Ocean Resources

Finding: Complies as Proposed. These goals are not applicable as the site is not located in any of the identified areas.

OAR 660-012-0060(1)-(3) TRANSPORTATION PLANNING RULE (TPR)

The purpose of the TPR is "to implement Statewide Planning Goal 12 (Transportation) and promote the development of safe, convenient and economic transportation systems that are designed to reduce reliance on the automobile so that the air pollution, traffic and other livability problems faced by urban areas in other parts of the country might be avoided." A major purpose of the Transportation Planning Rule (TPR) is to promote more careful coordination of land use and transportation planning, to ensure that planned land uses are supported by and consistent with planned transportation facilities and improvements.

Finding: Complies with Condition. Kittelson and Associates created a Transportation Analysis Letter analyzing the development proposal. The proposal entails altering the zoning designation for the entire subject site to "I" Institutional, as well as amending the Comprehensive Plan for approximately 0.42 acres from "MR" Medium Density Residential to "QP" Public/Quasi Public. In order to mitigate the impacts of the proposed development, the applicant has proposed a trip cap to limit the transportation impact to that of the previous/existing use of a school.

Future development on the site shall be limited to uses that in aggregate produce no more than 238 AM and 143 PM peak hour trips. All new or alterations to the existing uses on the property shall submit an accounting of the trips generated through previously approved land use actions and business licenses for the entire subject site associated with the proposal and demonstrate that the proposal complies with both the maximum AM and PM peak hour trip caps. In order to keep an accurate tally of trips over time, the City will review this accounting either: (1) as part of the land use review required for the development, in cases where no business license is required; (2) as part of reviewing an application for a business license, in cases where no land use review is required; or (3) both, where a land use approval and a business license are required. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

OAR CHAPTER 660, DIVISION 7, "METROPOLITAN HOUSING RULE"

The purpose of this division is to ensure opportunity for the provision of adequate numbers of needed housing units and the efficient use of land within the Metro urban growth boundary, to provide greater certainty in the development process and so to reduce housing costs.

Finding: Complies as Proposed. The proposed amendments and use of the property in question reduces the amount of residentially zoned property in the city by 8.49 acres. However, the site is currently encumbered by school structures, parking lots, driveways, drive aisles and play-fields and areas associated with and required by the existing uses on the property. As identified

above, the proposed amendments are expected to allow the efficient use of land by permitting the re-use of an existing under-utilized property.

REGIONAL TRANSPORTATION PLAN

The Regional Transportation Functional Plan (RTFP) directs how Oregon City should implement the RTP through the TSP and other land use regulations. The RTFP codifies existing and new requirements which local plans must comply with to be consistent with the RTP. If a TSP is consistent with the RTFP, Metro will find it to be consistent with the RTP.

Finding: Complies as Proposed. The City adopted an amendment to the Transportation System Plan in 2013; the plan was found to be consistent with the Regional Transportation Functional Plan at adoption, with the exception of a few intersections. The applicant submitted a letter from Kittelson and Associates analyzing the development proposal. The proposal entails altering the zoning designation for the entire subject site to "I" Institutional, as well as amending the Comprehensive Plan for approximately 0.42 acres from "MR" Medium Density Residential to "QP" Public/Quasi Public. In order to mitigate the impacts of the proposed development, the applicant has proposed a trip cap to limit the transportation impact to that of the previous/existing use of a school.

Future development on the site shall be limited to uses that in aggregate produce no more than 238 AM and 143 PM peak hour trips. All new or alterations to the existing uses on the property shall submit an accounting of the trips generated through previously approved land use actions and business licenses for the entire subject site associated with the proposal and demonstrate that the proposal complies with both the maximum AM and PM peak hour trip caps. In order to keep an accurate tally of trips over time, the City will review this accounting either: (1) as part of the land use review required for the development, in cases where no business license is required; (2) as part of reviewing an application for a business license, in cases where no land use review is required; or (3) both, where a land use approval and a business license are required. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

URBAN GROWTH MANAGEMENT METRO FUNCTIONAL PLAN

3.07.810.C states that after one year following acknowledgement of a functional plan requirement, cities and counties that amend their comprehensive plans and land use regulations shall make such amendments in compliance with the new functional plan requirement.

Finding: Complies as Proposed. The City of Oregon City's comprehensive plan and land use regulations associated with comprehensive plan and zone change amendments are in compliance with the UGB Metro Functional Plan.

METRO FUNCTIONAL PLAN

3.07.120(e), "Housing Capacity" *A city or county may reduce the minimum zoned capacity of a single lot or parcel so long as the reduction has a negligible effect on the city's or county's overall minimum zoned residential capacity.*

Finding: Complies as Proposed. Please refer to the findings in Chapter 10 of the Comprehensive Plan above.

CHAPTER 17.62 SITE PLAN AND DESIGN REVIEW

17.62.015 - Modifications that will better meet design review requirements.
The review body may consider modification of site-related development standards. These modifications are done as part of design review and are not required to go through the Variance process pursuant to section 17.60.020. Adjustments to use-related development standards (such as floor area ratios, intensity of use, size of the use, number of units, or concentration of uses) are required to go through the Variance process pursuant to section 17.60.020. Modifications that are denied through design review may be requested as Variance through the Variance process pursuant to section 17.60.020. The review body may approve requested modifications if it finds that the applicant has shown that the following approval criteria are met:

A. The modification will result in a development that better meets design guidelines; and
B. The modification meets the intent of the standard. On balance, the proposal will be consistent with the purpose of the standard for which a modification is requested.
Finding: Complies as Proposed. No modifications of site-related development standards are proposed for this application.

17.62.030 - When required.
Site plan and design review shall be required for all development of real property in all zones except the R-10, R-8, R-6, R-5 and R-3.5 zoning districts, unless otherwise provided for by this title or as a condition of approval of a permit. Site plan and design review shall also apply to all conditional uses, cottage housing development, multi-family and non-residential uses in all zones. No building permit or other permit authorization for development shall be issued prior to site plan and design review approval. Parking lots and parking areas accessory to uses regulated by this chapter also shall require site plan and design review approval. Site plan and design review shall not alter the type and category of uses permitted in zoning districts.
Finding: Complies as Proposed. The applicant proposes exterior alterations to a non-residential use (government office) in the proposed Institutional zone, triggering the requirement for a site plan and design review.

17.62.035 - Minor site plan and design review.
Finding: Complies as Proposed. The proposal modifications of an institutional or public structure for the purpose of enhancing the aesthetics of the building and not increasing the interior usable space and qualifies as a Minor Site Plan and Design Review.

17.62.040 - Plans required.
Finding: Complies as Proposed. The applicant submitted plans meeting the requirements.

17.62.050 - Standards.
A. All development shall comply with the following standards:
1. Landscaping, A minimum of fifteen percent of the lot shall be landscaped. Existing native vegetation shall be retained to the maximum extent practicable. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.

Finding: Complies as Proposed. Approximately 5 of the 8 approximately 8 acres site is currently developed with active recreational turf fields, grass, and a variety of landscaping. The development proposal includes the addition of a nominal pedestrian walkway and additional landscaping within a portion of the grassy area near the Annex and retain the existing vegetation to the extent practicable. There is no known nuisance plants, on the site. The proposed changes will not reduce the amount of vegetation on the site to less than the required minimum of fifteen percent. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.

a. Except as allowed elsewhere in the zoning and land division chapters of this Code, all areas to be credited towards landscaping must be installed with growing plant materials. A reduction of up to twenty-five percent of the overall required landscaping may be approved by the community development director if the same or greater amount of pervious material is incorporated in the non-parking lot portion of the site plan (pervious material within parking lots are regulated in OCMC 17.52.070).
Finding: Complies as Proposed. All areas requested to be credited towards landscaping are installed with growing plant materials. No reduction is requested.

b. Pursuant to Chapter 17.49, landscaping requirements within the Natural Resource Overlay District, other than landscaping required for parking lots, may be met by preserving, restoring and permanently protecting native vegetation and habitat on development sites.
Finding: Complies as Proposed. This standard is not applicable. The site is not within the Natural Resource Overlay District.

c. The landscaping plan shall be prepared by a registered landscape architect and include a mix of vertical (trees and shrubs) and horizontal elements (grass, groundcover, etc.) that within three years will cover one hundred percent of the Landscape area. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. The community development department shall maintain a list of trees, shrubs and vegetation acceptable for landscaping.
Finding: Complies as Proposed. The applicant submitted a landscape plan, stamped by a registered landscape architect, Gregory T. Covey, which identify meets the required three year/100 percent coverage requirement.

d. For properties within the Downtown Design District, or for major remodeling in all zones subject to this chapter, landscaping shall be required to the extent practicable up to the ten percent requirement.
Finding: Complies as Proposed. This standard is not applicable. The property is not within the Downtown Design District.

e. Landscaping shall be visible from public thoroughfares to the extent practicable.
Finding: Complies as Proposed. The majority of the site is landscaped and the proposed landscaping is visible from both Linn Avenue and Warner Parrott Road.

f. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum, unless otherwise permitted by the dimensional standards of the underlying zone district.

Finding: Complies as Proposed. The interior parking lot landscaping is not counted toward the fifteen percent minimum. The majority of the site is covered in turfed play fields.

2. Vehicular Access and Connectivity.

a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.

Finding: Complies as Proposed. The site is nonconforming, as an existing parking lot is already located between the Annex building and the Warner Milne frontage. Though minor adjustments to the striping within this parking lot is proposed, the extent of the boundaries of the parking lot is not being modified and thus this standard is not applicable.

b. Ingress and egress locations on thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.

Finding: Complies as Proposed. No new driveways or alterations to existing ingress or egress locations are proposed.

c. Alleys or vehicular access easements shall be provided in the following Districts: R-2, MUC-1, MUC-2, MUD and NC zones unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker. The corners of alley intersections shall have a radius of not less than ten feet.

Finding: Complies as Proposed. This standard is not applicable. The proposed zone is Institutional.

d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director.

Finding: Complies as Proposed. This standard is not applicable. The site does not abut an alley.

e. Where no alley access is available, the development shall be configured to allow only one driveway per frontage. On corner lots, the driveway(s) shall be located off of the side street (unless the side street is an arterial) and away from the street intersection. Shared driveways shall be required as needed to accomplish the requirements of this section. The location and design of pedestrian access from the sidewalk shall be emphasized so as to be clearly visible and distinguishable from the vehicular access to the site. Special landscaping, paving, lighting, and architectural treatments may be required to accomplish this requirement.

Finding: Complies as Proposed. No new driveways or alterations to existing ingress or egress locations are proposed. The development will be served by the existing access points, which consist of one egress on Linn Avenue, one ingress and one egress on Warner Parrott Road. The split ingress-egress on Warner Parrott Avenue is considered as one driveway, which conforms to the standard.

f. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites.

Finding: Complies as Proposed. No new driveways are proposed and there are no existing or planned streets on adjacent sites to necessitate realignment of the driveways.

g. Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Such easements shall be required in addition to applicable street dedications as required in Chapter 12.04.
Finding: Complies as Proposed. This standard is not applicable. The proposal does not include any changes to the vehicular access onsite. The adjacent sites are developed as residential uses.

h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed impracticable by the city.
Finding: Complies as Proposed. This standard is not applicable. No streets are proposed or required.

i. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.
Finding: Complies as Proposed. This standard is not applicable. No easements are proposed.

j. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future.
Finding: Complies as Proposed. This standard is not applicable. No stub streets are existing or proposed.

k. Parcels larger than three acres shall provide streets as required in Chapter 12.04. The streets shall connect with existing or planned streets adjacent to the site.
Finding: Complies as Proposed. This standard is not applicable. The site is over 8 acres in size, however, only minor exterior alterations are proposed. The proposed development does not warrant the nexus or proportionality to require a street connection through the site.

l. Parking garage entries shall not dominate the streetscape. They shall be designed and situated to be ancillary to the use and architecture of the ground floor. This standard applies to both public garages and any individual private garages, whether they front on a street or private interior access road.
Finding: Complies as Proposed. This standard is not applicable. No parking garages are proposed.

m. Buildings containing above-grade structured parking shall screen such parking areas with landscaping or landscaped berms, or incorporate contextual architectural elements that complement adjacent buildings or buildings in the area. Upper level parking garages shall use articulation or fenestration treatments that break up the massing of the garage and/or add visual interest.
Finding: Complies as Proposed. This standard is not applicable. No above-grade parking structures are proposed.

3. Building structures shall be complimentary to the surrounding area. All exterior surfaces shall present a finished appearance. All sides of the building shall include materials and design characteristics consistent with those on the front. Use of inferior or lesser quality materials for side or rear facades or decking shall be prohibited.
a. Alterations, additions and new construction located within the McLoughlin Conservation District, Canemah National Register District, and the Downtown Design District and when abutting a designated Historic Landmark shall utilize materials and a design that incorporates the architecture of the subject building as well as the surrounding district or abutting Historic Landmark. Historic materials such as doors, windows and siding shall be retained or replaced with in kind materials unless the community development director determines that the materials cannot be retained and the new design and materials are compatible with the subject building, and District or Landmark. The community development director may utilize the Historic Review Board's Guidelines for New Constriction (2006) to develop findings to show compliance with this section.
b. In historic areas and where development could have a significant visual impact, the review authority may request the advisory opinions of appropriate experts designated by the community development director from the design fields of architecture, landscaping and urban planning. The applicant shall pay the costs associated with obtaining such independent professional advice; provided, however, that the review authority shall seek to minimize those costs to the extent practicable.
Finding: Complies as Proposed. The proposal calls for the use of consistent material on all sides of the Annex. The property is not located within any of the identified districts nor does it abut a designated historic landmark. The materials proposed are allowed in the Oregon City Municipal Code and complement commercial development throughout the City. All exterior surfaces present a finished appearance and the sides of the building include materials and design characteristics consistent with those on the front.

8. Sidewalks and curbs shall be provided in accordance with the city's transportation master plan and street design standards. Upon application, the community development director may waive this requirement in whole or in part in those locations where there is no probable need, or comparable alternative location provisions for pedestrians are made.
Finding: Complies as Proposed. Due to the relatively small scale of the exterior building alterations, the proposal does not include installation of street improvements.

9. A well-marked, continuous and protected on-site pedestrian circulation system meeting the following standards shall be provided:
a. Pathways between all building entrances and the street are required. Pathways between the street and buildings fronting on the street shall be direct. Exceptions may be allowed by the director where steep slopes or protected natural resources prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.
Finding: Complies as Proposed. The existing site includes a walkway from the school to Linn Avenue and a blocked walkway from the rear of the Annex to Linn Avenue. The project includes nonconforming upgrades to the site including removing the blocked walkway to Linn Avenue as well as installation of a direct pedestrian accessway from the front of the Annex to Linn Avenue.

b. The pedestrian circulation system shall connect all main entrances on the site. For buildings fronting on the street, the sidewalk may be used to meet this standard. Pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.
Finding: Complies as Proposed. The site is currently developed with a network of interior sidewalks and sidewalks within the adjacent right-of-way connecting the site. The project includes nonconforming upgrades to the site including removing the blocked walkway to Linn Avenue as well as installation of a direct pedestrian accessway from the front of the Annex to Linn Avenue to allow greater connections onsite.

c. Elevated external stairways or walkways, that provide pedestrian access to multiple dwelling units located above the ground floor of any building are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard.
Finding: Complies as Proposed. This standard is not applicable. No elevated external stairways or walkways are proposed.

d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site.
Finding: Complies as Proposed. The site is currently developed with a network of interior sidewalks and sidewalks within the adjacent right-of-way connecting the site. The project includes nonconforming upgrades to the site including removing the blocked walkway to Linn Avenue as well as installation of a direct pedestrian accessway from the front of the Annex to Linn Avenue to allow greater connections onsite.

e. The pedestrian circulation system shall connect the principal building entrance to those of buildings on adjacent commercial and residential sites where practicable. Walkway linkages to adjacent developments shall not be required within industrial developments or to industrial developments or to vacant industrially-zoned land.
Finding: Complies as Proposed. The site is currently developed with a network of interior sidewalks and sidewalks within the adjacent right-of-way connecting the site. The project includes nonconforming upgrades to the site including removing the blocked walkway to Linn Avenue as well as installation of a direct pedestrian accessway from the front of the Annex to Linn Avenue to improve pedestrian connections to adjacent properties.

f. On-site pedestrian walkways shall be hard surfaced, well drained and at least five feet wide. Surface material shall contrast visually to adjoining surfaces. When bordering parking spaces other than spaces for parallel parking, pedestrian walkways shall be a minimum of seven feet in width unless curb stops are provided. When the pedestrian circulation system is parallel and adjacent to an auto travel lane, the walkway shall be raised or separated from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps for each direction of travel. Pedestrian walkways that cross drive isles or other vehicular circulation areas shall utilize a change in textual material or height to alert the driver of the pedestrian crossing area.

Finding: Complies as Proposed. The site is considered nonconforming for a variety of reasons, including a sidewalk adjacent to the front of the Annex which is 4 feet in width (west of the main entrance). Nonconforming upgrades to the site have been proposed including installation of a new sidewalk from the front of the structure to Linn Avenue. The new sidewalk will be hard surfaced, well drained, five feet wide and will contrast visually to adjoining surfaces.

10. There shall be provided adequate means to ensure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.

Finding: Complies as Proposed. The City of Oregon City is the property owner and adequate funds are budgeted to ensure the continued maintenance of the identified areas. The City will assure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.

13. All development shall maintain continuous compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.

Finding: Complies as Proposed. The applicant proposes compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.

14. Adequate public water and sanitary sewer facilities sufficient to serve the proposed or permitted level of development shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. Service providers shall be presumed correct in the evidence, which they submit. All facilities shall be designated to city standards as set out in the city's facility master plans and public works design standards. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The city may require

over sizing of facilities where necessary to meet standards in the city's facility master plan or to allow for the orderly and efficient provision of public facilities and services. Where over sizing is required, the developer may request reimbursement from the city for over sizing based on the city's reimbursement policy and fund availability, or provide for recovery of costs from intervening properties as they develop.
Finding: Complies as Proposed. No new structures are proposed. The existing public water and sanitary sewer facilities are sufficient to serve the proposed government office use.

15. Adequate right-of-way and improvements to streets, pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the city's transportation master plan and design standards and this title. Consideration shall be given to the need for street widening and other improvements in the area of the proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. Compliance with [Chapter] 12.04, Streets, Sidewalks and Public Places shall be sufficient to achieve right-of-way and improvement adequacy.
Finding: Complies as Proposed. No right-of-way improvements or transit facilities are proposed or required as a result of the proposed exterior structure and site modifications.

16. If a transit agency, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an agency adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the transportation system plan.
Finding: Complies as Proposed. No transit improvements have been identified.

17. All utility lines shall be placed underground.
Finding: Complies as Proposed. This standard is not applicable. Only minor exterior alterations are proposed, and the proposed development has been determined to have no impact to the transportation system above that generated by existing use. The proposed development does not warrant the nexus or proportionality to require undergrounding of the existing overhead utility lines. The need to underground utilities will be re-evaluated upon further redevelopment of the site.

18. Access and facilities for physically handicapped people shall be incorporated into the site and building design consistent with applicable federal and state requirements, with particular attention to providing continuous, uninterrupted access routes.
Finding: Complies as Proposed. An ADA accessible route will be provided from the sidewalk to the structure.

19. For a residential development, site layout shall achieve at least eighty percent of the maximum density of the base zone for the net developable area. Net developable area excludes all areas for required right-of-way dedication, land protected from development through Natural Resource or Geologic Hazards protection, and required open space or park dedication.
Finding: Complies as Proposed. This standard is not applicable. The proposal is not for a residential development

20. Screening of Mechanical Equipment:
a. Rooftop mechanical equipment, including HVAC equipment and utility equipment that serves the structure, shall be screened. Screening shall be accomplished through the use of parapet walls or a sight-obscuring enclosure around the equipment constructed of one of the primary materials used on the primary facades of the structure, and that is an integral part of the building's architectural design. The parapet or screen shall completely surround the rooftop mechanical equipment to an elevation equal to or greater than the highest portion of the rooftop mechanical equipment being screened. In the event such parapet wall does not fully screen all rooftop equipment, then the rooftop equipment shall be enclosed by a screen constructed of one of the primary materials used on the primary facade of the building so as to achieve complete screening.
Finding: Complies as Conditioned. The existing HVAC system is proposed for removal and will be replaced with a high efficiency system. The existing indoor mechanical penthouse area of the building would be converted to an outdoor mechanical roof platform where the heat recovery ventilator unit and outdoor condensing unit of the variable refrigerant flow system would be located. This area will be architecturally screened with quality exterior metal vented material.

b. Wall-mounted mechanical equipment shall not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment, including air conditioning or HVAC equipment and groups of multiple utility meters, that extends six inches or more from the outer building wall shall be screened from view from streets; from residential, public, and institutional properties; and from public areas of the site or adjacent sites through the use of (a) sight-obscuring enclosures constructed of one of the primary materials used on the primary facade of the structure, (b) sight-obscuring fences, or (c) trees or shrubs that block at least eighty percent of the equipment from view or (d) painting the units to match the building. Wall-mounted mechanical equipment that extends six inches or less from the outer building wall shall be designed to blend in with the color and architectural design of the subject building.
Finding: Complies as Proposed. This standard is not applicable. No wall-mounted mechanical equipment is proposed.

c. Ground-mounted above-grade mechanical equipment shall be screened by ornamental fences, screening enclosures, trees, or shrubs that block at least eighty percent of the view. Placement and type of screening shall be determined by the community development director.
Finding: Complies as Proposed. This standard is not applicable. No ground-mounted mechanical equipment is proposed.

d. All mechanical equipment shall comply with the standards in this section. If mechanical equipment is installed outside of the site plan and design review process, planning staff shall review the plans to determine if additional screening is required. If the proposed screening meets this section, no additional planning review is required.
Finding: Complies as Proposed. All mechanical equipment complies with the standards and is proposed for installation through the site plan and design review process.

e. This section shall not apply to the installation of solar energy panels, photovoltaic equipment or wind power generating equipment.
Finding: Complies as Proposed. This standard is not applicable. No solar panels, photovoltaic equipment or wind power generating equipment is proposed.

21. Building Materials.
a. Preferred building materials. Building exteriors shall be constructed from high quality, durable materials. Preferred exterior building materials that reflect the city's desired traditional character are as follows:
i. Brick.
Ii. Basalt stone or basalt veneer.
iii. Narrow horizontal wood or composite siding (generally five inches wide or less); wider siding will be considered where there is a historic precedent.
iv. Board and baton siding.
v. Other materials subject to approval by the community development director.
vi. Plywood with battens or fiber/composite panels with concealed fasteners and contagious aluminum sections at each joint that are either horizontally or vertically aligned.
vii. Stucco shall be trimmed in wood, masonry, or other approved materials and shall be
Finding: Complies as Proposed. The applicant proposes the use of painted cement panel board, painted cement panel lap siding, tongue and groove wood paneling, and rooftop metal louvers.

b. Prohibited materials. The following materials shall be prohibited in visible locations unless an exception is granted by the community development director based on the integration of the material into the overall design of the structure.
i. Vinyl or plywood siding (including T-111 or similar plywood).
Ii. Glass block or highly tinted, reflected, translucent or mirrored glass (except stained glass) as more than ten percent of the building facade.
iii. Corrugated fiberglass.
iv. Chain link fencing (except for temporary purposes such as a construction site or as a gate for a refuse enclosure).
[v.] Crushed colored rock/crushed tumbled glass.
[vi.] Non-corrugated and highly reflective sheet metal.
Finding: Complies as Proposed. This standard is not applicable. The identified materials are not proposed.

c. Special material standards: The following materials are allowed if they comply with the requirements found below:
1. Concrete block. When used for the front facade of any building, concrete blocks shall be split, rock- or ground-faced and shall not be the prominent material of the elevation. Plain concrete

block or plain concrete may be used as foundation material if the foundation material is not revealed more than three feet above the finished grade level adjacent to the foundation wall.
2. Metal siding. Metal siding shall have visible corner moldings and trim and incorporate masonry or other similar durable/permanent material near the ground level (first two feet above ground level).
3. Exterior Insulation and Finish System (EIFS) and similar toweled finishes shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.
4. Building surfaces shall be maintained in a clean condition and painted surfaces shall be maintained to prevent or repair peeling, blistered or cracking paint.
Finding: Complies as Proposed. This standard is not applicable. No special materials are proposed.

17.62.055 - Institutional and commercial building standards.
A. Purpose. The primary objective of the regulations contained in this section is to provide a range of design choices that promote creative, functional, and cohesive development that is compatible with surrounding areas. Buildings approved through this process are intended to serve multiple tenants over the life of the building, and are not intended for a one-time occupant. The standards encourage people to spend time in the area, which also provides safety though informal surveillance. Finally, this section is intended to promote the design of an urban environment that is built to human scale by creating buildings and streets that are attractive to pedestrians, create a sense of enclosure, provide activity and interest at the intersection of the public and private spaces, while also accommodating vehicular movement.

B. Applicability. In addition to Section 17.62.050 requirements, institutional and commercial buildings shall comply with design standards contained in this section.
Finding: Complies as Proposed. The section applies to the proposed institutional development.

C. Relationship between zoning district design standards and requirements of this section.
1. Building design shall contribute to the uniqueness of the underlying zoning district by applying appropriate materials, elements, features, color range and activity areas tailored specifically to the site and its context.
Finding: Complies as Proposed. The proposal is to modify the exterior of the building by expanding the number of windows, and enhancing the entranceway as required in the Oregon City Municipal Code. The proposed development will replace materials which are in poor condition and will allow the building to last far into the future. The proposed development uses materials allowed in the code and commonly found around the City. The structure will invite the public in and create an anchor on the south-east corner of the site. No new structures are proposed.

2. A standardized prototype or franchise design shall be modified if necessary to meet the provisions of this section.
Finding: Complies as Proposed. This standard is not applicable. The proposal is to accommodate the relocation of the City's Community Development Department by minimally modifying an existing structure.

3. In the case of a multiple building development, each individual building shall include predominant characteristics, architectural vocabulary and massing shared by all buildings in the development so that the development forms a cohesive place within the underlying zoning district or community.

Finding: Complies as Proposed. No new structures are proposed. The proposed building design does not alter the massing, predominant characters, or architectural vocabulary of the structure and all of the building materials proposed are allowed within the Oregon City Municipal Code and commonly found throughout the City. The proposed alterations will add additional windows to increase transparency to resemble the transparency on the existing school structure.

4. With the exception of standards for building orientation and building front setbacks, in the event of a conflict between a design standard in this section and a standard or requirement contained in the underlying zoning district, the standard in the zoning district shall prevail.

5. On sites with one hundred feet or more of frontage at least sixty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line, unless a greater setback is accepted under the provisions of Section 17.62.055D. For sites with less than one hundred feet of street frontage, at least fifty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line unless a greater setback is accepted under the provisions of Section 17.62.055D.

Finding: Complies as Proposed. This standard is not applicable. No new structures are proposed and no conflicts have presented themselves.

D. Relationship of Buildings to Streets and Parking.

1. Buildings shall be placed no farther than five feet from the front property line. A larger front yard setback may be approved through site plan and design review if the setback area incorporates at least one element from the following list for every five feet of increased setback requested:

a. Tables, benches or other approved seating area.

b. Cobbled, patterned or paved stone or enhanced concrete.

c. Pedestrian scale lighting.

d. Sculpture/public art.

e. Fountains/Water feature.

f. At least twenty square feet of landscaping or planter boxes for each tenant facade fronting on the activity area.

g. Outdoor café.

h. Enhanced landscaping or additional landscaping.

i. Other elements, as approved by the community development director, that can meet the intent of this section.

Finding: Complies as Proposed. This standard is not applicable. No new structures are proposed. The request is for approval to modify the exterior of an existing Annex building.

2. The front most architecturally significant facade shall be oriented toward the street and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined and recessed or framed by a sheltering element such as an awning, arcade or portico in order to provide shelter from the summer sun and winter weather.

Finding: Complies as Proposed. The proposed exterior remodel will highlight the street facing façade of the Annex with exterior alterations including amending the roofline to reveal a sheltering canopy over the main entranceway, installation of lighting, and installation of wood highlights near the entry and additional windows. In addition, the proposal would install a sidewalk from the front entrance to the adjacent Linn Avenue.

3. Entryways. The primary entranceway for each commercial or retail establishment shall face the major street. The entrance may be recessed behind the property line a maximum of five feet unless a larger setback is approved pursuant to Section 17.62.055.D.1 and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined, highly visible and recessed or framed by a sheltering element including at least four of the following elements, listed below.
a. Canopies or porticos;
b. Overhangs;
c. Recesses/projections;
d. Arcades;
e. Raised corniced parapets over the door;
f. Peaked roof forms;
g. Arches;
h. Outdoor patios;
i. Display windows;
j. Architectural details such as tile work and moldings which are integrated into the building structure and design;
k. Integral planters or wing walls that incorporate landscaped areas and/or places for sitting.
l. Planter boxes and street furniture placed in the right-of-way shall be approved for use according to materials, scale and type.
Finding: Complies as Proposed. The site is nonconforming as the existing structure is located further than 5 feet back from the street. Though no new structures or additions to the existing structure is proposed, following the proposed development, the primary entranceway will have a canopy, large eve overhang, display windows, landscaped plantings, signage, and installation of wood accents to highlight the entrance.

4. Where additional stores will be located in the large retail establishment, each such store shall have at least one exterior customer entrance, which shall conform to the same requirements. (Ord. 01-1002 §2, 2001)
Finding: Complies as Proposed. This standard is not applicable. This is not a retail development.

5. Trellises, canopies and fabric awnings may project up to five feet into front setbacks and public rights-of-way, provided that the base is not less than eight feet at the lowest point and no higher than ten feet above the sidewalk. Awnings shall be no longer than a single storefront.
Finding: Complies as Proposed. This standard is not applicable. No encroachments into the front setback are proposed.

E. Corner Lots.

For buildings located at the corner of intersections, the primary entrance of the building shall be located at the corner of the building or within twenty-five feet of the corner of the building. Additionally, one of the following treatments shall be required:
1. Incorporate prominent architectural elements, such as increased building height or massing, cupola, turrets, or pitched roof, at the corner of the building or within twenty-five feet of the corner of the building.
2. Chamfer the corner of the building (i.e. cut the corner at a forty-five-degree angle and a minimum of ten feet from the corner) and incorporate extended weather protection (arcade or awning), special paving materials, street furnishings, or plantings in the chamfered area.
Finding: Complies as Proposed. The site is located at the corner of Linn Avenue and Warner Parrott Road. The configuration of the site extends the corner adjacent to the entire frontage of the Annex. Due to the odd configuration of the site, a roundabout is proposed in the Oregon City Transportation System Plan which would create a context where all of the Warner Parrot frontage faces a corner. Though no new structures or additions to the existing structure is proposed, the development includes alterations to the roofline of the primary entranceway facing Warner Parrott to highlight the entranceway.



F. Commercial First Floor Frontage.
In order to ensure that the ground floor of structures have adequate height to function efficiently for retail uses, the first floor height to finished ceiling of new infill buildings in the mixed use and neighborhood commercial districts shall be no lower than fourteen feet floor to floor. Where appropriate, the exterior facade at the ceiling level of new structures shall include banding, a change of materials or relief which responds to the cornice lines and window location of existing buildings that abut new structures.
Finding: Complies as Proposed. This standard is not applicable. The proposal would change the zoning designation to Institutional, and not commercial or mixed-use.

G. Variation in Massing.
1.A single, large, dominant building mass shall be avoided in new buildings and, to the extent reasonably feasible, in development projects involving changes to the mass of existing buildings.
Finding: Complies as Proposed. The proposal is to modify the exterior of the modest sized Annex structure, eliminating the appearance of a single, large, dominant building with changes in the roofline, installation of windows, and with exterior building materials.

2. Horizontal masses shall not exceed a height: width ratio of one-to-three without substantial variation in massing that includes a change in height and projecting or recessed elements.

Finding: Complies as Proposed. This standard is not applicable. No changes to the building height or width is proposed.

3. Changes in mass shall be related to entrances, the integral structure and/or the organization of interior spaces and activities and not merely for cosmetic effect.
Finding: Complies as Proposed. The proposal calls for enhancing the primary entrance of the structure with architectural features and a change in roof line to highlight the entryway.

H. Minimum Wall Articulation.
1. Facades shall add architectural interest and variety and avoid the effect of a single, long or massive wall with no relation to human size. No wall that faces a street or connecting walkway shall have a blank, uninterrupted length exceeding thirty feet without including, but not be limited to, at least two of the following:
i. Change in plane,
ii Change in texture or masonry pattern or color,
iii. Windows, treillage with landscaping appropriate for establishment on a trellis.
iv. An equivalent element that subdivides the wall into human scale proportions.
Finding: Complies as Proposed. The proposed modification to the exterior of the structure would result in compliance with this standard. The installation of additional windows, a variety of siding and changes to exterior building material will comply with this standard. No changes to the massing, articulation or plane of the structure are proposed.

2. Facades greater than one hundred feet in length, measured horizontally, shall incorporate wall plane projections or recesses having a depth of at least three percent of the length of the facade and extending at least twenty percent of the length of the facade. No uninterrupted length of any facade shall exceed one hundred horizontal feet.
Finding: Not Applicable. The structure was constructed prior to adoption of this standard and does not comply. The proposal would not result in a change to the projection or recess of the structure, simply alterations to the roofline and the exterior building material and transparency. Though the proposal would create interest, and bring the building the existing structure closer into compliance with this standard, this standard is not applicable.

3. Ground floor facades that face public streets shall have arcades, display windows, entry areas, awnings or other such features along no less than sixty percent of their horizontal length.
Finding: Complies as Proposed. The proposal is to modify the exterior of an existing structure. The proposal would not alter the windows, entrance points, arcades or awnings on the north or the west façade. The proposal would increase the transparency on the east façade (adjacent to Linn Avenue) from 33% (20/60=0.33) to 60% (36/60=0.6) and increase the transparency on the south façade (adjacent to Warner Parrott) from 15% (18/118=0.15) to 37% (37/118/=0.31), however, there is a roof overhang of approximately 3.5 feet across the entire southern façade.

4. Building facades must include a repeating pattern that includes any one or more of the following elements:
a. Color change;
b. Texture change;
c. Material module change.

Finding: Complies as Proposed. The proposed modifications to the exterior of the structure includes material, color and texture change from cement panel board and cement panel lap siding, as well as tongue and groove wood paneling, resulting in changes to the color and texture of the texture building material.

5. Facades shall have an expression of architectural or structural bays through a change in plane no less than twelve inches in width, such as an offset, reveal or projecting rib.
Finding: Not Applicable. No changes to the building size or envelope are proposed. The structural beams of the roof are expressed at the roof eave and the existing entries to the building are inset to delineate an entrance.

6. Facades shall have at least one of elements subsections H.4. or H.5. of this section repeat horizontally. All elements shall repeat at intervals of no more than thirty feet, either horizontally or vertically.
Finding: Complies as Proposed. The façade will have horizontal breaks between panels that are similar the structural beams of the roof.

I. Facade Transparency.
1.Transparent windows or doors facing the street are required. The main front elevation shall provide at least sixty percent windows or transparency at the pedestrian level. Facades on corner lots shall provide at least sixty percent windows or transparency on all corner-side facades. All other side elevations shall provide at least thirty percent transparency. The transparency is measured in lineal fashion. For example, a one hundred-foot long building elevation shall have at least sixty feet (sixty percent of one hundred feet) of transparency in length. Reflective, glazed, mirrored or tinted glass is limited to ten percent of the lineal footage of windows on the street facing facade. Highly reflective or glare-producing glass with a reflective factor of one-quarter or greater is prohibited on all building facades. Any glazing materials shall have a maximum fifteen percent outside visual light reflectivity value. No exception shall be made for reflective glass styles that appear transparent when internally illuminated.
Finding: Complies as Proposed. The proposal would increase the transparency on the east façade (adjacent to Linn Avenue) from 33% (20/60=0.33) to 60% (36/60=0.6) and increase the transparency on the south façade (adjacent to Warner Parrott) from 15% (18/118=0.15) to 37% (37/118/=0.31), which is in greater conformance with the code. No changes to the transparency of the north or west façade are proposed.

2. Side or rear walls that face walkways may include false windows and door openings only when actual doors and windows are not feasible because of the nature of the use of the interior use of the building. False windows located within twenty feet of a right-of-way shall be utilized as display windows with a minimum display depth of thirty-six inches.
Finding: Complies as Proposed. The walls that face walkways include actual windows and doors. No false doors or windows are proposed.

J. Roof Treatments.
1. All facades shall have a recognizable "top" consisting of, but not limited to:

a. Cornice treatments, other than just colored "stripes" or "bands," with integrally textured materials such as stone or other masonry or differently colored materials; or
b. Sloping roof with overhangs and brackets; or
c. Stepped parapets;
d. Special architectural features, such as bay windows, decorative roofs and entry features may project up to three feet into street rights-of-way, provided that they are not less than nine feet above the sidewalk.
Finding: Complies as Proposed. The roof has a 2/12 pitch with 4-foot overhangs.

2. Mixed use buildings: For flat roofs or facades with a horizontal eave, fascia, or parapet, the minimum vertical dimension of roofline modulation is the greater of two feet or 0.1 multiplied by the wall height (finish grade to top of wall). The maximum length of any
Finding: Not Applicable. This standard is not applicable. This is not a mixed-use structure.

3. Other roof forms consistent with the design standards herein may satisfy this standard if the individual segments of the roof with no change in slope or discontinuity are less than forty feet in width (measured horizontally).
Finding: Complies as Proposed. The roof eave line will be broken at the entry to enhance it. The roof is 33'-9" horizontally from the center ridgeline to the edge of the overhang. The roof is 24'-7" horizontally from the center ridgeline to the change in slope that occurs due to the new entry canopy. The overall dimensions of the roof are 120' by 67'-8".

K. Drive-through facilities shall:
1. Be located at the side or rear of the building.
2. Be designed to maximize queue storage on site.
Finding: Not Applicable. This standard is not applicable. No drive-through is proposed.

17.62.056 - Additional standards for large retail establishments.
Finding: Not Applicable. These standards are not applicable. The proposal is not for a retail establishment.

17.62.057 - Multi-family standards.
B. Applicability. In addition to Section 17.62.050 requirements, all multi-family buildings shall comply with the design standards contained in this section. Cottage Housing Development shall follow OCMC 17.62.58 instead of this section.
Finding: Not Applicable. This standard is not applicable. The proposal is not for a multi-family building.

17.62.059 - Cottage housing.
A. Applicability.
These guidelines apply to all cottage developments in any applicable zone within the city. Cottages are considered multi-family development and are subject to all the applicable sections of OCMC 17.62 Site Plan and Design Review and OCMC 17.52 Off Street Parking and Loading. However, this section replaces OCMC 17.62.057—Multifamily. The proposed development shall be processed under the Type II Land Use process and shall remain one lot. Where there is a

conflict between these standards and the standards in other chapters, the Cottage Housing standards shall apply.
Finding: Not Applicable. This standard is not applicable. The proposal is not for cottage housing.

17.62.065 - Outdoor lighting.
B. Applicability.
1. General.
a. All exterior lighting for any type of commercial, mixed-use, industrial or multi-family development shall comply with the standards of this section, unless excepted in subsection B.3.
b. The city engineer/public works director shall have the authority to enforce these regulations on private property if any outdoor illumination is determined to present an immediate threat to the public health, safety and welfare.
Finding: Applicable. The proposal is for an institutional development and will comply with this section.

2. Lighting Plan Requirement.
All commercial, industrial, mixed-use, cottage housing and multi-family developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights.
Finding: Complies as Proposed. Exterior lighting is identified on the site plan. New lighting is proposed under the entrance canopy of the southern entryway and an up-light at the base of a new flagpole.

3. Excepted Lighting.
The following types of lighting are excepted from the requirements of this section.
a. Residential lighting for single-family attached and detached homes, and duplexes.
b. Public street and right-of-way lighting.
c. Temporary decorative seasonal lighting provided that individual lamps have a light output of sixty watts or less.
d. Temporary lighting for emergency or nighttime work and construction.
e. Temporary lighting for theatrical, television, and performance areas, or for special public events.
f. Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.
g. Lighting required and regulated by the Federal Aviation Administration.
Finding: Not Applicable. This standard is not applicable. No lighting identified as excepted is proposed.

C. General Review Standard. If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design standards of

subsection D. below shall be deemed to not adversely affect adjacent properties or the community.
D. Design and Illumination Standards.
General Outdoor Lighting Standard and Glare Prohibition.
1.Outdoor lighting, if provided, shall be provided in a manner that enhances security, is appropriate for the use, avoids adverse impacts on surrounding properties, and the night sky through appropriate shielding as defined in this section. Glare shall not cause illumination on other properties in excess of a measurement of 0.5 footcandles of light as measured at the property line. In no case shall exterior lighting add more than 0.5 footcandle to illumination levels at any point off-site. Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:
Finding: Complies with Condition. The only new lighting proposed is located under the entrance canopy of the southern entryway. These are down lights only, with shielding to control the spread. No landscape lighting, building lighting that is casting upwards, or lighting along the sidewalk or property line, is proposed. Existing street lights affixed to utility poles provide safety lighting in the parking lots. Glare on adjacent properties will not exceed 0.5 footcandles. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

2. Any light source or lamp that emits more than nine hundred lumens (thirteen watt compact fluorescent or sixty watt incandescent) shall be concealed or shielded with a full cut-off style fixture in order to minimize the potential for glare and unnecessary diffusion on adjacent property. All fixtures shall utilize one of the following bulb types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high pressure sodium with a color rendering index above seventy.
Finding: Complies as Proposed. No light source or lamp that emits more than 900 lumens is proposed. This standard is not applicable.

3. The maximum height of any lighting pole serving a multi-family residential use shall be twenty feet. The maximum height serving any other type of use shall be twenty-five feet, except in parking lots larger than five acres, the maximum height shall be thirty-five feet if the pole is located at least one hundred feet from any residential use.
Finding: Not Applicable. This standard is not applicable. The proposal is not for a multi-family use.

4. Lighting levels:
Table 1-17.62.065. Foot-candle Levels

Location	*Min*	*Max*	*Avg*
Pedestrian Walkways	*0.5*	*7:1 max/min ratio*	*1.5*
Pedestrian Walkways in Parking Lots		*10:1 max/min ratio*	*0.5*
Pedestrian Accessways	*0.5*	*7:1 max/min ratio*	*1.5*
Building Entrances	*3*		
Bicycle Parking Areas	*3*		

Abutting property	*N/A*	*.5*	

Finding: Complies with Condition. The only proposed exterior lighting is at the southern entrance to the Annex. The lights are down lights with shielding to control the spread of light. The lights will meet the minimum requirement for building entrances and bicycle parking areas of 3 foot-candles. The proposed bicycle parking is located adjacent to the southern entrance. Prior to issuance of a permit associated with the proposed development, the applicant shall submit documentation from a lighting specialist demonstrating that the proposed pedestrian accessways, bicycle parking and entryway lighting comply with this standard. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

5. Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize pedestrian scale lighting that defines the space without glare.
Finding: Complies as Proposed. The site is currently lit by street lights on utility poles. No changes are proposed to the parking lot lighting.

6. Any on-site pedestrian circulation system shall be lighted to enhance pedestrian safety and allow employees, residents, customers or the public to use the walkways at night. Pedestrian walkway lighting through parking lots shall be lighted to light the walkway and enhance pedestrian safety pursuant to Table 1.
Finding: Complies with Condition. Prior to issuance of a permit associated with the proposed development, the applicant shall submit documentation from a lighting specialist demonstrating that the proposed pedestrian accessways comply with the lighting requirements in this section. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

7. Pedestrian Accessways. To enhance pedestrian and bicycle safety, pedestrian accessways required pursuant to OCMC 12.28 shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances. Lamps shall include a high-pressure sodium bulb with an unbreakable lens.
Finding: Complies as Proposed. This standard is not applicable. No off-site pedestrian accessways are proposed pursuant to OCMC 12.28.

8. Floodlights shall not be utilized to light all or any portion of a building facade between ten p.m. and six a.m.
Finding: Not Applicable. No floodlights are proposed.

9. Lighting on automobile service station, convenience store, and other outdoor canopies shall be fully recessed into the canopy and shall not protrude downward beyond the ceiling of the canopy.

Finding: Complies as Proposed. The proposed lighting in the canopies at the building entrances are fully recessed into the canopy.

10. The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.
Finding: Complies as Proposed. The proposed entry-way lighting (shielded down lighting) is incorporated into the canopy of the southern entrance and is consistent with a commercial architectural style and character.

11. In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site.
Finding: Complies with Condition. Prior to issuance of a permit associated with the proposed development, the applicant shall submit documentation from a lighting specialist demonstrating that the proposed pedestrian accessways, bicycle parking and entryway lighting comply with this standard. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12. All outdoor light not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.
Finding: Complies as Proposed. All outdoor lighting proposed is for security purposes.

13. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.
Finding: Complies as Proposed. Lighting is proposed to illuminate a flag and will use a narrow cone and not extend beyond the flag.

14. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roofline.
Finding: Complies as Proposed. Upward directional lighting is proposed on a flagpole which will not be visible from beyond the roofline.

15. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.
Finding: Complies as Proposed. No flickering or flashing lights are proposed.

16. Wireless Sites. Unless required by the Federal Aviation Administration or the Oregon Aeronautics Division, artificial lighting of wireless communication towers and antennas shall be prohibited. Strobe lighting of wireless communication facilities is prohibited unless required by the Federal Aviation Administration. Security lighting for equipment shelters or cabinets and other on-the-ground auxiliary equipment on wireless communication facilities shall be initiated by motion detecting lighting.
Finding: Not Applicable. This standard is not applicable. This is not a wireless site.

17. Lighting for outdoor recreational uses such as ball fields, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:

i. Maximum permitted light post height: eighty feet.
ii. Maximum permitted illumination at the property line: 0.5 foot-candles.
Finding: Not Applicable. No lighting is proposed for the existing play fields.

17.62.080 - Special development standards along transit streets.
B. Applicability. Except as otherwise provide in this section, the requirements of this section shall apply to the construction of new retail, office and institutional buildings which front on a transit street.

C. Development Standards.
1. All buildings shall have at least one main building entrance oriented towards the transit street. A main building entrance is oriented toward a transit street if it is directly located on the transit street, or if it is linked to the transit street by an on-site pedestrian walkway that does not cross off-street parking or maneuvering areas.
a. If the site has frontage on more than one transit street, or on a transit street and a street intersecting a transit street, the building shall provide one main building entrance oriented to the transit street or to the corner where the two streets intersect.
b. For building facades over three hundred feet in length on a transit street, two or more main building entrances shall be provided as appropriate and oriented towards the transit street.
2. Main building entrances shall be well lighted and visible from the transit street. The minimum lighting level for building entries shall be three foot-candles. Lighting shall be a pedestrian scale with the source light shielded to reduce glare.
3. In the event a requirement of this section conflicts with other requirements in Title 17, the requirements of this section shall control.
D. Exemptions. The following permitted uses are exempted from meeting the requirements of subsection C. of this section:
1. Heavy equipment sales;
2. Motor vehicle service stations, including convenience stores associated therewith;
3. Solid waste transfer stations; and
4. Truck stops, including convenience stores, eating or drinking establishments, overnight accommodations or other similar services associated therewith. A use found by the community development director to be similar to the exempt uses above.
Finding: Complies as Proposed. The subject site is located along Linn Avenue which is a transit street, though a new building or addition to an existing building has not been proposed. The main entrances to the building are proposed to be well-lit and visible from the streets.

17.62.085 - Refuse and recycling standards for commercial, industrial, and multi-family developments.
The purpose and intent of these provisions is to provide an efficient, safe and convenient refuse and recycling enclosure for the public as well as the local collection firm. All new development, change in property use, expansions or exterior alterations to uses other than single-family or duplex residences shall include a refuse and recycling enclosure. The area(s) shall be:
A. Sized appropriately to meet the needs of current and expected tenants, including an expansion area if necessary;
B. Designed with sturdy materials, which are compatible to the primary structure(s);
C. Fully enclosed and visually screened;

D. Located in a manner easily and safely accessible by collection vehicles;
E. Located in a manner so as not to hinder travel lanes, walkways, streets or adjacent properties;
F. On a level, hard surface designed to discharge surface water runoff and avoid ponding;
G. Maintained by the property owner;
H. Used only for purposes of storing solid waste and recyclable materials;
I. Designed in accordance with applicable sections of the Oregon City Municipal Code (including Chapter 8.20—Solid Waste Collection and Disposal) and city adopted policies.
Finding: Not Applicable. There is currently a refuse area on the northern portion of the site. No new refuse area is proposed.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

17.50.030 *Summary of the City's Decision-Making Processes.*
Finding: Complies as Proposed. The applicant is aware of the city's decision making process.

17.50.050 *Preapplication Conference*
Finding: Complies as Proposed. A pre-application conference was held on Friday, July 7, 2017.

17.50.055 *Neighborhood Association Meeting*
Finding: Complies as Proposed. A meeting was held with the Rivercrest Neighborhood Association and all necessary documentation was submitted with the development application.

17.50.060 *Application Requirements.*
Finding: Complies as Proposed. All application materials required are submitted with this narrative.

CHAPTER 17.39 - INSTITUTIONAL DISTRICT

17.39.20 Permitted Uses.
Permitted Uses in the Institutional district are:
A. Private and/or public educational or training facilities;
B. Parks, playgrounds, playfields and community or neighborhood community centers;
C. Public facilities and services including courts, libraries and general government offices and maintenance facilities.
D. Stadiums and arenas
E. Banquet, conference facilities and meeting rooms;
F. Government offices
G. Transportation facilities
Finding: Complies as Proposed. The proposal entails the relocation of the City's Community Development Department into the 6,850 square foot building on the south-east corner of the property. The proposed development will not limit the ability of the legally nonconforming elementary school to continue onsite, nor does the proposal grant permission for additional development onsite.

17.39.30 Accessory Uses.

The following uses are permitted outright if they are accessory to and related to the primary institutional use:

A. Offices

B. Retail (not to exceed 20% of total gross floor area of all building)

C. Child care centers or nursery schools

D. Scientific, educational, or medical research facilities and laboratories.

E. Religious Institutions

Finding: Not Applicable. No accessory uses are proposed with this application.

17.39.40 Conditional Uses.

Uses requiring conditional use permit are:

A. Any uses listed under 17.39.030 that are not accessory to the primary institutional use.

B. Boarding and lodging houses, bed and breakfast inns.

C. Cemeteries, crematories, mausoleums, and columbariums;

D. Correctional facilities;

E. Helipad in conjunction with a permitted use,

F. Parking lots not in conjunction with a primary use;

G. Public utilities, including sub-stations (such as buildings, plants and other structures);

H. Fire Stations

Finding: Not Applicable. No conditional uses are proposed at this time. The proposed development will not limit the ability of the legally nonconforming elementary school to continue onsite.

17.39.50 Dimensional Standards.

Dimensional standards in the I district are:

A. *Maximum building height: within 100 feet of any district boundary, not to exceed 35 feet; elsewhere, not to exceed 70 feet.*
B. *Minimum required setbacks: 25 feet from property line except when the development is adjacent to a public-right-of-way. When adjacent to a public right-of-way, the minimum setback is 0 feet and the maximum setback is 5 feet.*

Finding: Complies as Proposed. No new structures are proposed at this time for the site. Any new mechanical units installed on the roof will still result in a height well below the zoning height limit. The proposed flag pole will be less than 100 feet in height.

CHAPTER 17.16 R-3.5 DWELLING DISTRICT

Finding: Complies as Proposed. A portion of the site is within the R-3.5 Dwelling District but is not utilized as a residential use. The proposal would change the zoning designation to "I" Institutional.

CHAPTER 17.08 SINGLE-FAMILY DWELLING DISTRICT

Finding: Complies as Proposed. A portion of the site is within the R-10 Single-Family Dwelling District but is not utilized as a residential use. The proposal would change the zoning designation to "I" Institutional.

CHAPTER 17.52 OFF-STREET PARKING AND LOADING

17.52.010 - Applicability.
The construction of a new structure or parking lot, or alterations to the size or use of an existing structure, parking lot or property use shall require site plan review approval and compliance with this chapter. This chapter does not apply to single- and two-family residential dwellings.
Finding: Complies as Proposed. This standard is not applicable. No alterations or new parking lots/structures are proposed.

17.52.015 - Planning commission adjustment of parking standards.
A. Purpose: The purpose of permitting a planning commission adjustment to parking standards is to provide for flexibility in modifying parking standards in all zoning districts, without permitting an adjustment that would adversely impact the surrounding or planned neighborhood. The purpose of an adjustment is to provide flexibility to those uses which may be extraordinary, unique or to provide greater flexibility for areas that can accommodate a denser development pattern based on existing infrastructure and ability to access the site by means of walking, biking or transit. An adjustment to a minimum or maximum parking standard may be approved based on a determination by the planning commission that the adjustment is consistent with the purpose of this Code, and the approval criteria can be met.
B. Procedure: A request for a planning commission parking adjustment shall be initiated by a property owner or authorized agent by filing a land use application. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development and parking plan, the extent of the adjustment requested along with findings for each applicable approval criteria. A request for a parking adjustment shall be processed as a Type III application as set forth in Chapter 17.50.
C. Approval criteria for the adjustment are as follows:
1. Documentation: The applicant shall document that the individual project will require an amount of parking that is different from that required after all applicable reductions have been taken.
2. Parking analysis for surrounding uses and on-street parking availability: The applicant must show that there is a continued fifteen percent parking vacancy in the area adjacent to the use during peak parking periods and that the applicant has permission to occupy this area to serve the use pursuant to the procedures set forth by the community development director.
a. For the purposes of demonstrating the availability of on street parking as defined in [Section] 17.52.020.B.3., the applicant shall undertake a parking study during time periods specified by the community development director. The time periods shall include those during which the highest parking demand is anticipated by the proposed use. Multiple observations during multiple days shall be required. Distances are to be calculated as traversed by a pedestrian that utilizes sidewalks and legal crosswalks or an alternative manner as accepted by the community development director.

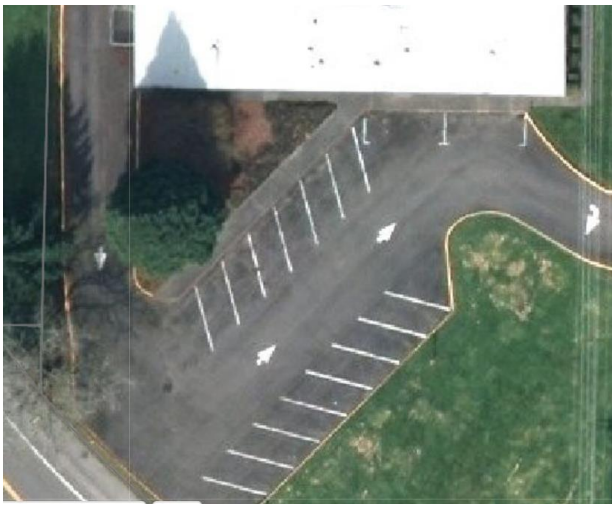
b. The onsite parking requirements may be reduced based on the parking vacancy identified in the parking study. The amount of the reduction in onsite parking shall be calculated as follows:
i. Vacant on-street parking spaces within three hundred feet of the site will reduce onsite parking requirements by 0.5 parking spaces; and
ii. Vacant on-street parking spaces between three hundred and six hundred feet of the [site] will reduce onsite parking requirements by 0.2 parking spaces.
3. Function and Use of Site: The applicant shall demonstrate that modifying the amount of required parking spaces will not significantly impact the use or function of the site and/or adjacent sites.
4. Compatibility: The proposal is compatible with the character, scale and existing or planned uses of the surrounding neighborhood.
5. Safety: The proposal does not significantly impact the safety of adjacent properties and rights-of-way.
6. Services: The proposal will not create a significant impact to public services, including fire and emergency services.
Finding: Not Applicable. No alterations to the parking requirements are requested.

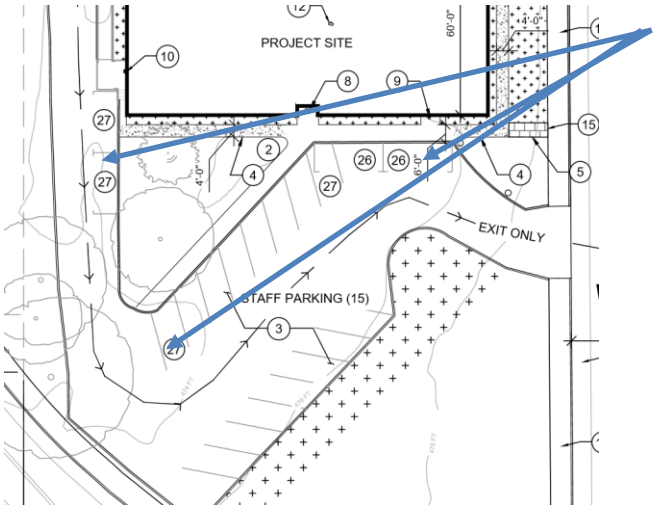
17.52.020 - Number of automobile spaces required.
A.The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated.

Table 17.52.020

LAND USE	*PARKING REQUIREMENTS*	
	MINIMUM	*MAXIMUM*
Elementary/Middle School	*1 per classroom (17 Min)*	*1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium (17+3+50=70 Max)*
Office	*2.70 (18 Min)*	*3.33 (23 Max)*
Total	***35***	***93***

Finding: Complies as Proposed. The subject site currently contains an elementary school with 17 classrooms and 3 administrative staff and a gym which can accommodate 200 folding chairs. In addition, the annex structure is approximately 6,850 square feet and for the purposes of parking is being calculated for future office use. The subject site is currently constructed with 40 parking stalls, an additional 13 stalls fenced behind the northern portion of the building which are currently fenced, and 22 parallel on-street stalls which are also considered toward the minimum number of off-street parking stalls. The proposal includes the removal of 2, two zero degree parking stalls and the installation of 2 sixty degree stalls as well as the installation of 2 zero degree stalls along the drive aisle adjacent to the west side of the Annex. The proposal results in a 42 stalls available onsite, 13 stalls unavailable (within a fenced location). The parking exceeds the 35 stall minimum without exceeding the maximum of 93 parking stalls. Future changes to the site will require alterations to the parking calculation.





1. Multiple Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately.
Finding: Complies as Proposed. The parking calculations include the sum of all uses onsite.

2. Requirements for types of buildings and uses not specifically listed herein shall be determined by the community development director, based upon the requirements of comparable uses listed.
Finding: Complies as Proposed. The uses proposed are specifically listed.

3. Where calculation in accordance with the above list results in a fractional space, any fraction less than one-half shall be disregarded and any fraction of one-half or more shall require one space.
Finding: Complies as Proposed. The calculations above were created utilizing the rounding identified in this section.

4. The minimum required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only, and shall not be used for storage of vehicles or materials or for the parking of vehicles used in conducting the business or use.
Finding: Complies as Proposed. The City has 5 vehicles which will be stored onsite overnight. The minimum parking requirements are met despite the use of the 5 parking stalls.

5. A change in use within an existing habitable building located in the MUD Design District or the Willamette Falls Downtown District is exempt from additional parking requirements. Additions to an existing building and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage.
Finding: Not Applicable. This standard is not applicable. The property in question is not located in the MUD Design District or the Willamette Falls Downtown District or include an addition.

B. Parking requirements can be met either onsite, or offsite by meeting the following conditions:

1.Mixed Uses. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (e.g. the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced accordingly, up to a maximum reduction of fifty percent, as determined by the community development director.
Finding: Not Applicable. The applicant did not utilize a parking reduction for mixed-use.

2. Shared Parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlay (e.g., uses primarily of a daytime versus nighttime nature), that the shared parking facility is within one thousand feet of the potential uses, and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument authorizing the joint use.
Finding: Not Applicable. The applicant did not utilize shared parking.

3. On-Street Parking. On-street parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:
a. Dimensions. The following constitutes one on-street parking space:
1. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;
2. [Forty-five/sixty] degree diagonal, each with [fifteen] feet of curb;
3. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.
4. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.
Finding: Not Applicable. The required minimum parking can be accommodated on-site. However, there are approximately 22 spaces available on-street.

C. Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced in the Downtown Parking Overlay District: Fifty percent reduction in the minimum number of spaces required is allowed prior to seeking further reductions in [sub]sections 2. and 3. below:
1. Transit Oriented Development. For projects not located within the Downtown Parking Overlay District, the community development director may reduce the required number of parking stalls up to twenty-five percent when it is determined that a project in a commercial center (sixty thousand square feet or greater of retail or office use measured cumulatively within a five hundred-foot radius) or multi-family development with over eighty units, is adjacent to or within one thousand three hundred twenty feet of an existing or planned public transit street and is within one thousand three hundred twenty feet of the opposite use (commercial center or multi-family development with over eighty units).
2. Reduction in Parking for Tree Preservation. The community development director may grant an adjustment to any standard of this requirement provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help

preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction must take into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the community development director. This reduction is discretionary.
3. Transportation Demand Management. The community development director may reduce the required number of parking stalls up to twenty-five percent when a parking-traffic study prepared by a traffic engineer demonstrates:
a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of Transportation Engineers vehicle trip generation rates and further that the transportation demand management program promotes or achieves parking utilization lower than minimum city parking requirements.
b. Transportation demand management (TDM) program has been developed for approval by, and is approved by the city engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the city determines the plan is not successful, the plan may be revised. If the city determines that no good-faith effort has been made to implement the plan, the city may take enforcement actions.
Finding: Not Applicable. This standard is not applicable. No reduction of parking is requested.

17.52.030 - Standards for automobile parking.
A. Access. Ingress and egress locations on public thoroughfares shall be located in the interests of public traffic safety. Groups of more than four parking spaces shall be so located and served by driveways so that their use will require no backing movements or other maneuvering within a street right-of-way other than an alley. No driveway with a slope of greater than fifteen percent shall be permitted without approval of the city engineer.
Finding: Complies as Proposed. The existing entrance driveway and an exit only driveway are located off of Warner Parrott Road an additional exit-only driveway is located off of Linn Avenue. The parking lots are located off of interior drive aisles so backing movements are solely contained on-site. The existing driveway slopes are less than fifteen percent.

B. Surfacing. Required off-street parking spaces and access aisles shall have paved surfaces adequately maintained. The use of pervious asphalt/concrete and alternative designs that reduce storm water runoff and improve water quality pursuant to the city's stormwater and low impact development design standards are encouraged.
Finding: Complies as Proposed. The existing parking lots and access aisles are paved with asphaltic concrete. Proposed site improvements do not trigger stormwater management requirements.

C. Drainage. Drainage shall be designed in accordance with the requirements of Chapter 13.12 and the city public works stormwater and grading design standards.
Finding: Complies as Proposed. Drainage of the parking lots and drive aisles is accommodated by an existing storm drain. Proposed site improvements do not trigger stormwater management requirements.

D. Dimensional Standards.

1. Requirements for parking developed at varying angles are according to the table included in this section. A parking space shall not be less than seven feet in height when within a building or structure, and shall have access by an all-weather surface to a street or alley. Parking stalls in compliance with the American with Disabilities Act may vary in size in order to comply with the building division requirements. Up to thirty-five percent of the minimum required parking may be compact, while the remaining required parking stalls are designed to standard dimensions. The community development director may approve alternative dimensions for parking stalls in excess of the minimum requirement which comply with the intent of this chapter.

2. Alternative parking/plan. Any applicant may propose an alternative parking plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. In such situations, the community development director may approve an alternative parking lot plan with variations to parking dimensions of this section. The alternative shall be consistent with the intent of this chapter and shall create a safe space for automobiles and pedestrians while providing landscaping to the quantity and quality found within parking lot landscaping requirements.

PARKING STANDARD

PARKING ANGLE SPACE DIMENSIONS

A *Parking Angle*		*B* *Stall Width*	*C* *Stall to Curb*	*D* *Aisle Width*	*E* *Curb Length*	*F* *Overhang*
0 degrees		*8.5*	*9.0*	*12*	*20*	*0*
30 degrees	*Standard* *Compact*	*9'* *8'*	*17.3'* *14.9'*	*11'* *11'*	*18'* *16'*	
45 degrees	*Standard* *Compact*	*8.5* *8.5*	*19.8'* *17.0'*	*13'* *13'*	*12.7'* *11.3'*	*1.4*
60 degrees	*Standard* *Compact*	*9'* *8'*	*21'* *17.9'*	*18'* *16'*	*10.4'* *9.2'*	*1.7*
90 degrees	*Standard* *Compact*	*9'* *8'*	*19.0'* *16.0'*	*24'* *22'*	*9'* *8'*	*1.5*

All dimensions are to the nearest tenth of a foot.

NOTE: Overhang dimensions are intended to indicate possible location from parking area edge for location of bumpers.

Finding: Complies as Proposed. The proposed development entails restriping the existing parking stalls near the Annex building with minor amendments. Within the existing parking lot between the Annex and the intersection of Warner Parrott, minor changes to the parking lot striping are proposed within the existing pavement. Two new zero degree parking stalls are proposed along the drive aisle adjacent to the west side of the Annex and two existing zero degree parking stalls in front of the entryway is proposed to be reconfigured to match the adjacent 60 degree stalls.

E. Carpool and Vanpool Parking. New developments with seventy-five or more parking spaces, and new hospitals, government offices, group homes, nursing and retirement homes, schools and transit park-and-ride facilities with fifty or more parking spaces, shall identify the spaces available for employee, student and commuter parking and designate at least five percent, but not fewer than two, of those spaces for exclusive carpool and vanpool parking. Carpool and vanpool parking spaces shall be located closer to the main employee, student or commuter entrance than all other employee, student or commuter parking spaces with the exception of ADA accessible parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only."

Finding: Complies as Proposed. This standard is not applicable. This is not a new development, nor are there more than 75 parking spaces.

17.52.040 - Bicycle parking standards.

A. Purpose-Applicability. To encourage bicycle transportation to help reduce principal reliance on the automobile, and to ensure bicycle safety and security, bicycle parking shall be provided in conjunction with all uses other than single-family dwellings or duplexes.

Finding: Applies. The proposal calls for the installation of two uncovered, ground-affixed, bicycle parking racks, one on each side of the structure adjacent to the entryways.

B. Number of Bicycle Spaces Required. For any use not specifically mentioned in Table A, the bicycle parking requirements shall be the same as the use which, as determined by the community development director, is most similar to the use not specifically mentioned. Calculation of the number of bicycle parking spaces required shall be determined in the manner established in Section 17.52.020 for determining automobile parking space requirements. Modifications to bicycle parking requirements may be made through the site plan and design, conditional use, or master plan review process.

*TABLE A Required Bicycle Parking Spaces**

Where two options for a requirement are provided, the option resulting in more bicycle parking applies. Where a calculation results in a fraction, the result is rounded up to the nearest whole number.

USE	*MINIMUM BICYCLE PARKING*	*MINIMUM BICYCLE PARKING - COVERED - The following percentage of bicycle parking is required to be covered*
Elementary	*4 per classroom (minimum of 2)* *17 classrooms*	*50% (minimum of 1)*
Bank, office	*1 per 20 auto spaces (minimum of 2)* *18 auto spaces*	*50% (minimum of 1)*

**Covered bicycle parking is not required for developments with two or fewer stalls.*

Finding: Complies as Proposed. The calculation for the elementary school is 68 bicycle spaces (17 classrooms) and the calculation for the proposed office is one (18 required auto spaces). The elementary school site is under a separate lease and the installation of additional bicycle parking in this lease area is limited. The conversion of the classrooms to office use in the annex should reduce the number of bicycle parking stalls required for the site and no changes to the

bicycle parking are proposed for the elementary school. The proposal entails installation of 4 bicycle parking stalls near the Annex building consisting of two bike racks, each holding two bikes. One of the bicycle racks is proposed under the shelter of the building eve.

C. Security of Bicycle Parking. Bicycle parking facilities shall be secured. Acceptable secured bicycle parking area shall be in the form of a lockable enclosure onsite, secure room in a building onsite, a covered or uncovered rack onsite, bicycle parking within the adjacent right-of-way or another form of secure parking where the bicycle can be stored, as approved by the decision maker. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience and, when in the right-of-way shall comply with clearance and ADA requirements.
Finding: Complies as Proposed. The proposed bicycle parking is in the form of ground-mounted, racks on site.

D. Bicycle parking facilities shall offer security in the form of either a lockable enclosure or a stationary rack to which the bicycle can be locked. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience.

Location of Bicycle Parking:

1. Bicycle parking shall be located on-site, in one or more convenient, secure and accessible location. The city engineer and the community development Director may permit the bicycle parking to be provided within the right-of-way provided adequate clear zone and ADA requirements are met. If sites have more than one building, bicycle parking shall be distributed as appropriate to serve all buildings. If a building has two or more main building entrances, the review authority may require bicycle parking to be distributed to serve all main building entrances, as it deems appropriate.
Finding: Complies as Proposed. The proposed bicycle parking is to be located on-site as stationary racks, secured to the ground, adjacent to the entryways on the north and south side of the Annex.

2. Bicycle parking areas shall be clearly marked or visible from on-site buildings or the street. If a bicycle parking area is not plainly visible from the street or main building entrance, a sign must be posted indicating the location of the bicycle parking area. Indoor bicycle parking areas shall not require stairs to access the space unless approved by the community development director.
Finding: Complies as Proposed. The proposed bicycle parking areas are plainly visible from the main building entrances; they are located adjacent to the north and south entrances to the structure.

3. All bicycle parking areas shall be located to avoid conflicts with pedestrian and motor vehicle movement.
a. Bicycle parking areas shall be separated from motor vehicle parking and maneuvering areas and from arterial streets by a barrier or a minimum of five feet.
b. Bicycle parking areas shall not obstruct pedestrian walkways; provided, however, that the review authority may allow bicycle parking in the right-of-way where this does not conflict with pedestrian accessibility.

Finding: Complies as Proposed. No pedestrian or vehicle conflicts are anticipated with the location of the proposed bicycle parking areas at the north and south entrances of the structure. The locations shall be raised from the parking lot and placed to allow 5 feet for pedestrian access adjacent to the bicycle parking.

4. Accessibility.
a. Outdoor bicycle areas shall be connected to main building entrances by pedestrian accessible walkways.
b. Outdoor bicycle parking areas shall have direct access to a right-of-way.
c. Outdoor bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle space, or fifty feet, whichever is less, unless otherwise determined by the community development director, city engineer, or planning commission.
Finding: Complies as Proposed. The bicycle parking is proposed to be installed near a pedestrian accessway which connects to the entrances of the site with direct access to the Linn Avenue right-of-way. With the installation of the proposed pedestrian walkways from Linn Avenue and the existing pedestrian walkways on site, the proposed bike parking areas meet these criteria.

17.52.060 - Parking lot landscaping.
A. Development Standards.
1. The landscaping shall be located in defined landscaped areas that are uniformly distributed throughout the parking or loading area.
Finding: Complies as Proposed. The existing landscaping is located in defined landscaped areas. Additional landscaping is proposed east of the 6,850 square foot Annex along Linn Avenue and along the southeastern edge of the southern most parking lot.

2. All areas in a parking lot not used for parking, maneuvering, or circulation shall be landscaped.
Finding: Complies as Proposed. All areas in the parking lots available for landscaping contain landscaping or are proposed to be landscaped.

3. Parking lot trees shall be a mix of deciduous shade trees and coniferous trees. The trees shall be evenly distributed throughout the parking lot as both interior and perimeter landscaping to provide shade.
Finding: Complies as Proposed. The existing trees on site are both deciduous and coniferous and distributed throughout the parking lots. The proposed perimeter landscaping also contains both deciduous shade trees and coniferous trees.

4. Required landscaping trees shall be of a minimum two-inch minimum caliper size (though it may not be standard for some tree types to be distinguished by caliper), planted according to American Nurseryman Standards, and selected from the Oregon City Street Tree List.
Finding: Complies as Proposed. All proposed trees are specified as 2" caliper, will be planted according to American Nurseryman Standards, and none of the plants listed on the landscaping plan are identified on the Oregon City Nuisance Plant List.

5. Landscaped areas shall include irrigation systems unless an alternate plan is submitted, and approved by the community development director, that can demonstrate adequate maintenance.
Finding: Complies as Proposed. The proposed landscaping will include installation of an irrigation system for the proposed planting areas. The design of the irrigation plan will be submitted once the landscape plan is approved.

6. All plant materials, including trees, shrubbery and ground cover should be selected for their appropriateness to the site, drought tolerance, year-round greenery and coverage and staggered flowering periods. Species found on the Oregon City Native Plant List are strongly encouraged and species found on the Oregon City Nuisance Plant List are prohibited.
Finding: Complies as Proposed. A landscaping plan was submitted which was prepared by Gregory T. Covey, registered landscape architect. The proposed landscape plan calls for plants which are low maintenance, drought tolerant, and provide year-round visual interest. None of the plants listed on the landscaping plan are identified on the Oregon City Nuisance Plant List.

7. The landscaping in parking areas shall not obstruct lines of sight for safe traffic operation and shall comply with all requirements of Chapter 10.32, Traffic Sight Obstructions.
Finding: Complies as Proposed. The existing landscaping does not interfere with lines of sight. The proposed landscaping is located on the perimeter of the parking area and between the building and right-of-way. Lines of sight will not be obstructed by the proposed landscaping.

B. Perimeter Parking Lot Landscaping and Parking Lot Entryway/Right-of-Way Screening. Parking lots shall include a five-foot wide landscaped buffer where the parking lot abuts the right-of-way and/or adjoining properties. In order to provide connectivity between non-single-family sites, the community development director may approve an interruption in the perimeter parking lot landscaping for a single driveway where the parking lot abuts property designated as multi-family, commercial or industrial. Shared driveways and parking aisles that straddle a lot line do not need to meet perimeter landscaping requirements.
1. The perimeter parking lot are[a] shall include:
a. Trees spaced a maximum of thirty-five feet apart (minimum of one tree on either side of the entryway is required). When the parking lot is adjacent to a public right-of-way, the parking lot trees shall be offset from the street trees;
b. Ground cover, such as wild flowers, spaced a maximum of16-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and
c. An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average. The hedge/shrubs shall be parallel to and not nearer than two feet from the right-of-way line. The required screening shall be designed to allow for free access to the site and sidewalk by pedestrians. Visual breaks, no more than five feet in width, shall be provided every thirty feet within evergreen hedges abutting public right-of-ways.
Finding: Complies as Proposed. The subject site was constructed prior to this standard being in place and does not comply with the landscaping requirement. In order to mitigate the proposed Minor Site Plan and Design Review, the proposal entails upgrading portions of the parking lot to be in greater conformance with this standard. Though the upgrade far exceeds the minimum amount of plantings required per OCMC Chapter 17.58 Lawful Nonconforming

Uses, Structures and Lots, the proposal would not result in a parking lot which fully complies with this standard. However, the incremental improvements within this landscaping area do comply.

The nonconforming upgrades focus on the southernmost parking lot between the front of the Annex and the street. The landscaping plan includes shrubs (placed every 4 feet) and groundcover along the eastern side of the southernmost parking lot, in compliance with this standard. In the locations where landscaping is proposed, the groundcover will cover one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

C. Parking Area/Building Buffer. Parking areas shall be separated from the exterior wall of a structure, exclusive of pedestrian entranceways or loading areas, by one of the following:
1. Minimum five-foot wide landscaped planter strip (excluding areas for pedestrian connection) abutting either side of a parking lot sidewalk with:
a. Trees spaced a maximum of thirty-five feet apart;
b. Ground cover such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent
of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and
c. An evergreen hedge of thirty to forty-two inches or shrubs placed no more than four feet apart on average; or
2. Seven-foot sidewalks with shade trees spaced a maximum of thirty-five feet apart in three-foot by five-foot tree wells.
Finding: Complies as Proposed. The subject site was constructed prior to this standard being in place and does not comply with the landscaping requirement. In order to mitigate the proposed Minor Site Plan and Design Review, the proposal entails upgrading portions of the parking lot to be in greater conformance with this standard. Though the upgrade far exceeds the minimum amount of plantings required per OCMC Chapter 17.58 Lawful Nonconforming Uses, Structures and Lots, the proposal would not result in a parking lot which fully complies with this standard. However, the incremental improvements within this landscaping area do comply.

The nonconforming upgrades focus on the southernmost parking lot between the front of the Annex and the street. The site is constrained by the cost of the nonconforming upgrade as well as a limited physical space for the parking area/building buffer. The southernmost existing parking lot is separated from the base of the building by a landscaping area less than 4 feet in width. The proposal includes installation of groundcover and ornamental grasses in this narrow location. In the locations where landscaping is proposed, the groundcover will cover one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

D. Interior Parking Lot Landscaping. Surface parking lots shall have a minimum ten percent of the interior of the gross area of the parking lot devoted to landscaping to improve the water quality, reduce storm water runoff, and provide pavement shade. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum total site landscaping

required by Section 17.62.050(1) unless otherwise permitted by the dimensional standards of the underlying zone district. Pedestrian walkways or any impervious surface in the landscaped areas are not to be counted in the percentage. Interior parking lot landscaping shall include:
a. A minimum of one tree per six parking spaces.
b. Ground cover, such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.
c. Shrubs spaced no more than four feet apart on average.
d. No more than eight contiguous parking spaces shall be created without providing an interior landscape strip between them. Landscape strips shall be provided between rows of parking shall be a minimum of six feet in width and a minimum of ten feet in length.
e. Pedestrian walkways shall have shade trees spaced a maximum of every thirty-five feet in a minimum three-foot by five-foot tree wells; or Trees spaced every thirty-five feet, shrubs spaced no more than four feet apart on average, and ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.
Finding: Complies as Proposed. The subject site was constructed prior to this standard being in place and does not comply with the landscaping requirement. In order to mitigate the proposed Minor Site Plan and Design Review, the proposal entails upgrading portions of the parking lot to be in greater conformance with this standard. Though the upgrade far exceeds the minimum amount of plantings required per OCMC Chapter 17.58 Lawful Nonconforming Uses, Structures and Lots, the proposal would not result in a parking lot which fully complies with this standard. However, the incremental improvements within this landscaping area do comply.

The nonconforming upgrades focus on the southernmost parking lot between the front of the Annex and the street. The proposal includes installation of a tree within the interior parking lot landscaping as well as shrubs spaced no more than 4 feet apart. There are no spans of parking stalls greater than 8 spaces. In the locations where landscaping is proposed, the groundcover will cover one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees. No more than eight contiguous parking spaces shall be created without providing an interior landscape strip between them and a tree is proposed within the interior of the parking lot.

E. Installation.
1. All landscaping shall be installed according to accepted planting procedures, according to American Nurseryman Standards.
2. The site, soils and proposed irrigation systems shall be appropriate for the healthy and long-term maintenance of the proposed plant species.
3. Certificates of occupancy shall not be issued unless the landscaping requirements have been met or other arrangements have been made and approved by the city, such as the posting of a surety.
Finding: Complies as Proposed. The landscaping shall be installed per American Nurseryman Standards and protected with the installation of an irrigation system. The species were chosen by a landscape architect to ensure the proper species and long-term viability of the

landscaping. A landscaping plan was submitted which was prepared by Gregory T. Covey, registered landscape architect.

17.52.070 - Alternative landscaping plan.
Any applicant may propose an alternative landscaping plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. Alternative plans may include the use of low impact development techniques and minimized landscaping requirements. In such situations, the community development director may approve variations to the landscaping standards of section 17.52.060.
A. General Review Standard. The alternative shall be meet or exceed the intent of this chapter and shall create a safe space for automobiles and pedestrians. The alternative landscaping plan shall be prepared by a licensed landscape architect.
B. Credit for Pervious/Low Impact Development. The community development director may count up to fifty percent of the square footage of any pervious hardscaped landscape material within a parking lot that is designed and approved pursuant to the city's adopted stormwater and low impact development design standards toward minimum landscaping requirements for the site. (This includes porous pavement detention, open celled block pavers, porous asphalt, porous concrete pavement, porous turf, porous gravel, etc.).
Finding: Complies as Proposed. An alternative landscaping plan has not been proposed.

17.52.080 - Maintenance.
The owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of the site including but not limited to the off-street parking and loading spaces, bicycle parking and all landscaping which shall be maintained in good condition so as to present a healthy, neat and orderly appearance and shall be kept free from refuse and debris.
All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:
a. It will not interfere with the maintenance or repair of any public utility;
b. It will not restrict pedestrian or vehicular access; and
c. It will not constitute a traffic hazard due to reduced visibility.
Finding: Complies as Proposed. The City of Oregon City has the resources to and will maintain the site amenities in good condition. The City shall be responsible for the maintenance of the site including but not limited to the off-street parking and loading spaces, bicycle parking and all landscaping which shall be maintained in good condition so as to present a healthy, neat and orderly appearance and shall be kept free from refuse and debris.
All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:
a. It will not interfere with the maintenance or repair of any public utility;
b. It will not restrict pedestrian or vehicular access; and
c. It will not constitute a traffic hazard due to reduced visibility.

17.52.090 - Loading areas.
B. Applicability.
1. Section 17.52.090 applies to uses that are expected to have service or delivery truck visits with a forty-foot or longer wheelbase, at a frequency of one or more vehicles per week. The

city engineer and decision maker shall determine through site plan and design review the number, size, and location of required loading areas, if any.

C. Standards.

1. The off-street loading space shall be large enough to accommodate the largest vehicle that is expected to serve the use without obstructing vehicles or pedestrian traffic on adjacent streets and driveways. Applicants are advised to provide complete and accurate information about the potential need for loading spaces because the city engineer or decision maker may restrict the use of other public right-of-way to ensure efficient loading areas and reduce interference with other uses.

2. Where parking areas are prohibited between a building and the street, loading areas are also prohibited.

3. The city engineer and decision maker, through site plan and design review, may approve a loading area adjacent to or within a street right-of-way when all of the following loading and unloading operations conditions are met:

a. Short in duration (i.e., less than one hour);

b. Infrequent (less than three operations daily between 5:00 a.m. and 12:00 a.m. or all operations between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);

c. Does not obstruct traffic during peak traffic hours;

d. Does not interfere with emergency response services; and

e. Is acceptable to the applicable roadway authority.

Finding: Complies as Proposed. No service or delivery trucks with a forty-foot or longer wheelbase are expected to be associated with the Annex. A new or amendments to any existing loading areas are not proposed.

CHAPTER 17.56 CONDITIONAL USES

Finding: Complies as Proposed. An elementary school is identified as a conditional use in the existing zoning designations, though no conditional use has been identified associated with the subject site. The elementary school use was established prior to the requirement to obtain a conditional use onsite. No alterations to the conditional use are proposed with this development and the elementary school use may continue as a nonconforming use until removed.

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

15.48.030 Applicability—Grading permit required.

A. A city-issued grading permit shall be required before the commencement of any of the following filling or grading activities:

1. Grading activities in excess of ten cubic yards of earth;

2. Grading activities which may result in the diversion of existing drainage courses, both natural and man-made, from their natural point of entry or exit from the grading site;

3. Grading and paving activities resulting in the creation of impervious surfaces greater than two thousand square feet or more in area;

4. Any excavation beyond the limits of a basement or footing excavation, having an unsupported soil height greater than five feet after the completion of such a structure; or

5. Grading activities involving the clearing or disturbance of one-half acres (twenty-one thousand seven hundred eighty square feet) or more of land.
Finding: Not Applicable. This standard is not applicable. The soil will be disturbed for landscape planting and sidewalk installation only, and will not trigger requirements of this chapter.

15.48.090 Submittal requirements.
An engineered grading plan or an abbreviated grading plan shall be prepared in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards whenever a city approved grading permit is required. In addition, a geotechnical engineering report and/or residential lot grading plan may be required pursuant to the criteria listed below.
A. Abbreviated Grading Plan. The city shall allow the applicant to submit an abbreviated grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards if the following criteria are met:
1. No portion of the proposed site is within the flood management area overlay district pursuant to Chapter 17.42, the unstable soils and hillside constraints overlay district pursuant to Chapter 17.44, or a water quality resource area pursuant to Chapter 17.49; and
2. The proposed filling or grading activity does not involve more than fifty cubic yards of earth.
B. Engineered Grading Plan. The city shall require an engineered grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer if the proposed activities do not qualify for abbreviated grading plan.
C. Geotechnical Engineering Report. The city shall require a geotechnical engineering report in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer who specializes in geotechnical work when any of the following site conditions may exist in the development area:
1. When any publicly maintained facility (structure, street, pond, utility, park, etc.) will be supported by any engineered fill;
2. When an embankment for a stormwater pond is created by the placement of fill;
3. When, by excavation, the soils remaining in place are greater than three feet high and less than twenty feet wide.
D .Residential Lot Grading Plan. The city shall require a residential lot grading plan in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer for all land divisions creating new residential building lots or where a public improvement project is required to provide access to an existing residential lot.
Finding: Not Applicable. This standard is not applicable. A city grading permit is not required for the proposed exterior building modifications and site improvements.

CHAPTER 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.
A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are

incorporated herein and made a part of this title and are on file in the office of the city recorder.

Finding: Complies as Proposed. This standard is not applicable. Only minor digging is required for installation of landscaping and sidewalk installation and does not exceed the threshold for the requirement of an erosion control permit.

CHAPTER 17.41 - TREE PROTECTION STANDARDS

17.41.020 - Tree protection—Applicability.
1. Applications for development subject to Chapters 16.08 or 16.12 (Subdivision or Minor Partition) or Chapter 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments.
2. For public capital improvement projects, the city engineer shall demonstrate compliance with these standards pursuant to a Type II process.
3. Tree canopy removal greater than twenty-five percent on sites greater than twenty-five percent slope, unless exempted under Section 17.41.040, shall be subject to these standards.
4. A heritage tree or grove which has been designated pursuant to the procedures of Chapter 12.08.050 shall be subject to the standards of this section.
Finding: Applicable. The proposal includes compliance with Chapter 17.62, compliance with this section is applicable.

17.41.030 - Tree protection—Conflicting code provisions.
Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in Section 17.04, shall govern.
Finding: Not Applicable. No conflicting provisions have been identified.

17.41.040 - Same—Exemptions.
These regulations are not intended to regulate normal cutting, pruning and maintenance of trees on private property except where trees are located on lots that are undergoing development review or are otherwise protected within the Natural Resource Overlay District (NROD) of section 17.49. These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930. The community development director has the authority to modify or waive compliance in this case.
Finding: Not Applicable. The proposed development is not exempt.

17.41.050 - Same—Compliance options.
Applicants for review shall comply with these requirements through one or a combination of the following procedures:

A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.
B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to Sections 17.41.080—17.41.100; or
C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to Sections 17.41.110—17.41.120; or
D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130.
A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.
The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:
1. Preclude achieving eighty percent of minimum density with reduction of lot size; or
2. Preclude meeting minimum connectivity requirements for subdivisions.
Finding: Not Applicable. This standard is not applicable. No trees are proposed for removal.

17.41.060 - Tree removal and replanting—Mitigation (Option 1).
A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in Chapter 17.04to the extent practicable. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. At the applicant's expense, the city may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under section 12.08—Community Forest and Street Trees.
B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:
1. Trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or
2. Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in Section 17.04.1360, may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.
Table 17.41.060-1
Tree Replacement Requirements
All replacement trees shall be either:
Two-inch caliper deciduous, or
Six-foot high conifer

Size of tree removed (DBH)	*Column 1* *Number of trees to be planted. (If removed Outside of construction area)*	*Column 2* *Number of trees to be planted. (If removed Within the construction area)*
6 to 12"	*3*	*1*
13 to 18"	*6*	*2*
19 to 24"	*9*	*3*
25 to 30"	*12*	*4*
31 and over"	*15*	*5*

Steps for calculating the number of replacement trees:
1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.
2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.
3. Document any trees that are currently diseased or hazardous.
4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.
5. Define the construction area (as defined in Chapter 17.04).
6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.
7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.
8. Determine the total number of replacement trees from steps 6. and 7.
Finding: Not Applicable. This standard is not applicable. No trees are proposed for removal.

17.41.070 - Planting area priority for mitigation (Option 1).
Development applications which opt for removal of trees with subsequent replanting pursuant to section 17.41.050A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:
A. First Priority. Replanting on the development site.
B. Second Priority. Off-site replacement tree planting locations. If the community development director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and must be approved by the community development director.
Finding: Not Applicable. This standard is not applicable. No trees are proposed for removal.

17.41.075 - Alternative mitigation plan.

The community development director may, subject to a Type II procedure, approve an alternative mitigation plan that adequately protects habitat pursuant to the standards for the natural resource overlay district alternative mitigation plan, Section 17.49.190.
Finding: Not Applicable. This standard is not applicable. No habitat is proposed for destruction.

17.41.080 - Tree preservation within subdivisions and partitions—Dedicated tract (Option 2).
A. Applicants for new subdivision and partition plats may delineate and show the regulated trees or groves as either a separate tract or part of a larger tract that meets the requirements of subsection D. of this section.
B. The standards for land divisions subject to this section shall apply in addition to the requirements of the city land division ordinance and zoning ordinance, provided that the minimum lot area, minimum average lot width, and minimum average lot depth standards of the base zone may be superseded in order to allow for a reduction of dimensional standards pursuant to Section 17.41100 below.
C. Prior to preliminary plat approval, the regulated tree or grove area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection D. of this section, which shall not be a part of any parcel used for construction of a structure. The size of the tract shall be the minimum necessary as recommended by a consulting arborist to adequately encompass the dripline of the tree, protect the critical root zone and ensure long term survival of the tree or grove.
D. Prior to final plat approval, ownership of the regulated tree or grove tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:
1. Private open space held by the owner or a homeowners association; or
2. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or
3. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or
4. Any other ownership proposed by the owner and approved by the community development director.
Finding: Not Applicable. This standard is not applicable. No trees are proposed for removal.

17.41.090 - Density transfers incentive for tree protection tracts (Option 2).
A. The purpose of this section is to allow dimensional adjustments within a regulated tree protection tract to be transferred outside said tract to the remainder of the site. This provision applies on-site and density shall not be transferred beyond the boundaries of the development site.
B. Development applications for subdivisions and minor partitions that request a density transfer shall:
1. Provide a map showing the net buildable area of the tree protection tract;
2. Provide calculations justifying the requested dimensional adjustments;
3. Demonstrate that the minimum lot size requirements can be met based on an average of all lots created, including the tree protection tract created pursuant to Section 17.41.080;

4. Demonstrate that, with the exception of the tree protection tract created pursuant to Section 17.41.080, no parcels have been created which would be unbuildable in terms of minimum yard setbacks;
5. Meet all other standards of the base zone except as modified in section 17.41.100.
C. The area of land contained in a tree protection tract may be excluded from the calculations for determining compliance with minimum density requirements of the zoning code.
Finding: Not Applicable. This standard is not applicable. No trees are proposed for removal.

17.41.100 - Permitted modifications to dimensional standards (Option 2 only).
A. An applicant proposing to protect trees in a dedicated tract pursuant to section 17.41.080 may request, and the community development director, pursuant to a Type II procedure, may grant a reduction to, the lot size, width, depth, and setbacks of the underlying zone district in approving a subdivision or partition if necessary to retain a regulated tree or grove in a tract, as long as the calculation of average lot size, including tree protection tracts, meet the minimum lot size for the zone. The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the area of the tree tract.
Table 17.41.100 A
Lot Size Reduction

ZONE	*Min. Lot Size [sq. feet]*	*Min. Lot Width*	*Min. Lot Depth*
R-10	*5,000 sq. feet*	*50'*	*65'*
R-8	*4,000 sq. feet*	*45'*	*60'*
R-6	*3,500 sq. feet*	*35'*	*55'*
R-5	*3,000 sq. feet*	*30'*	*50'*
R-3.5	*1,800 sq. feet*	*20'*	*45'*

Table 17.41.100 B
Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
8,000—9,999 square feet	*15 feet*	*20 feet*	*7/9 feet*	*15 feet*	*40%*
6,000—7,999 square feet	*10 feet*	*15 feet*	*5/7 feet*	*15 feet*	*40%*
4,000—5,999 square feet	*10 feet*	*15 feet*	*5/5 feet*	*10 feet*	*40%*
1,800—3,999 square feet	*5 feet*	*15 feet*	*5/5 feet*	*10 feet*	*55%*

Table 17.41.100 C
Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
3,500—7,000 square feet	*10 feet*	*15 feet*	*5/0* feet*	*10 feet*	*40%*
1,800—3,499 square feet	*5 feet*	*15 feet*	*5/0* feet*	*10 feet*	*55%*

**0 foot setback is only allowed on single-family attached units*

Finding: Not Applicable. This standard is not applicable. No modifications are requested and this is not a residential project.

17.41.110 - Tree protection by restrictive covenant (Option 3).
Any regulated tree or grove which cannot be protected in a tract pursuant to Section 17.41.080 above shall be protected with a restrictive covenant in a format to be approved by the community development director. Such covenant shall be recorded against the property deed and shall contain provisions to permanently protect the regulated tree or grove unless such tree or grove, as determined by a certified arborist and approved by the community development director, are determined to be diseased or hazardous.
Finding: Not Applicable. This standard is not applicable. No Trees are proposed for removal.

17.41.120 - Permitted adjustments (Option 3 Only).
A. The community development director, pursuant to a Type II procedure, may grant an adjustment to the side, front and rear yard setback standards by up to 50 percent if necessary to retain a Regulated Tree or Grove through a restrictive covenant pursuant to this section. In no case may the side yard setback be reduce less than three feet. The adjustment shall be the minimum necessary to accomplish preservation of trees on the lot and shall not conflict with other conditions imposed on the property.
B. The community development director, pursuant to a Type II procedure, may grant an adjustment to street standards, pursuant to adopted public works standards, in order to preserve a tree. This may include flexibility to redesign sidewalk and planter strip sizes and locations and allow placement of sidewalks and planter strips in an easement within private lots.
C. The community development director, pursuant to a Type II procedure, may allow other adjustments in order to preserve any healthy tree that cannot be moved due to its size, but will contribute to the landscape character of the area and will not present a foreseeable hazard if retained.
Finding: Not Applicable. This standard is not applicable. No adjustments are requested.

17.41.1[25] - Cash-in-lieu of planting (tree bank/fund) (Option 4).
The applicant may choose this option in-lieu-of or in addition to Compliance Options 1 through 3. In this case, the community development director may approve the payment of cash-in-lieu

into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above.
A. The cash-in-lieu payment per tree shall be as listed on the adopted fee schedule and shall be adjusted annually based on the Consumer Price Index (Index). The price shall include the cost of materials, transportation and planting.
B. The amount of the cash-in-lieu payment into the tree bank shall be calculated as the difference between the value of the total number of trees an applicant is required to plant, including cost of installation and adjusted for Consumer Price Index, minus the value of the trees actually planted. The value of the trees shall be based on the adopted fee schedule.
Finding: Not Applicable. This standard is not applicable, no mitigation is required.

17.41.130 - Regulated tree protection procedures during construction.
A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.
B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:
1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.
2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the community development director.
3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.
4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.
5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.
6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.
7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.
8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and

pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.
9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.
10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.
C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.
Finding: Complies as Proposed. The proposed development will adequately protect existing trees onsite as identified in this section with temporary fencing, etc. No ground disturbance within the protection area is anticipated. Arborists will be consulted as needed.

CHAPTER 17.54.100 – FENCES, HEDGES AND WALLS
Finding: Not Applicable. No new fences or walls are proposed.

CHAPTER 17.58 LAWFUL NONCONFORMING USES, STRUCTURES AND LOTS

17.58.015 Applicability.
The regulations of this chapter apply only to those nonconforming situations that were lawfully established or that were approved through a land use decision. All nonconforming structures, uses or lots shall have been maintained over time. These situations have lawful nonconforming status. Nonconforming situations that were not allowed when established or have not been maintained over time have no lawful right to continue.
Finding: Complies as Proposed. The subject site is nonconforming for a variety of reasons including the setback from the property lines, the location of a parking lot in front of a structure, minimum transparency requirements, etc. This chapter is applicable.

17.58.040 Lawful nonconforming structure

A structure that was lawfully established but no longer conforms to all development standards of this land use code (such as setbacks) shall be considered a lawful nonconforming structure. Notwithstanding development standard requirements in this Code, minor repairs and routing maintenance of a lawful nonconforming structure are permitted. The continuation of a lawful nonconforming structure is subject to the following:
A. Accidental Destruction. When a nonconforming structure is damaged by fire or other causes, the structure may be rebuilt using the same structure footprint.
Finding: Complies as Proposed. This standard is not applicable. The structure was not damaged or destroyed.

B. Intentional Destruction. When a nonconforming structure is removed or intentionally damaged by fire or other causes within the control of the owner, the replacement structure shall comply with the development standards of this title.
Finding: Not Applicable. This standard is not applicable. The structure was not removed or intentionally damaged.

C. Expansion. An expansion of a lawful nonconforming structure may be approved, conditionally approved or denied in accordance with the standards and procedures of this section.
1. In making a determination on such applications, the decision maker shall weigh the proposal's positive and negative features and the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed, and, to approve such expansion, it must be found that the criteria identified in Section 17.58.060 have either been met, can be met by observance of conditions, or are not applicable.
2. An expansion of a nonconforming structure with alterations that exceed the threshold of subparagraph C.2.a. below shall comply with the development standards listed in subparagraph C.2.b. The value of the alterations and improvements is based on the entire project and not individual building permits.
a. Thresholds triggering compliance. The standards of subparagraph C.2.b. below shall be met when the value of the proposed exterior alterations or additions to the site, as determined by the community development director, is more then seventy-five thousand dollars. The following alterations and improvements shall not be included in the threshold calculation:
1. Proposed alterations to meet approved fire and life safety agreements;
2. Alterations related to the removal of existing architectural barriers, as required by the Americans with Disabilities Act, or as specified in Section 1113 of the Oregon Structural Specialty Code;
3. Alterations required to meet Seismic Design Requirements; and
4. Improvements to on-site stormwater management facilities in conformance with Oregon City Stormwater Design Standards.
Finding: Complies as Proposed. The application entails exterior alterations to a lawfully nonconforming structure. Including a new roof and exterior building materials, minor changes to the parking lot striping, and lighting. The cost of the proposed exterior alterations is anticipated to be approximately $135,649, requiring nonconforming improvements. The total cost for the exterior alterations are provided below:

- Roof and exterior mechanical screen: $ 61,271
- Siding: $ 71,878
- Lighting: $ 1,000
- Repainting the parking lot: $ 1,500

b. Standards that shall be met. Developments not complying with the development standards listed below shall be brought into conformance.
1. Pedestrian circulation systems, as set out in the pedestrian standards that apply to the sites;
2. Minimum perimeter parking lot landscaping;
3. Minimum interior parking lot landscaping;
4. Minimum site landscaping requirements;

5. Bicycle parking by upgrading existing racks and providing additional spaces in order to comply with Chapter 17.52—Off-Street Parking and Loading;
6. Screening; and
7. Paving of surface parking and exterior storage and display areas.
Finding: Complies as Proposed. The site currently does not comply with the pedestrian circulation, minimum perimeter parking lot landscaping, and bicycle parking standards. The proposal includes nonconforming upgrades to the following

- Pedestrian circulation -
    - New pedestrian accessway from the front of the annex to Linn Avenue
    - Removing the fencing to allow the pedestrian accessway to extend from the rear of the building to Linn Avenue.
- Minimum perimeter parking lot landscaping
    - Installation of bushes, trees, shrubs, groundcover and irrigation
- Bicycle parking standards
    - Installation of two bicycle parking facilities which each hold 2 bikes, for a total of 4 bicycle parking stalls.

c. Area of required improvements.
1. Generally. Except as provided in C.2.c.2. below, required improvements shall be made for the entire site.
2. Exception for sites with ground leases. Required improvements may be limited to a smaller area if there is a ground lease for the portion of the site where the alterations are proposed. If all of the following are met, the area of the ground lease will be considered as a separate site for purposes of required improvements. The applicant shall meet the following:
i. The signed ground lease — or excerpts from the lease document satisfactory to the city attorney — shall be submitted to the community development director. The portions of the lease shall include the following:
•The term of the lease. In all cases, there must be at least one year remaining on the ground lease; and
•A legal description of the boundaries of the lease.
ii. The boundaries of the ground lease shall be shown on the site plan submitted with the application. The area of the lease shall include all existing and any proposed development that is required for, or is used exclusively by, those uses within the area of the lease; and
iii. Screening shall not be required along the boundaries of ground leases that are interior to the site.
Finding: Complies as Proposed. A majority of the subject site is leased by Marylhurst School. The proposed improvements are limited to the portion of the site associated with the proposed development, which is not within a lease agreement.

d. Timing and cost of required improvements. The applicant may choose one of the two following options for making the required improvements:
1. Option 1. Required improvements may be made as part of the alteration that triggers the required improvements. The cost of the standards that shall be met, identified in subparagraph C.2.b. above, is limited to ten percent of the value of the proposed alterations. It is the responsibility of the applicant to document to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable

requirements associated with the proposal. When all required improvements are not being made, the priority for the improvements shall be as listed in subparagraph C.2.b. above.
2. Option 2. Required improvements may be made over several years, based on the compliance period identified in Table 17.58—1 below. However, by the end of the compliance period, the site shall be brought fully into compliance with the standards listed in subparagraph C.2.b. Where this option is chosen, the following must be met:
i. Before a building permit is issued, the applicant shall submit the following to the community development director:
•A Nonconforming Development Assessment, which identifies in writing and on a site plan, all development that does not meet the standards listed in Subparagraph C.2.b.
•A covenant, in a form approved by the city attorney, executed by the property owner that meets the requirements of 17.50.150. The covenant shall identify development on the site that does not meet the standards listed in Subparagraph C.2.b., and require the owner to bring that development fully into compliance with this title. The covenant shall also specify the date by which the owner will be in conformance. The date must be within the compliance periods set out in Table 17.58 — 1.
ii. The nonconforming development identified in the Nonconforming Development Assessment shall be brought into full compliance with the requirements of this Title within the following compliance periods. The compliance period begins when a building permit is issued for alterations to the site of more than seventy-five thousand dollars. The compliance periods are based on the size of the site (see Table 17.58—1 below).
iii. By the end of the compliance period, the applicant or owner shall request that the site by certified by the community development director as in compliance. If the request is not received within that time, or if the site is not fully in conformance, no additional building permits will be issued.
iv. If the regulations referred to by subparagraph C.2.b. are amended after the Nonconforming Development Assessment is received by the community development director, and those amendments result in development on the site that was not addressed by the Assessment becoming nonconforming, the applicant shall address the new nonconforming development using Option 1 or 2. If the applicant chooses Option 2, a separate Nonconforming Development Assessment, covenant and compliance period will be required for the new nonconforming development.
Table 17.58—1
Compliance Periods for Option 2

Square footage of site	*Compliance Period*
Less than 150,000 sq. ft.	*2 years*
150,000 sq. ft. or more, up to 300,000 sq. ft.	*3 years*
300,000 sq. ft. or more, up to 500,000 sq. ft.	*4 years*
More than 500,000 sq. ft.	*5 years*

Finding: Complies as Proposed. The applicant proposes to abide by Option 1. The required improvements will be made as part of the exterior remodel of the structure. The cost of the exterior alterations is $135,649 which requires up to $13,564.90 on nonconforming upgrades. The cost of the proposed upgrades is $59,949, far exceeding the minimum requirement.

- Landscaping: $ 58,239 (Though a portion is not dedicated to nonconforming upgrades)
- Changes to the pedestrian accessway: $ 1,060
- Installation of the bike parking stalls: $500
- Removal of the fence panel adjacent to the rear of the building: $ 150

CHAPTER 12.04 - STREETS SIDEWALKS AND PUBLIC PLACES

Finding: Complies as Proposed. The application includes a proposed amendment to the Comprehensive Plan and Zone Change which are not considered development and do not require street improvements. However, the application includes a Minor Site Plan and Design Review application to accommodate minor exterior alterations to the exiting Annex (such as a new roof, mechanical units, new exterior siding, windows, restriping the parking lot, and nonconforming upgrades to the site for pedestrian accessways, landscaping, and bicycle parking). Due to the small scale of Minor Site Plan and Design Review applications and thus the minor impact on the City's infrastructure, as well as a concern for requiring unproportional improvements, the City does not require street improvements with Minor Site Plan and Design Review applications.

Chapter 12.08 - PUBLIC AND STREET TREES

Finding: Complies as Proposed. The proposed amendment to the Comprehensive Plan and Zone Change which are not considered development and do not require street improvements. However, the application includes a Minor Site Plan and Design Review application to accommodate minor exterior alterations to the exiting Annex (such as a new roof, mechanical units, new exterior siding, windows, re-striping the parking lot, and nonconforming upgrades to the site for pedestrian accessways, landscaping, and bicycle parking). Due to the small scale of Minor Site Plan and Design Review applications and the minor impact on the City's infrastructure the City does not require street improvements with Minor Site Plan and Design Review applications.

CONCLUSION AND RECOMMENDATION:

No conclusion and recommendation from staff is provided.

EXHIBITS:

1. Vicinity Map
2. Applicant's Narrative and Plans
3. Additional Information from the Applicant- 9.11.18 Letter from Laura Terway
4. Transportation Letter from John Replinger

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

September 11, 2017

To:	Oregon City Planning Commission
From:	Laura Terway, Community Development Director
Company:	Community Development, City of Oregon City
City, St., Zip:	PO Box 3040, Oregon City, Oregon 97045
Re:	Additional Information for the Mt. Pleasant Review

Enclosed you will find additional information to assist the Planning and City Commissions in their consideration of the Comprehensive Plan Amendment, Zone Change, and Minor Site Plan and Design Review.

- Total Square Footage: The exact square footage of the Annex building has been remeasured and found to be the following:
  Annex Total: 6,850sqft
  Post Remodel: Gym- 1,883 square feet
  Post Remodel: Remainder (Office, Mechanical Room, Restrooms, etc.)- 4,967 square feet
- The Linn Avenue frontage has 22 available on-street parking stalls.
- The as-built drawings for the Annex display an approved Oregon City building department stamp from 10-27-1977. It is assumed construction was completed in 1978.
- The Transportation Analysis Letter from Kittleson and Associates has been revised to more clearly articulate the proposed transportation trip cap.
- Due to cost constraints, the replacement of the 4 foot wide interior sidewalk along the southwestern side of the structure with a 5 foot wide sidewalk is being removed from the project and the width of the wood adjacent to the entranceways is being narrowed.

Please let me know if I may provide any additional information to assist in your decision making process.

KITTELSON & ASSOCIATES
610 SW ALDER STREET, SUITE 700
PORTLAND, OR 97205
P 503.228.5230 F 503.273.8169

September 11, 2017 Project #: 21365

John Replinger, PE
Replinger & Associates LLC
6330 SE 36th Avenue
Portland, OR 97202

City of Oregon City Planning
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

RE: Oregon City Community Development Department Relocation Transportation Analysis Letter

Dear Mr. Replinger,

The City of Oregon City is proposing redevelopment of the "annex" portion of the former Mt. Pleasant Elementary School to house the Oregon City Community Development Department. The site is located at 1232 Linn Avenue and is bounded by Warner Parrott Road and Linn Avenue. This Traffic Analysis Letter (TAL) documents the expected trips to be generated by the proposed development, the location of site driveways, the compliance of these driveways with city regulations, and the agreement of the surrounding area with the City's *Transportation System Plan* (TSP).

SUMMARY OF FINDINGS

The proposed renovation of the 6,850 square feet annex building to a government office building will require rezoning the site from a Residential Zone to an Institutional Zone. To limit the potential transportation impact the new zoning could have on the community, the City proposes a trip cap on the entire site subject to rezoning that will limit future site trip generation to no more trips than currently allowed under the existing zoning. Further, review of local conditions determined that key study intersections close to the development will operate in conformance with the City's standards with the proposed land use change, and that there are no historic safety issues associated with streets surrounding the site. Based on our review, preparation of a TAL fully addresses the City's Community Development Code requirements and a full Traffic Impact Analysis is not necessary.

TRIP CAP

A key element of the proposal to redevelop and rezone the property is the establishment of a trip cap. The trip cap will limit the total traffic generated by the conversion of the school annex building to a government office building and any future development of the parcel to the traffic generated by the prior use, namely, Mt. Pleasant Elementary School. The implementation of a trip cap assures

compliance with the Transportation Planning Rule that is discussed in more detail in a separate section later in this letter.

The former elementary school consisted of buildings totaling approximately 45,850 square feet; approximately 400 students were enrolled. The projected weekday daily, AM, and PM peak-hour vehicle trip ends for the former elementary school were based on trip rates from the *Trip Generation Manual*, 9th Edition. Both variables were used to calculate the trip generation as shown in Table 1.

Table 1. Former Elementary School Trip Generation Estimate

Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Former Elementary School Use (45,850 Square Foot Building)									
Elementary School (sq. ft.)	520	45,850 sq. ft.	708	238	133	105	143	63	80
Elementary School (students)	520	400 students	516	180	99	81	112	50	62

Based on this data, the following trip cap is proposed for the property: 238 total AM peak hour trips and 143 total PM peak hour trips.

EXISTING CONDITIONS

This section summarizes the existing characteristics of the transportation system and adjacent land uses in the vicinity of the proposed development, including an inventory of the existing transportation facilities and a summary of recent study intersection crash history. Employees from Kittelson and Associates, Inc. (KAI) visited the site in June 2017 to take measurements, observe traffic, and examine the current conditions of the surrounding area. Findings are documented in the following sections.

Street Characteristics

Table 2 on the following page displays some of the features of the primary roadways in the vicinity.

Table 2. Street Characteristics in Site Vicinity

Street	Comprehensive Plan Designation	Classification[1]	Speed Limit	Motor Vehicle Travel Lanes	Pavement Width	Sidewalks	Bike Lanes	On-Street Parking
Warner Parrott Road/Warner Milne Road	Residential/ Mixed Use	Minor Arterial	30	2-4[2]	60 feet	Yes	Yes	No[3]
Linn Avenue/ Leland Road	Residential/ Mixed Use	Minor Arterial	35	2-3[4]	50 feet	Yes	Yes	Yes[5]
S Central Point Road	Residential	Collector	35	2-3[6]	48 feet	Yes	Yes	No
Williams Street	Residential	Local	25*	2	48 feet	No	No	Yes

[1] Per *City of Oregon City Transportation System Plan*, Figure 8

[2] Warner Parrott Road/Warner Milne Road widens to a four-lane cross-section at the Linn Avenue/Leland Road intersection to accommodate right-turn and left-turn lanes.

[3] Some on-street parking is available on the south side of Warner Parrott Road west of the existing site exit.

[4] Linn Avenue/Leland Road widens to a three-lane cross-section at the Warner Parrott/Warner Milne intersection to accommodate left-turn lanes.

[5] Some on-street parking is available on the west side of Linn Avenue between Williams Street and Hood Street.

[6] S Central Point Road widens to a three-lane cross-section between Warner Parrott Road and a point approximately 700 feet to the southwest to accommodate a two-way-left-turn lane.

*No speed limit posted; therefore, assumed to be 25 mph.

The City of Oregon City's *Transportation System Plan* (TSP) and the *Oregon City Municipal Code 12.04.180 – Street Design* provide street design criteria. Oregon City identifies roadway frontage improvement requirements for its streets depending in part on the surrounding land use classification. The TSP does not have an Institutional land use classification for determining street design parameters; therefore, this letter compares the roadways fronting the site to the Residential designation, as this classification is the best comparable one available from the TSP and a residential zone often allows some institutional land uses as a conditional use.

Figure 1 (on the following page) from the TSP shows a cross section of a road with the various components that comprise a complete street. For residential roads the TSP recommends a high priority be placed on walking without neglecting the needs of motorists and bicyclists. The roads fronting the proposed site have bike lanes, sidewalks, and landscaping strips today, each of which are encouraged in the TSP. The combined width of these features is less than the maximum allowable right of way set forth in the municipal code. On-street parking is available on the south side of Warner Parrott Road just west of the site, and on the west side of Linn Avenue north of the site.

Figure 1. Components of Oregon City Streets

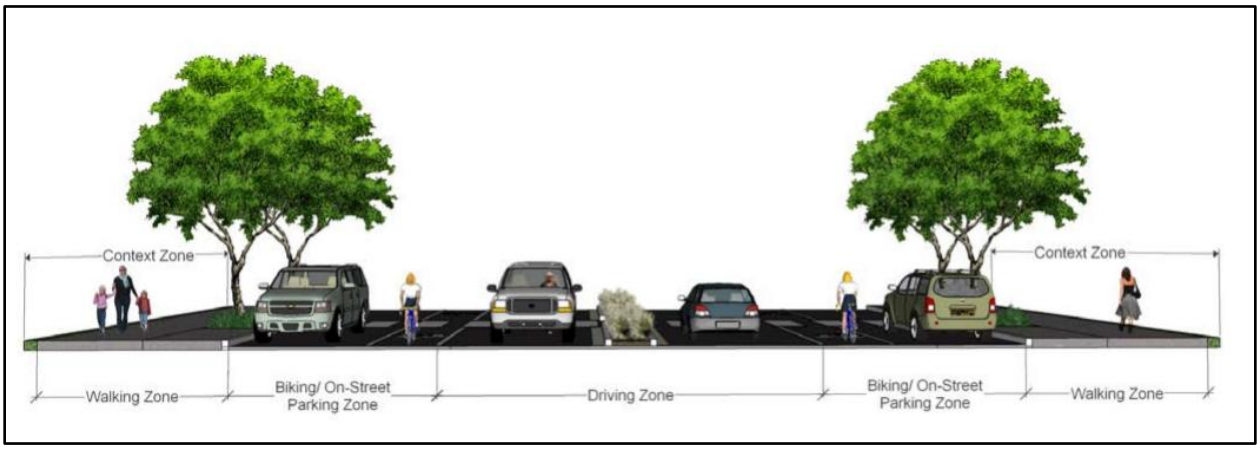


Image Source: Oregon City Transportation System Plan

Traffic Safety

The reported crash histories of four intersections near the site were reviewed to identify potential safety issues. The Oregon Department of Transportation (ODOT) provided reported crash records from the study intersections for the most recently available three-year period, from January 1, 2013 to December 31, 2015. Table 3 summarizes the crash data at the four intersections. *Appendix "A" includes the crash data.*

Table 3. Intersection Crash Summary (2013-2015)

Intersection	Crash Type				Severity			Total Crashes
	Rear End / Backing	Turning / Angle	Fixed / Other Object	Pedestrian or Bike	PDO[1]	Injury Crashes	Fatal Crashes	
Site Driveway/ Warner Parrott Road	1	-	1	-	2	-	-	2
S Central Point Road/ Linn Avenue	3	2	1	-	4	2	-	6
Warner Parrott Road-Warner Milne Road/Linn Avenue-Leland Road	11	6	1	2	10	10	-	20
Linn Avenue / Williams Street	-	-	-	-	-	-	-	-

[1] Property Damage Only

As displayed in Table 3, there have been relatively few reported crashes around the site in the three year study period. There were no reported fatalities, and many of the reported crashes involved property damage only. In the future, the intersection of Warner Parrott/Warner Milne Road and Linn Avenue/Leland Road is expected to be reconstructed into a modern roundabout. The intersection reconfiguration as a roundabout is expected to improve both intersection operations and safety performance once completed.

During our field investigation it was noted that current signing at the site driveways to the annex building is outdated and should be removed or replaced in conjunction with the proposed site re-development. For example, there is currently a sign posted that reads, “SCHOOL ENTRANCE,” as shown in Photo 1. While this indicates that the driveway is an entrance, it is does not necessarily suggest that it is an entrance only. Additionally, as shown in Photo 2, the “STOP” sign and “DO NOT ENTER” sign at the driveway exit on Linn Avenue are faded and should be considered for replacement with the proposed site redevelopment.

Photo 1: Existing School Entrance Sign



Photo 2: Existing Driveway Stop Sign to Linn Avenue



Current Detour Route Implications on Intersection Operations

Vehicles turning at or traveling through the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road currently experience a fair amount of delay. Current traffic volumes at the intersection are higher than historic patterns due to the temporary closure of the southbound lane of South End Road in Oregon City. Oregon City has posted a South End Road detour route that directs traffic through the Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road intersection. The detour route, obtained from the City's website, is illustrated in Figure 2.

Figure 2. South End Road Detour Route



Image Source: City of Oregon City

Pedestrian Facilities

Field observation determined there is a relatively complete existing network of sidewalks and crosswalks connecting the site to the surrounding area. A few items were identified that could be improved in conjunction with site frontage improvements including:

- The sidewalk along the site frontage on Warner Parrott Road currently terminates approximately 150 feet prior to the west end of the property as shown in Figure 3 on the following page. The missing segment of sidewalk should be completed in conjunction with standard frontage improvements.
- A north-south crosswalk of Warner Parrott Road is currently located at the western terminus of the frontage sidewalk on the north side of Warner Parrott Road; however, there is no curb ramp on either side of the crosswalk, as shown in Photo 3 on the following page. Should the City choose to retain the crosswalk, consideration should be given to providing ADA-compliant ramps for the crosswalk.
- The intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road has crosswalks with pedestrian signal heads signs on all four intersection legs. The pedestrian signal heads currently do not have countdown timers, which would be preferable. Additionally, the curb cut at the northwest corner of the intersection, on the corner adjacent to the property, may not meet ADA standards. There is only one curb ramp, where there should be one for each crosswalk.

- The sidewalk on the east side of Linn Avenue currently terminates prior to Williams Street and the curb ramp directs users into the northbound bike lane, as shown in Photo 4. The City could consider reconstructing the sidewalk and curb ramp on the southeast corner of the Linn Avenue/Williams Street intersection. It appears that reconfiguration of the sidewalk would impact a stormwater inlet as well as support wires for a utility pole.

Figure 3. Aerial with Locations of Pedestrian Facility Considerations



Image Source: Google Maps

Photo 3: No Ramp from Sidewalk to Crosswalk



Photo 4: Sidewalk Ramp into Bicycle Lane



Bicycle Facilities

Bicycle facilities are provided in the site vicinity, including designated bike lanes along both sides of the roadways fronting the site. During our field observations it was noted that some motor vehicles traveling westbound through the horizontal curve along Warner Parrott Road along the site frontage cross into the bike lane instead of staying within the travel lane around the curve as shown in Photo 5. The bicycle lane markings in this area are worn from cars repeatedly driving over the lane line. This issue may be addressed when the future roundabout is installed.

Photo 5: Westbound Vehicle on Warner Parrott Road Crossing into Bike Lane



Transit Facilities

There is a TriMet Park & Ride facility located across the street from the site at the First Presbyterian Church, east of Linn Avenue and south of Williams Street. The lot serves TriMet Route #33, a high frequency route which operates between Clackamas Community College and Clackamas Town Center Transit Center.

PROPOSED DEVELOPMENT SUMMARY

The proposed development re-purposes the annex, a 6,850 square foot building of the former elementary school for use as a government office space. As shown in Figure 4, the proposed site plan would retain the existing site driveways including separate entrance and exit driveways located on Warner Parrott Road as well as an exit-only driveway on Linn Avenue.

TRAFFIC ANALYSIS LETTER DOCUMENTATION

The seven requirements for a TAL to support the land use application are outlined below in *italicized* text, followed by an explanation as to how the requirements are being satisfied.

1. *The expected trip generation of the proposed development including the AM peak hour, the PM peak hour, daily traffic, and other germane periods as may be appropriate, together with appropriate documentation and references.*

Response: A portion of the site is currently being used as a private elementary/middle school (K-8) with the remainder of the site unused. The projected weekday daily, AM, and PM peak-hour vehicle trip ends for the private K-8 school and the proposed development of part of the site as a government office were based on trip rates from the *Trip Generation Manual*, 9th Edition. Table 4 summarizes the forecast trip generation for the private K-8 school use and the proposed government use of the 6,850 square foot portion of the existing building.

Figure 4. Site Plan

Table 4. Trip Generation Estimate

Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Former Elementary School Building (39,000 Square Foot Building)									
Private K-8 School (students)	534	195 students	NA	176	97	79	117	55	62
Former Elementary School Annex to be Redeveloped (6,850 Square Feet)									
Government Office	730	6,850 sq. ft.	472	40	34	6	8	2	6
Total Site (K-8 School Plus Proposed Government Office)									
Total Site	534/730	-	NA	216	131	85	125	57	68
Proposed Trip Cap									
Total Site				238			143		

As shown in Table 4, the total trip generation of the private K-8 school that is currently operating on the site plus the proposed government office (216 weekday AM peak hour trips and 125 PM peak hour trips) is below the proposed trip cap (238 weekday AM peak hour trips and 143 PM peak hour trips) for both the weekday AM and PM peak hours. The traffic produced by the rezoning and redevelopment will therefore be less than that of the prior use.

Oregon Transportation Planning Rule Considerations

Compliance with the Oregon Transportation Planning Rule (TPR) is addressed by the establishment of a trip cap in connection with the rezoning of the parcel. The TPR implements Statewide Planning Goal 12, "Transportation." Oregon Administrative Rule (OAR) 660-012-0060(1) and (2) established a two-step process for evaluating an amendment's impacts on roads. The first step in assessing an amendment's potential transportation impact is to compare the trip generation potential of the site assuming a "reasonable worst-case" development scenario under the existing and proposed zoning. If the trip generation potential increases under the proposed zoning, additional operational analysis is required to assess whether the rezone will "significantly affect" the transportation system. Conversely, if the trip generation under the proposed zoning is equal to or less than that under the existing zoning, no additional operational analysis is necessary to conclude that the proposal does not "significantly affect" the transportation system.

In the case of the proposed rezone, the applicant proposes a trip cap for the entire site that will limit the total trips generated by the entire site (238 weekday AM peak hour trips and 143 weekday PM peak hour trips) to the number associated with the former elementary school and thus will ensure there are no new trip impacts associated with the proposed rezone. All future development or redevelopment occurring anywhere on the site will have to comply with this trip cap. Should any proposal be brought forward that would result in this trip cap being exceeded, additional analysis and justification would be required to comply with the TPR.

2. *Site plan showing the location of all access driveways or private streets where they intersect with public streets plus driveways of abutting properties and driveways on the opposite side of the street from the proposed development.*

Response: Figure 4 (shown previously) illustrates the site plan. As previously noted, the proposed site plan retains the existing building as well as the existing site driveways.

3. *Documentation that all site access driveways meet Oregon City Private Access Driveway Width Standards.*

Response: *Oregon City Municipal Code Section 12.04.025* requires that all non-residential driveway access be a minimum of 15 feet and maximum of 40 feet in width. Both exits onto Warner Parrott and Linn Avenue satisfy this standard, with widths of 24 feet and 28 feet, respectively. The existing entrance on Warner Parrott Road is only 12 feet wide; therefore, it is recommended that this driveway be widened to at least 15 feet to satisfy the Code standards.

4. *Documentation that all site access driveways meet Oregon City's Minimum City Street Intersection Spacing Standards.*

Response: The City of Oregon City classifies both Warner Parrott Road and Linn Avenue as Minor Arterials (per Figure 8 "Multi-modal Street System" from the *City of Oregon City Transportation System Plan* as adopted in June 2013). Table 1 of the June 2013 *City of Oregon City Transportation System Plan*, Spacing Standards, identifies a minimum driveway spacing standard (street to driveway and driveway to driveway) of 175 feet for minor arterial facilities in mixed-use or residential areas. The Transportation System Plan offers the following guidance with respect to access spacing: "Within developed areas of the City, streets not complying with these standards could be improved with strategies that include shared access points, access restrictions (through the use of a median or channelization islands) or closed access points as feasible. New streets or redeveloping properties must comply with these standards, to the extent practical (as determined by the City). Figure 4 illustrates the site driveway locations relative to other driveways along the site frontage.

The two existing driveways on Warner Parrott Road satisfy the City access spacing requirements. The existing exit-only driveway on Linn Avenue satisfies the spacing standard with respect to SE Williams Street to the north but is located 110 feet from Warner Parrott Road/Warner Milne. This distance is smaller than the minimum spacing of 175 feet allowed in a Mixed-Use/Residential area.

To mitigate this issue the City might consider making the exit a "right turn only." This option would negate the effects of any potential hindrances of the driver's view of opposing traffic resulting from the driveway's close proximity to the intersection. The City may choose to add a "RIGHT TURN ONLY" sign in compliance with the *Manual on Uniform Traffic Control Devices* and may additionally alter the driveway so that it discourages left turns.

5. *Documentation that all site accesses and/or private street intersections meet AASHTO intersection sight distance guidelines.*

Currently available intersection sight distance and stopping sight distance was observed at the proposed driveway locations. Based on the posted 30 miles per hour speed limit on Warner Parrott Road/Warner Milne Road, *A Policy on Geometric Design of Highways and Streets, 6th Edition* (published by the American Association of State Highway and Transportation Officials, AASHTO) identifies a desired 335 feet of intersection sight distance and 200 feet of stopping sight distance[1]. There is a clear line of sight of over 350 feet from the exit facing left towards S Central Point Road, and there is greater than 400 feet of sight distance facing to the west; therefore, the sight distance at the exit meets the standards set by the City. There are some tree branches on site that, if not maintained, could reduce the driver's sight distance to the left. A driver's view facing left along Warner Parrott Road from the driveway exit onto Warner Parrott Road is shown in Photo 6.

Photo 6: Warner Parrott Exit, Driver Facing West (Left)



We recommend on-site landscaping along the site frontage to the left of the proposed driveway continue to be maintained to the extent necessary in order to provide the City-required minimum intersection sight distance.

6. *Documentation that there are no inherent safety issues associated with the design and location of the site access driveways.*

The proposed site driveways have or can be provided with sufficient intersection sight distance and comply with City access spacing standards. No safety issues were identified while on-site observing the proposed driveway locations. As previously noted, we recommend the existing signage at the driveways be reviewed and replaced as appropriate. Based on the above considerations, we

[1] Per AASHTO requirements, intersection sight lines were measured from a vertex point located 14.5 feet from the curb line along the center of the approaching travel lane. The assumed driver eye height was 3.5 feet above the driveway and the object height was 3.5 feet, providing enough space on the approaching vehicle to recognize it. For stopping sight distance purposes, the assumed driver eye height was 3.5 feet above the street and the object height was 2.0 feet above the driveway.

conclude that there are no inherent safety issues associated with the design and location of the site access driveways.

7. *Documentation that the applicant has reviewed the City's TSP and that proposed streets and frontage improvements do or will comply with any applicable standards regarding the functional classification, typical sections, access management, traffic calming and other attributes as appropriate.*

The applicant has reviewed the *City's Transportation System Plan* as adopted in June 2013. As previously noted, both Warner Parrott Road and Linn Avenue are classified as Minor Arterials. The site frontage is largely complete today including a striped bicycle lane and sidewalks commensurate with the Minor Arterial designation. The missing section of sidewalk along the west portion of the Warner Parrott Road frontage should be completed.

A review of the Oregon City TSP indicates that Project D34 (planned roundabout at the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road) is the only notable improvement planned within the immediate vicinity of the development site. Functional class and access management were previously addressed in this report. No traffic calming measures were noted for the site frontage in the TSP beyond completion of sidewalks.

CONCLUSIONS AND RECOMMENDATIONS

The proposed Community Development Department building use is not expected to have a significant trip impact on the surrounding transportation facilities as compared to the prior elementary school use on the site. Further, the proposed building can comply with the seven TAL criteria as documented in this letter.

Based on the findings of this review, we offer the following recommendations:

- As part of the proposed property rezoning, the City should implement a trip cap for the entire site that will limit the total trips generated by the entire site (238 weekday AM peak hour trips and 143 weekday PM peak hour trips) to the number associated with the former elementary school and thus will ensure there are no new trip impacts associated with the proposed rezone.
- Existing site driveway signage should be removed or replaced in conjunction with the proposed site re-development, particularly the "SCHOOL ENTRANCE" sign on Warner Parrot Road as well as the "STOP" sign and "DO NOT ENTER" sign at the Linn Avenue exit driveway.
- Sidewalk should be completed along the Warner Parrott Road site frontage in conjunction with standard frontage improvements. Should the City choose to retain the existing north-south mid-block crosswalk of Warner Parrott Road along the site frontage, consideration should be given to providing ADA-compliant ramps for the crosswalk.

- The City should consider replacing the current pedestrian signals at the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road with countdown timers and constructing ADA-compliant curb ramps on the frontage side of the intersection.
- The City could consider reconstructing the sidewalk and curb ramp on the southeast corner of the Linn Avenue/Williams Street intersection.
- The City could choose to make the Linn Avenue exit at right turn only exit. A "RIGHT TURN ONLY" sign could be added, and additionally the driveway could be altered in a way to discourage left turns.
- On site landscaping along Warner Parrott Road should be continued to be maintained in order to maintain sight distance at the exit.

Please contact us if you have any questions regarding this report or our findings.

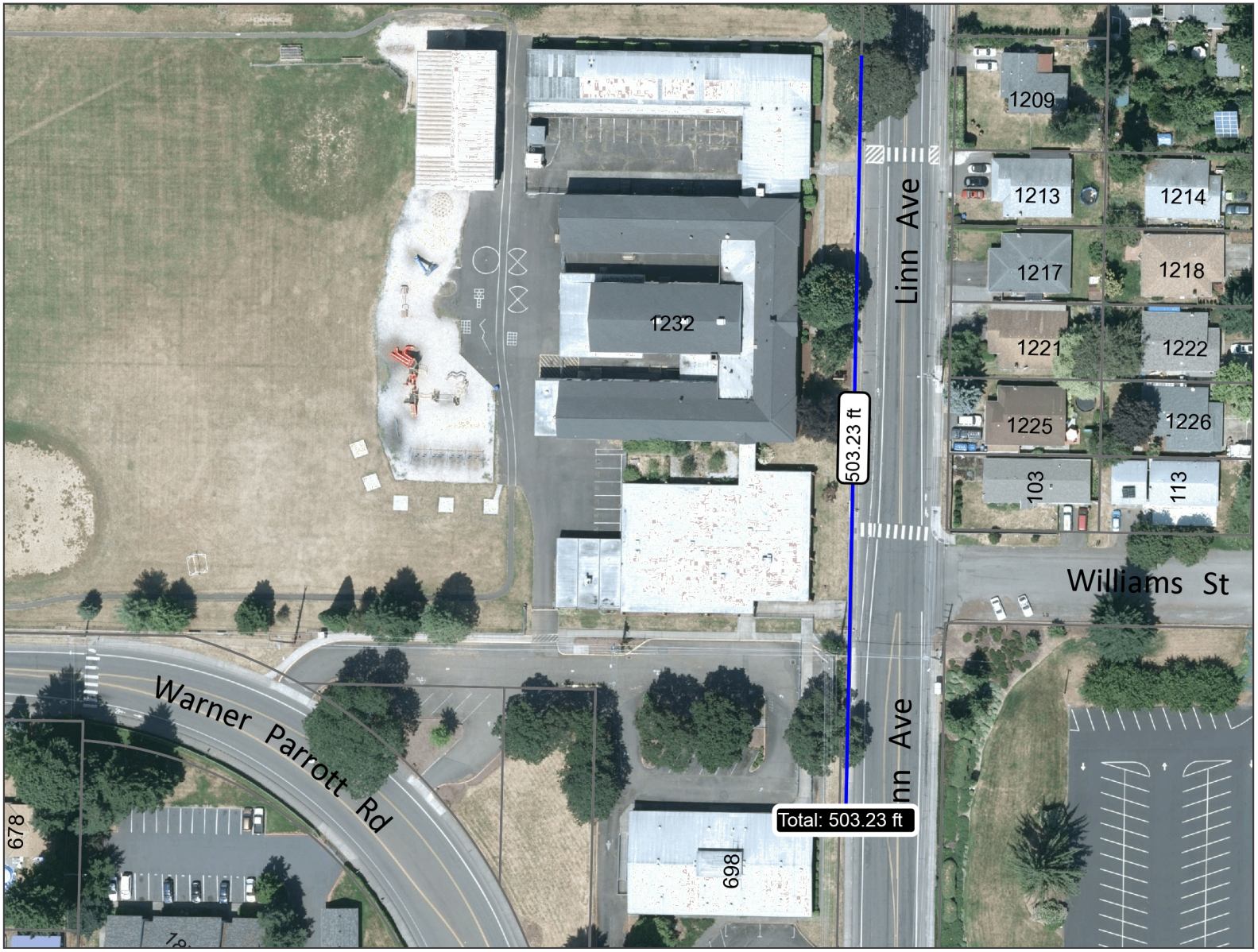
Sincerely,
KITTELSON & ASSOCIATES, INC.

Chris Brehmer, PE
Senior Principal Engineer

Zachary Horowitz
Senior Project Manager



Linn Avenue On Street Parking



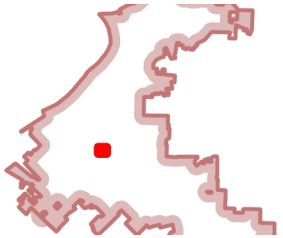
Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- City Limits
- UGB
- Basemap

Notes

Per OCMC 17.52.020.B.3.1. 1 Stall is 22 feet of uninterrupted and available curb

Overview Map



0 100 200 Feet

1: 1,200

Appx. 503 Feet Less Crosswalk

The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

Map created 9/11/2017

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

MT. PLEASANT

COMPREHENSIVE PLAN AMENDMENT
ZONE CHANGE
MINOR SITE PLAN AND DESIGN REVIEW FOR THE ANNEX

Submitted to:
The City of Oregon City
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

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I. PROJECT INFORMATION

APPLICANT:
ZCS Engineering
Zach Stokes, PE
524 Main Street, Suite 2
Oregon City, OR 97045

OWNER:
City of Oregon City
PO Box 3040
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

REQUEST:
To accommodate the Community Development Department relocation to the Mt. Pleasant Annex Building, ZCS Engineering, on behalf of the City of Oregon City, is seeking approval of:

1. A Comprehensive Plan Amendment for 0.42 acres from MR (Medium Density Residential) to QP (Public/Quasi-Public); and
2. A Zone Change for 0.42 acres from R-3.5 (Dwelling District) and 8.07 acres from R-10 (Single Family Dwelling District) to I (Institutional) with a trip cap on am and pm peak hours from/to the proposed site; and
3. Minor Site Plan and Design Review.

PROPERTY INFO:
1232 Linn Avenue/698 Warner Parrott Road
Clackamas County Map 3-2E-6DB Tax Lot 100
8.07 acres
Existing comprehensive plan designation: QP
Existing zoning designation: R-10
Proposed zoning designation: I

No Addresses - frontage on Warner Parrott Road
Clackamas County Map 3-2E-6DB Tax Lots 2000, 2003, and 2008
0.24, 0.17, and 0.01 acres, respectively (total: 0.42 acres)
Existing comprehensive plan designation: MR
Proposed comprehensive plan designation: QP
Existing zoning designation: R-3.5
Proposed zoning designation: I

II. BACKGROUND

1. Existing Conditions

The site, made up of 4 separate tax lots, is approximately 8.49 acres in size, and abuts Linn Avenue to the east, Warner Parrott Road to the south, and the eastern terminus of platted Marshall Street to the west. A public access easement exists on the property's west side connecting Warner Parrott Road to platted Marshall Street. There are sidewalks along a portion of Warner Parrott Road, the entirety of the Linn Avenue frontage, and across the vacated section of Warner Parrott Road.

The majority of the site is comprised of athletic fields, play areas, and landscaped areas. The site is generally flat, and is gated and fenced. There are two driveways off of Warner Parrott Road and two off of Linn Avenue.

The site has been utilized as an elementary school for a significant length of time. It is currently developed with three structures connected by breezeways totaling 32,000 square feet and a 4,500 square foot metal building which are all occupied by Myrlhurst Elementary School. Marylhurst Elementary leases a majority of the subject site from the City in a lease which is valid until June of 2019.

An additional 6,700 square foot structure located closest to the intersection of Linn Avenue and Warner Parrott, referred to as the Annex, has been underutilized by the City of Oregon City. Though a portion of the facility is used as training facility/gym for the Police Department a majority of the space is unused or minimally used for storage.

The subject site is currently constructed with 40 parking stalls, an additional 13 stalls fenced behind the northern portion of the building which are currently fenced, and 14 adjacent parallel on-street stalls.

Public water mains exists in Linn Avenue, Warner Parrott Road, and the vacated section of Warner Parrott Road. Public sewer mains exist in Linn Avenue, Warner Parrott Road, the vacated section of Warner Parrott Road, and adjacent to the eastern tax lot line of lot 2000. A public stormwater line exists in a portion of Linn Avenue and a portion of Warner Parrott Road. A public easement for storm water crosses the property's northwest corner.

Figure 1. Vicinity Map



Figure 2. Aerial Image of Project Site



Figures 3-7. Photos of the Annex


Southern Entrance


Southeast Corner


Northern Entrance


East Facade


West Facade

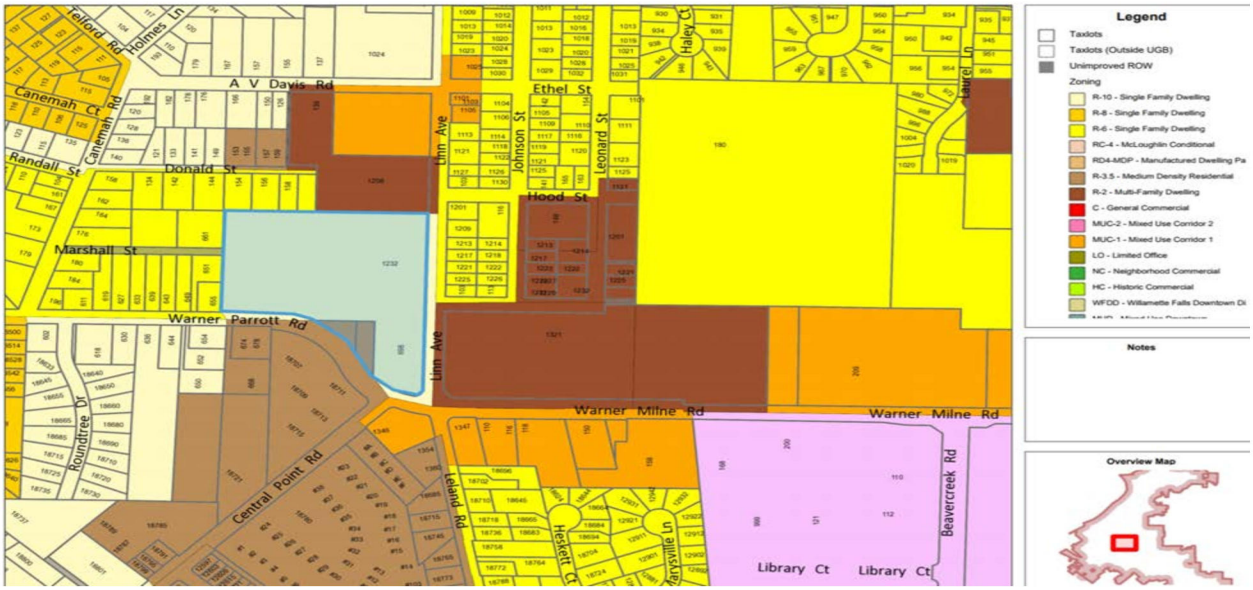
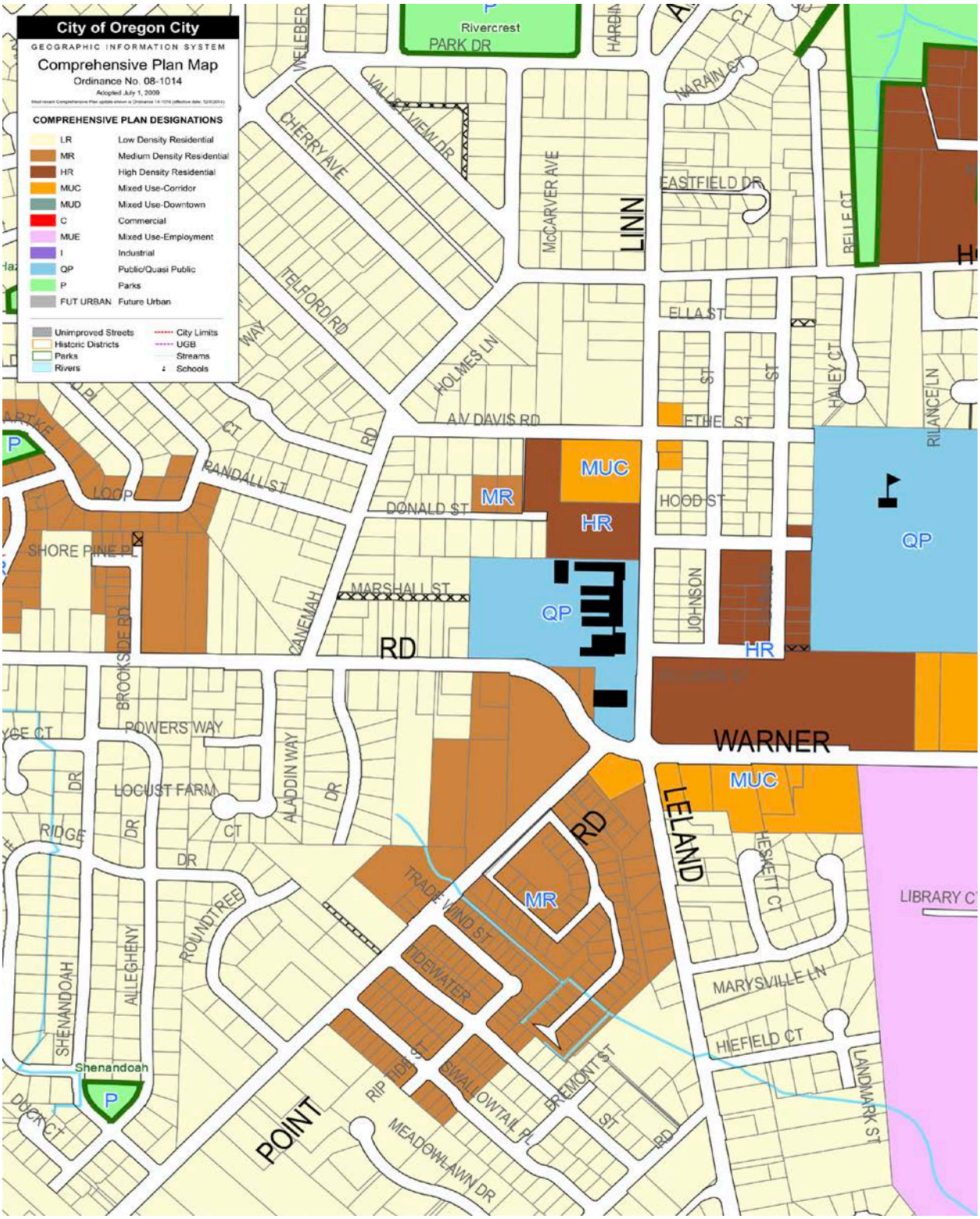

Telford Rd
Holmes Ln
A V Davis Rd
Canemah Ct
Canemah Rd
Randall St
Donald St
Marshall St
Warner Parrott Rd
Roundtree Dr
Central Point Rd
Linn Ave
Johnson St
Ethel St
Leonard St
Hood St
Haley Ct
Laurel Ln
Warner Milne Rd
Warner Milne Rd
Leland Rd
Heskett Ct
Library Ct
Library Ct
Beavercreek Rd
Legend
Taxlots
Taxlots (Outside UGB)
Unimproved ROW
Zoning
R-10 - Single Family Dwelling
R-8 - Single Family Dwelling
R-6 - Single Family Dwelling
RC-4 - McLoughlin Conditional
RD4-MDP - Manufactured Dwelling Pa
R-3.5 - Medium Density Residential
R-2 - Multi-Family Dwelling
C - General Commercial
MUC-2 - Mixed Use Corridor 2
MUC-1 - Mixed Use Corridor 1
LO - Limited Office
NC - Neighborhood Commercial
HC - Historic Commercial
WFDD - Willamette Falls Downtown Di
Notes
Overview Map

Figure 9. Current Comprehensive Plan Map



2. Project Description

The purpose of this application is to relocate the Oregon City Community Development Department to the Mt. Pleasant Annex. In order for the Planning and Building Divisions, which comprise the Community Development Department, to utilize the site, approval is sought for the following:

- An amendment to the Comprehensive Plan Map from MR (Medium Density) to QP (Public/Quasi-Public) for tax lots 2000, 2003, 2008 (0.42 acres);
- A Zone Change from R-3.5 (Dwelling District) for tax lots 2000, 2003, 2008 (0.42 acres) and from R-10 (Single Family Dwelling District) for tax lot 100 (8.07 acres) to I (Institutional); and
- Minor Site Plan and Design Review for exterior building alterations for the 6,700 square foot Annex on the south-east of the site including a new roof with an enhanced entryway, additional windows on the east and south façade (including replacement of a door) as well as minor site changes including additional landscaping, bicycle parking, benches, and interior sidewalks.

No new buildings or additions are proposed. Any future development will be analyzed for compliance with the applicable criteria with the associated public review process. This proposal will not affect the ability of the elementary school to remain onsite.

The transportation impact of the Comprehensive Plan Amendment and Zone Change is proposed to be mitigated by placing a limit on the number of automobile trips created by the uses on the 8.49 acres site. Known as a trip cap, the limit would restrict the transportation impact of the uses onsite at any given time to be no more than the transportation impact of the site when all the structures were used as an elementary school. In order to determine the transportation impact of the site, a study was conducted by Kittleson and Associates to determine the number of previous and future cars entering and exiting the site over the course of a day, as well as in the am and pm peak by utilizing the ITE Manual.

Future development on the site shall be limited to uses that in aggregate produce no more than the AM and PM peak hour trips. All new or alterations to the existing uses on the property shall submit an accounting of the trips generated through previously approved land use actions and business licenses for the entire subject site associated with the proposal and demonstrate that the proposal complies with both the maximum AM and PM peak hour trip caps. In order to keep an accurate tally of trips over time, the City will review this accounting either: (1) as part of the land use review required for the development, in cases where no business license is required; (2) as part of reviewing an application for a business license, in cases where no land use review is required; or (3) both, where a land use approval and a business license are required.

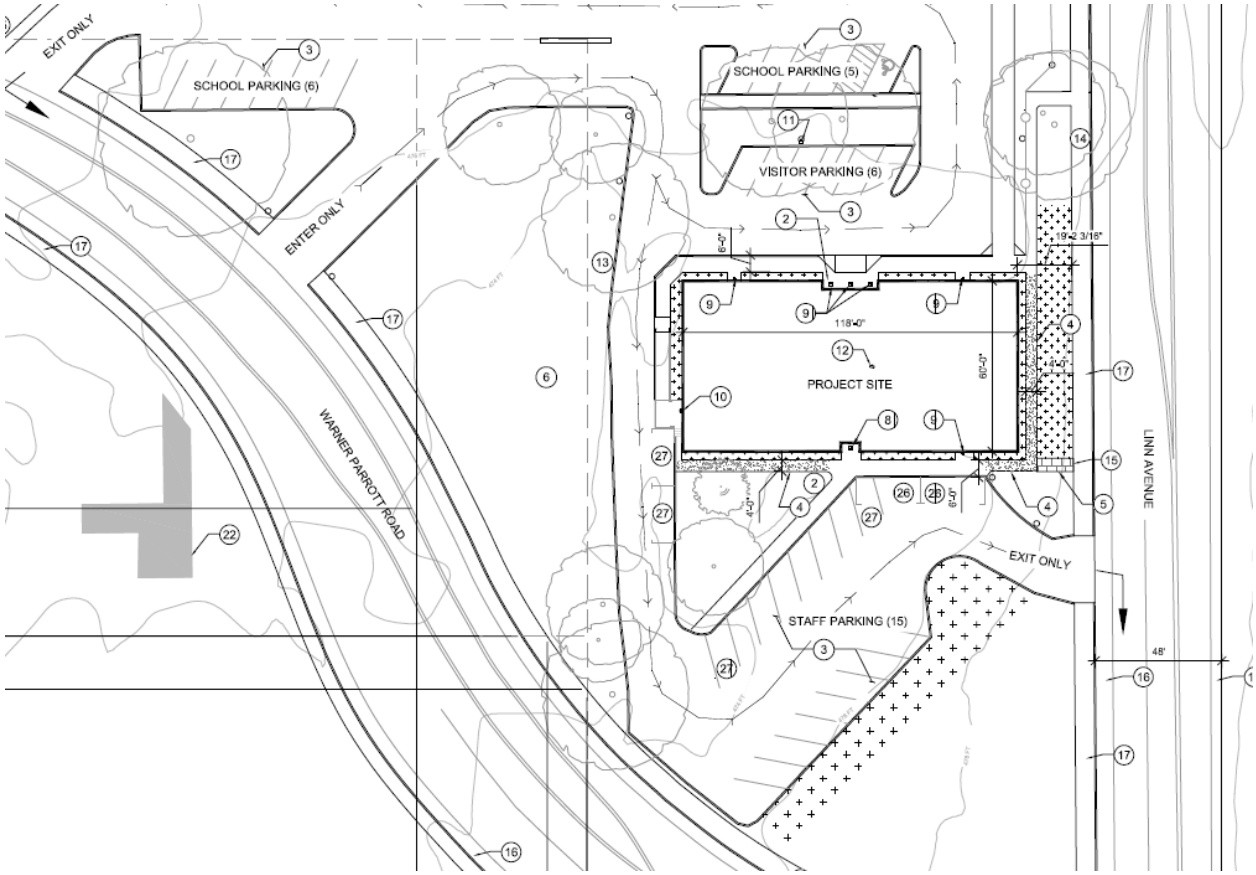
The Comprehensive Plan guides the City with goals, policies, and a map identifying general types of development. Properties are assigned a Comprehensive Plan designation to broadly define the character of a site as well as a more specific zoning

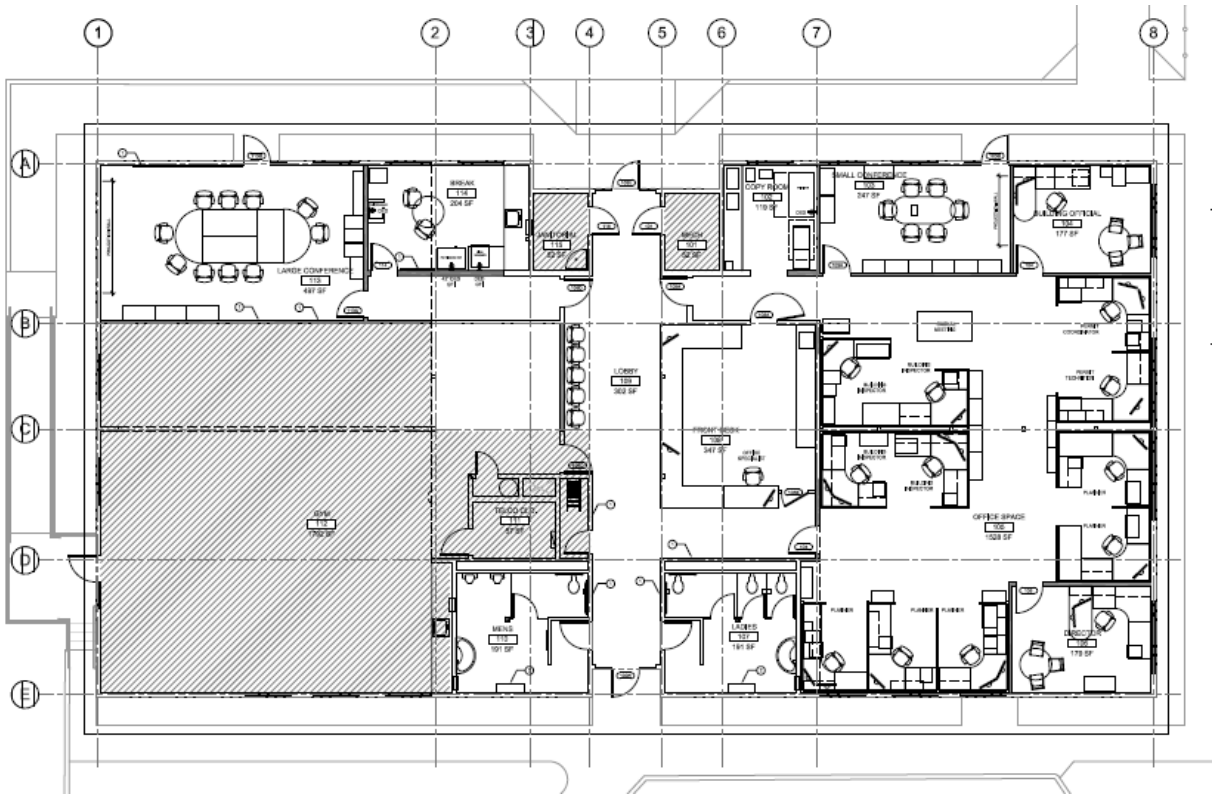
designation. For example, properties designed as "LR" Low Density Residential in the Comprehensive Plan may be within the "R-1", "R-8" or "R-6" Single-Family Districts. Properties designated identified as "MR" Medium Density Residential in the Comprehensive Plan may have a zoning designation of "R-5" or "R-3.5" Dwelling Districts. Currently, more than 8 acres of the site has a Comprehensive Plan designation of "QP" Public/Quasi-Public but a zoning designation of "R-10" Single-Family Dwelling District.

> Public and Quasi-Public (QP) — publicly owned lands other than city parks, such as schools, cemeteries, undeveloped lands, open space, government buildings and public utility facilities, such as the sewage treatment plant and water reservoirs.

The proposal would alter the designations of the site so the entire site is within the "QP" Public/Quasi-Public designation and the "I" Institutional District. According to Chapter 17.39 of the Oregon City Municipal Code the "I" Institutional District is designated as:\

> The purpose of this district is designed to facilitate the development of major public institutions, government facilities and parks and ensure the compatibility of these developments with surrounding areas. The I—Institutional zone is consistent with the public/quasi public and park designations on the comprehensive plan map.


EXIT ONLY
SCHOOL PARKING (6)
ENTER ONLY
WARNER PARROTT ROAD
SCHOOL PARKING (5)
VISITOR PARKING (6)
PROJECT SITE
118'-0"
60'-0"
LINN AVENUE
EXIT ONLY
STAFF PARKING (15)
48'



III. RESPONSES TO THE OREGON CITY MUNICIPAL CODE

CHAPTER 17.68.020 ZONE CHANGES AND AMENDMENTS

17.68.010 *Initiation of the Amendment.*
A text amendment to this title or the Comprehensive Plan, or an amendment to the zoning map or the Comprehensive Plan map, may be initiated by:
A. A resolution request by the City Commission;
B. An official proposal by the Planning Commission;
C. An application to the Planning Division presented on forms and accompanied by information prescribed by the planning commission.
D. A Legislative request by the Planning Division
All requests for amendment or change in this title shall be referred to the Planning Commission.
Response: The applicant, on behalf of the property owner, is submitting this application to initiate an amendment to the Comprehensive Plan and Zone Change for the subject site in accordance with OCMC 17.68.010.c. The property owners agree by and through their signature on the main application.

17.68.020.A *The proposal shall be consistent with the goals and policies of the comprehensive plan.*

Goal 1: Citizen Involvement
Goal 1.1 *Citizen Involvement Program Implement a Citizen Involvement Program that will provide an active and systematic process for citizen participation in all phases of the land-use decision making process to enable citizens to consider and act upon a broad range of issues affecting the livability, community sustainability, and quality of neighborhoods and the community as a whole.*
Policy 1.1.1 - Utilize neighborhood associations as the vehicle for neighborhood-based input to meet the requirements of the Land Conservation and Development Commission (LCDC) Statewide Planning Goal 1, Citizen Involvement. The Citizen Involvement Committee (CIC) shall serve as the officially recognized citizen committee needed to meet LCDC Statewide Planning Goal 1.
Goal 1.2 *Community and Comprehensive Planning - Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.*
Policy 1.2.1 - Encourage citizens to participate in appropriate government functions and land-use planning.
Goal 1.3 *Community Education - Provide education for individuals, groups, and communities to ensure effective participation in decision-making processes that affect the livability of neighborhoods.*
Goal 1.4 *Community Involvement - Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.*

Policy 1.4.1 - Notify citizens about community involvement opportunities when they occur.

Response: The Oregon City code includes provisions to insure that citizen involvement is guaranteed for individual citizens, neighborhood associations, property owners, and special interest groups. The proposal was presented to the City Commission at a series of meetings, as well as before the Citizen Involvement Committee and Rivercrest Neighborhood Association prior to submittal of the application. Once deemed complete, notice of the application will be sent to the Citizen Involvement Committee, neighborhood associations, a variety of agencies and members of the public, surrounding property owners (within 300 feet), and posted for public notification on the city's website as well as in a paper. The physical site will also be posted prior to the required public hearing. Citizens have been, and will be, afforded multiple opportunities to be involved with the review process.

Goal 2: Land Use

Goal 2.1: *Ensure that property planned for residential, commercial, office and industrial uses is used efficiently and that land is developed following principles of sustainable development.*

Response: The existing site has the following designations:

7.49 acres	Comp. Plan: Quasi-Public	Zoning: R-10
0.4 acres	Comp. Plan: Medium Density Residential	Zoning: R-3.5 Dwelling District

The proposal would amend the Comprehensive Plan designation for 0.4 acres from "MR" Medium Density Residential to "QP" Public/Quasi-Public so the entire site would be within the QP Comprehensive Plan designation and the zoning for the site is proposed to be amended to "I" Institutional. The site is owned by the City of Oregon City and the proposal would allow for government offices onsite. The site is located near many non-residential uses, creating an opportunity to efficiently utilize land and infrastructure while support a cohesive use with nearby properties. Currently, the site is encumbered by school structures, parking lots, driveways, drive aisles, and play fields and areas associated with the school structures as well as a training facility/gym for the Police. The proposal would allow for government office use of the site, a use similar in impact to the existing use. Warner Parrott Road serves as an effective transition from the residential zone to the south to the proposed Institutional zone.



Goal 2.3: Corridors: *Focus transit-oriented, higher intensity, mixed-use development along selected transit corridors.*

Response: Both Linn Avenue and Warner Parrott Road are classified as minor arterials and Tri-Met currently runs adjacent to the subject site with a bus stop along the Linn Avenue frontage. The subject site is adjacent to much higher density designations such as "MUC-1" Mixed Use Corridor District and "R-2" Multi-Family Residential District and near other higher density uses such as Mixed Use Employment as well as General Commercial. Aside from the zoning, the site has been historically used as an elementary school, a use with impacts similar to that of government offices. The current school and proposed local government offices are transit-oriented, higher intensity development, appropriate for the location proposed.

Goal 2.4: *Neighborhood Livability - Provide a sense of place and identity for residents and visitors by protecting and maintaining neighborhoods as the basic unit of community life in Oregon City while implementing the goals and policies of the other sections of the Comprehensive Plan.*
Policy 2.4.2 Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.
Policy 2.4.4 Where environmental constraints reduce the amount of buildable land, and/or where adjacent land differs in uses or density, implement Comprehensive Plan and zoning designations that encourage compatible transitional uses.
Policy 2.4.5 - Ensure a process is developed to prevent barriers in the development of neighborhood schools, senior and childcare facilities, parks, and other uses that serve the needs of the immediate area and the residents of Oregon City.

Response: The site is currently primarily utilized as an elementary school with a small police training facility/gym. The area is characterized by a variety of commercial and institutional uses and zoning designations coupled with a transit line to support nearby residences and the greater community. The variety of nearby uses include churches, an assortment of commercial businesses, offices, residences, and a school. Linn Avenue and Warner Parrott Road serve as natural transition to adjacent residential, multi-family, institutional, and commercial uses. The proposed Comprehensive Plan amendment and Zone Change would allow the City to utilize the Annex for the Community Development Department while retaining an elementary school as the primary use of the site and the vibrancy of the immediate area. Future uses of the site are limited to those identified within the Institutional District.

The "I" Institutional District proposed for the site is within the QP Comprehensive Plan Designation, of which approxiamtely 8 acres of the site is already designated. The proposed comprehensive plan and zone change would support the surrounding uses and zoning without altering the impacts to the community. The applicant has proposed a trip cap to limit the amount of transportation impacts of the proposal to not exceed that of the elementary school.

Goal 2.7: *Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.*

Policy 2.7.1 Maintain a sufficient land supply within the city limits and the Urban Growth Boundary to meet local, regional, and state requirements for accommodating growth.
Policy 2.7.2 Use the 11 land-use classifications on the Oregon City Comprehensive Plan Land-Use Map to determine the zoning classifications that may be applied to parcels.

Response: The proposal includes an amendment to the Comprehensive Plan Map from MR (Medium Density) to QP (Public/Quasi-Public) and a Zone Change from R-3.5 (Dwelling District) for tax lots 2000, 2003, 2008 (0.42 acres) and from R-10 (Single Family Dwelling District) for tax lot 100 (8.07 acres) to I (Institutional). Currently 8.07 acres have a comprehensive plan designation of Public/Quasi-Public and are used as an elementary school but is zoned "R-10" Single-Family Dwelling District. The Institutional District is consistent with the "QP" Public/Quasi-Public designation of the Comprehensive Plan, of which a vast majority of the subject site is already within the Public/Quasi-Public Comprehensive Plan designation. The proposal would allow the subject site to be under a single cohesive Comprehensive Plan designation as well as the associated zoning designation. The rezoning of 8.49 acres is not expected to negatively impact the supply of residentially zoned property and is a minor addition to the Institutional zoned property supply.

Goal 3: Agricultural Land: requires local governments "to preserve and maintain agricultural lands."

Response: This goal is not applicable; there is no agricultural land associated with this proposal.

Goal 4: Forest Lands

Response: This goal is not applicable; no forest lands are designated within the City limits.

Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

Response: There are no designated scenic, historic or natural resources impacted with the proposed development. The stormwater manual equally protects the site for water quality purposes under the current use and with the proposed zoning designation.

Goal 6: Quality of Air, Water and Land Resources

Goal 6.1 *Air Quality- Promote the conservation, protection and improvement of the quality of the air in Oregon City.*
Policy 6.1.1 Promote land-use patterns that reduce the need for distance travel by single-occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.

Response: The proposed comprehensive plan and zone change amendments allow for the relocation of City facilities and the reuse of an existing Annex building. The proposal would allow a more efficient use of property located in a commercial areas and on a transit route reducing the need for distance travel by single-occupancy vehicle, thus promoting the conservation, protection and improvement of the quality of the air in the city.

Goal 7: Natural Hazards

Response: This goal is not applicable. There are no natural hazards associated with this site.

Goal 8: Parks and Recreation

Response: The proposed amendments preserve the ability to develop/maintain the site for public use, including parks and playfields.

Goal 9: Economic Development

Improve Oregon City's Economic Health - Provide a vital, diversified, innovative economy including an adequate supply of goods and services and employment opportunities to work toward an economically reasonable, ecologically sound and socially equitable economy.

Response: The proposed Comprehensive Plan and Zone Change amendments would bring 8.49 acres of property into the Institutional zone and remove it from the residential zone, allowing the property to be utilized in association with higher employment opportunities such as government office.

Goal 10: Housing

Goal 10.1*: Provide for the planning, development and preservation of a variety of housing types and lot sizes.*

Policy 10.1.1

Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.

Policy 10.1.3

Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.

Policy 10.1.4

Aim to reduce the isolation of income groups within communities by encouraging diversity in housing types within neighborhoods consistent with the Clackamas County Consolidated Plan, while ensuring that needed affordable housing is provided.

Response: Since 2002, both land use decisions to increase density and policies have encouraged additional housing development. For example, units have been created through approval of zone changes that allowed greater density as well as through the creation of a variety of housing types ranging from single-family to multi-family and care facilities. With the adoption of the Comprehensive Plan in 2004, the City amended the Municipal Code to allow construction of one accessory dwelling unit in every place in which a single-family home is allowed and adopted cottage housing with density bonuses. These two unit types provided an opportunity for more diverse, and often affordable, housing opportunities within existing neighborhoods.

Moreover, the City has planned for at least 5,762 dwelling units as follows:

- The City created and approved concept plans for three areas (South End, Beavercreek, Park Place) recently brought into the UGB. The Park Place Concept Plan provides capacity for 1,091 dwelling units, the South End Concept Plan provides capacity for 1,210 dwelling units and the Beavercreek Road Concept Plan provides capacity for 1,023 dwelling units for a total of 3,324 units within the urban growth boundary.
- Since October 1, 2002, the City has granted permits for more than 2,600 dwelling units.

In addition, the City adopted a new mixed use zones, including the MUC-1, MUC-2, MUD, HC, NC and C that allows for the development of housing which is limited by building height, parking standards, lot coverage, etc (though there are some restrictions in NC). While not counted as contributing to needed housing goals in the City's Housing Technical Report (2002), the capacity from the new mixed use zones, is estimated at a potential 8,000 dwelling units within the City limits. Approximately 66% of the City is currently within the R-10, R-8, R-6, R-3.5 and R-2 zoning designations while only 7.35% of the City is zoned "I" Institutional District. Therefore, the approval of this Comprehensive Plan amendment and zone change will expand the housing types and options available within the City.

Zoning in City Limits – Acres:
C = 160.86 (2.49%)
CI = 164.66 (2.55%)
County = 245.38 (3.79%)
GI = 220.32 (3.4%)
HC = 8.82 (0.14%)
I = 475.31 (7.35%)
MUC1 = 168.46 (2.6%)
MUC2 = 44.66 (0.69%)
MUD = 510.19 (7.89%)
MUE = 156.88 (2.43%)
R2 = 262.22 (4.05%)
R3.5 = 424.15 (6.56%)
R6 = 893.99 (13.82%)
R8 = 1095.97 (16.95%)
R10 = 1589.11 (24.57%)
ROAD = 13.18 (0.2%)
WFDD = 30.44 (0.47%)

Goal 10.2 *Provide and maintain an adequate supply of affordable housing.*
Policy 10.2.1
Retain affordable housing potential by evaluating and restricting the loss of land reserved or committed to residential use. When considering amendments to the Comprehensive Plan Land-Use Map, ensure that potential loss of affordable housing is replaced.

Response: As demonstrated in the analysis in Goal 10.1, the City has provided opportunities to allow an increase in the number of dwelling units within Oregon City as well as adopted standards which allow for smaller dwelling units which will likely be lower in cost. Approximately 8 acres of the subject site is within the "R-10" Single-Family Dwelling District, while less than 0.5 acres of the site is within the "R-3.5" Dwelling District. Though the school is used as a school, the zoning designation permits the property to be subdivided for the construction of homes. The 10,000 square foot minimum lot size in the R-10 district generally results in the development of homes which are high in price.

The value of a single-family home in Oregon City is $371,200, less than a majority of similarly sized cities and less than the average in Clackamas County which is $392,400.

Figure 6: July 2017 Home Values from Zillow.com

City	Home Value (July, 2017)
Lake Oswego	$597,300
West Linn	$500,200
Happy Valley	$485,900
Tualatin	$434,800
Sherwood	$414,700
Tigard	$402,700
Oregon City	**$371,200**
Newberg	$305,500

Goal 11: Public Facilities

Goal 11.1: *Serve the health, safety, education, welfare and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.*
Policy 11.1.3: Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.

Response: The proposed comprehensive plan and zone change amendments would allow additional public facilities to be located on the site. The amendments would have a positive effect by allowing a public use property accessible by multi-modes of transportation, and central to a majority of the Community Development customers. The majority of the surrounding area is built-out and public facilities and services such as sanitary sewer, storm sewer, and water are in place and do not need to be extended.

Policy 11.1.4: Support development on underdeveloped or vacant buildable land within the city where public facilities and services are available or can be provided and where land-use compatibility can be found relative to the environment, zoning, and Comprehensive Plan goals.

Response: The proposal supports the relocation of the City's Community Development Department to the 6,700 square foot structure previously occupied by a school, while the existing elementary school onsite will continue to operate. The comprehensive plan and zone change amendments make it possible for the underutilized site to house additional community governmental services in a location accessible to the public.

Goal 11.11 Civic Facilities Strategically locate civic facilities to provide efficient, cost-effective, accessible, and customer friendly service to Oregon City residents.

Response: The comprehensive plan and zone change amendments make it feasible for the site to house civic facilities in an established neighborhood, providing efficient, cost-effective (re-use of existing structures), accessible service to the city's residents.

Policy 11.11.1 Locate City facilities in a way that ensures customer service and provides easy access to the majority of residents. Access should be provided for the physically impaired and for those traveling by transit, bicycle, or foot.

Response: The proposed comprehensive plan and zone change amendments allow government services to be provided on an existing site in a developed section of the city. The site is easily accessible for residents of all abilities and whom travel by multiple modes of transportation.

Policy 11.11.2 Investigate options for obtaining or building a new City Hall.

Response: Since the Comprehensive Plan was adopted, a new City Hall was established. The proposed comprehensive plan and zone change amendments create an option for the relocation of City Hall and other city departments to the site. However, development is limited on the site by a transportation trip cap which has been proposed.

Policy 11.11.3 Implement measures to maximize and leverage resources and increase services to the public.

Response: The city owns the subject property and currently leases a portion for use as a school. The zone change and comprehensive plan amendments would allow for continued use of a portion of the site as a school and the relocation of the Community Development Department after interior and exterior remodeling is complete. The amendments would also permit the relocation of other city departments to the site in the future, if desired. Future development is subject to additional review processes.

Policy 11.11.4 Incorporate measures to meet long-term rising demand for services. Provide for future needs of increased staff, space and storage when purchasing or building new city facilities.

Response: The city owns the subject property and currently leases a majority for use as an elementary school. The zone change and comprehensive plan amendments would allow for continued use of a portion of the site as a school and the relocation of the Community Development Department after interior and exterior remodeling of the vacant structure is complete. The amendments would also permit the relocation of other city departments to the site in the future, if desired.

17.68.020.B. *That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed in the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.*

Response: As the trip cap limits the amount of development allowed onsite, demand for public facilities and services will not be significantly increased as a result of the proposed comprehensive plan and zone change amendments. No new services are required for the proposed relocation of Community Development and the range of uses and development allowed by the zone is capable of being serviced prior to issuance of a certificate of occupancy.

17.68.020.C *The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.*

Response: The applicant is proposing to establish a trip cap limiting the amount of traffic of future uses to that created by the prior and existing school use. The trip cap then makes the land uses authorized by the proposed comprehensive plan and zone change amendment

consistent with the existing and planned function, capacity and level of service of the transportation system. The proposed amendments will not result in significant impacts on the transportation system. Please refer to the trip cap findings within this report.

17.68.020.D *Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.*

> ***Statewide Planning Goal 1****: Citizen Involvement. Goal 1 calls for "the opportunity for citizens to be involved in all phases of the planning process." It requires each city and county to have a citizen involvement program containing six components specified in the goal. It also requires local governments to have a committee for citizen involvement (CCI) to monitor and encourage public participation in planning.*

Response: Addressed in Comprehensive Plan Goal 1.

> ***Statewide Planning Goal 2:*** *Land Use Planning. Goal 2 outlines the basic procedures of Oregon's statewide planning program. It says that land use decisions are to be made in accordance with a comprehensive plan, and that suitable "implementation ordinances" to put the plan's policies into effect must be adopted. It requires that plans be based on "factual information"; that local plans and ordinances be coordinated with those of other jurisdictions and agencies; and that plans be reviewed periodically and amended as needed.*

Response: Addressed in Comprehensive Plan Goal 2.

> ***Statewide Planning Goal 3:*** *Agricultural Lands. Goal 3 defines "agricultural lands." It then requires counties to inventory such lands and to "preserve and maintain" them through farm zoning. Details on the uses allowed in farm zones are found in ORS Chapter 215 and in Oregon Administrative Rules, Chapter 660, Division 33.*

Response: Addressed in Comprehensive Plan Goal 3.

> ***Statewide Planning Goal 4:*** *Forest Lands. This goal defines forest lands and requires counties to inventory them and adopt policies and ordinances that will "conserve forest lands for forest uses."*

Response: Addressed in Comprehensive Plan Goal 4.

> ***Statewide Planning Goal 5:*** *Open Spaces, Scenic and Historic Area, and Natural Resources.*
> *Goal 5 covers more than a dozen natural and cultural resources such as wildlife habitats and wetlands. It establishes a process for each resource to be inventoried and evaluated. If a resource or site is found to be significant, a local government has three policy choices: preserve the resource, allow proposed uses that conflict with it, or strike some sort of a balance between the resource and the uses that would conflict with it.*

Response: Addressed in Comprehensive Plan Goal 5.

Statewide Planning Goal 6: *Air, Water and Land Resources Quality. This goal requires local comprehensive plans and implementing measures to be consistent with state and federal regulations on matters such as groundwater pollution.*

Response: Addressed in Comprehensive Plan Goal 6.

Statewide Planning Goal 7: *Areas Subject to Natural Hazards. Goal 7 deals with development in places subject to natural hazards such as floods or landslides. It requires that jurisdictions apply "appropriate safeguards" (floodplain zoning, for example) when planning for development there.*

Response: Addressed in Comprehensive Plan Goal 7.

Statewide Planning Goal 8: Recreational Needs. *This goal calls for each community to evaluate its areas and facilities for recreation and develop plans to deal with the projected demand for them. It also sets forth detailed standards for expedited siting of destination resorts.*

Response: Addressed in Comprehensive Plan Goal 8.

Statewide Planning Goal 9: Economic Development. *Goal 9 calls for diversification and improvement of the economy. It asks communities to inventory commercial and industrial lands, project future needs for such lands, and plan and zone enough land to meet those needs.*

Response: Addressed in Comprehensive Plan Goal 9.

Statewide Planning Goal 10: Housing. *This goal specifies that each city must plan for and accommodate needed housing types, such as multifamily and manufactured housing. It requires each city to inventory its buildable residential lands, project future needs for such lands, and plan and zone enough buildable land to meet those needs. It also prohibits local plans from discriminating against needed housing types.*

Response: Addressed in Comprehensive Plan Goal 10.

Statewide Planning Goal 11: *Public Facilities and Services. Goal 11 calls for efficient planning of public services such as sewers, water, law enforcement, and fire protection. The goal's central concept is that public services should to be planned in accordance with a community's needs and capacities rather than be forced to respond to development as it occurs.*

Response: Addressed in Comprehensive Plan Goal 11.

Statewide Goal 12: Transportation. *The goal aims to provide "a safe, convenient and economic transportation system." It asks for communities to address the needs of the "transportation disadvantaged."*

Response: To avoid impacts to the transportation facilities beyond those that would be possible under the present zonings, the applicant proposes to establish a trip cap limiting the amount of traffic of future uses to that created by the prior and existing school uses. By limiting the amount of trips that would be allowed from future development within the area proposed for comprehensive plan and zone changes, equal to that of possible under the present zoning, the

transportation impacts of the amendments would be no greater on the transportation system than what present zoning would allow. The proposed amendments will not result in significant impacts on the transportation system

> ***Statewide Planning Goal 13.*** *Energy Conservation. Goal 13 declares that "land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles."*

Response: The proposal is to amend the comprehensive plan map and zone map, permitting additional public uses on the property. By re-using the existing Annex building to house the Community Development Department and potentially other city departments, energy is being conserved. The proposed building changes, where possible, will utilize energy efficient practices, and the site changes will increase the connectivity to and through the site. The proposed amendments encourage the re-development and re-use of the site at a location easily accessed by residents.

> ***Statewide Planning Goal 14: Urbanization.*** *This goal requires cities to estimate future growth and needs for land and then plan and zone enough land to meet those needs. It calls for each city to establish an "urban growth boundary" (UGB) to "identify and separate urbanizable land from rural land." It specifies seven factors that must be considered in drawing up a UGB. It also lists four criteria to be applied when undeveloped land within a UGB is to be converted to urban uses.*

Response: The city owns the property in question and proposes to meet the future growth needs by relocating the Community Development Department and potentially other city departments to a site previously and currently used as a school. The proposed amendments would allow in-fill and re-use of an existing under-utilized property, reducing some pressure to expand the urban growth boundary. The re-development of the site contributes to the urbanization of the city and balances the negative effects by limiting the transportation impact to the existing impact of the school.

> ***Statewide Planning Goal 15:*** *Willamette River Greenway. Goal 15 sets forth procedures for administering the 300 miles of greenway that protects the Willamette River.*

Response: This goal is not directly applicable to the proposed amendments and use of the property as the site is not within the designated Willamette River Greenway.

> ***Statewide Planning Goal 16: Estuarine Resources***
> ***Statewide Planning Goal 17: Coastal Shorelands***
> ***Statewide Planning Goal 18: Beaches and Dunes***
> ***Statewide Planning Goal 19: Ocean Resources***

Response: These goals are not applicable as the site is not located in any of the identified areas.

OAR 660-012-0060(1)-(3) TRANSPORTATION PLANNING RULE (TPR)

The purpose of the TPR is "to implement Statewide Planning Goal 12 (Transportation) and promote the development of safe, convenient and economic transportation systems that are

designed to reduce reliance on the automobile so that the air pollution, traffic and other livability problems faced by urban areas in other parts of the country might be avoided." A major purpose of the Transportation Planning Rule (TPR) is to promote more careful coordination of land use and transportation planning, to ensure that planned land uses are supported by and consistent with planned transportation facilities and improvements.
Response: Kittelson and Associates created a Transportation Analysis Letter analyzing the development proposal. The proposal entails altering the zoning designation for the entire subject site to "I" Institutional, as well as amending the Comprehensive Plan for approximately 0.42 acres from "MR" Medium Density Residential to "QP" Public/Quasi Public. In order to mitigate the impacts of the proposed development, the applicant has proposed a trip cap to limit the transportation impact to that of the previous/existing use of a school.

Future development on the site shall be limited to uses that in aggregate produce no more than the AM and PM peak hour trips. All new or alterations to the existing uses on the property shall submit an accounting of the trips generated through previously approved land use actions and business licenses for the entire subject site associated with the proposal and demonstrate that the proposal complies with both the maximum AM and PM peak hour trip caps. In order to keep an accurate tally of trips over time, the City will review this accounting either: (1) as part of the land use review required for the development, in cases where no business license is required; (2) as part of reviewing an application for a business license, in cases where no land use review is required; or (3) both, where a land use approval and a business license are required.

OAR CHAPTER 660, DIVISION 7, "METROPOLITAN HOUSING RULE"
The purpose of this division is to ensure opportunity for the provision of adequate numbers of needed housing units and the efficient use of land within the Metro urban growth boundary, to provide greater certainty in the development process and so to reduce housing costs.
Response: The proposed amendments and use of the property in question reduces the amount of residentially zoned property in the city by 8.49 acres. However, the site is currently encumbered by school structures, parking lots, driveways, drive aisles and play-fields and areas associated with and required by the existing uses on the property. As identifed above, the proposed amendments are expected to allow the efficient use of land by permitting the re-use of an existing under-utilized property.

REGIONAL TRANSPORTATION PLAN
The Regional Transportation Functional Plan (RTFP) directs how Oregon City should implement the RTP through the TSP and other land use regulations. The RTFP codifies existing and new requirements which local plans must comply with to be consistent with the RTP. If a TSP is consistent with the RTFP, Metro will find it to be consistent with the RTP.
Response: The City adopted an amendment to the Transportation System Plan in 2013; the plan was found to be consistent with the Regional Transportation Functional Plan at adoption.

URBAN GROWTH MANAGEMENT METRO FUNCTIONAL PLAN

3.07.810.C states that after one year following acknowledgement of a functional plan requirement, cities and counties that amend their comprehensive plans and land use regulations shall make such amendments in compliance with the new functional plan requirement.
Response: The City of Oregon City's comprehensive plan and land use regulations associated with comprehensive plan and zone change amendments are in compliance with the UGB Metro Functional Plan.

METRO FUNCTIONAL PLAN
3.07.120(e), "Housing Capacity" *A city or county may reduce the minimum zoned capacity of a single lot or parcel so long as the reduction has a negligible effect on the city's or county's overall minimum zoned residential capacity.*
Response: Please refer to the findings in Chapter 10 of the Comprehensive Plan above.

CHAPTER 17.62 SITE PLAN AND DESIGN REVIEW

17.62.015 - Modifications that will better meet design review requirements.
The review body may consider modification of site-related development standards. These modifications are done as part of design review and are not required to go through the Variance process pursuant to section 17.60.020. Adjustments to use-related development standards (such as floor area ratios, intensity of use, size of the use, number of units, or concentration of uses) are required to go through the Variance process pursuant to section 17.60.020. Modifications that are denied through design review may be requested as Variance through the Variance process pursuant to section 17.60.020. The review body may approve requested modifications if it finds that the applicant has shown that the following approval criteria are met:

A. The modification will result in a development that better meets design guidelines; and
B. The modification meets the intent of the standard. On balance, the proposal will be consistent with the purpose of the standard for which a modification is requested.
Response: No modifications of site-related development standards are proposed for this application.

17.62.030 - When required.
Site plan and design review shall be required for all development of real property in all zones except the R-10, R-8, R-6, R-5 and R-3.5 zoning districts, unless otherwise provided for by this title or as a condition of approval of a permit. Site plan and design review shall also apply to all conditional uses, cottage housing development, multi-family and non-residential uses in all zones. No building permit or other permit authorization for development shall be issued prior to site plan and design review approval. Parking lots and parking areas accessory to uses regulated by this chapter also shall require site plan and design review approval. Site plan and design review shall not alter the type and category of uses permitted in zoning districts.
Response: The applicant proposes exterior alterations to a non-residential use (government office) in the proposed Institutional zone, triggering the requirement for a site plan and design review.

17.62.035 - Minor site plan and design review.
Response: The proposal modifications of an institutional or public structure for the purpose of enhancing the aesthetics of the building and not increasing the interior usable space and qualifies as a Minor Site Plan and Design Review.

17.62.040 - Plans required.
Response: The applicant submitted plans meeting the requirements.

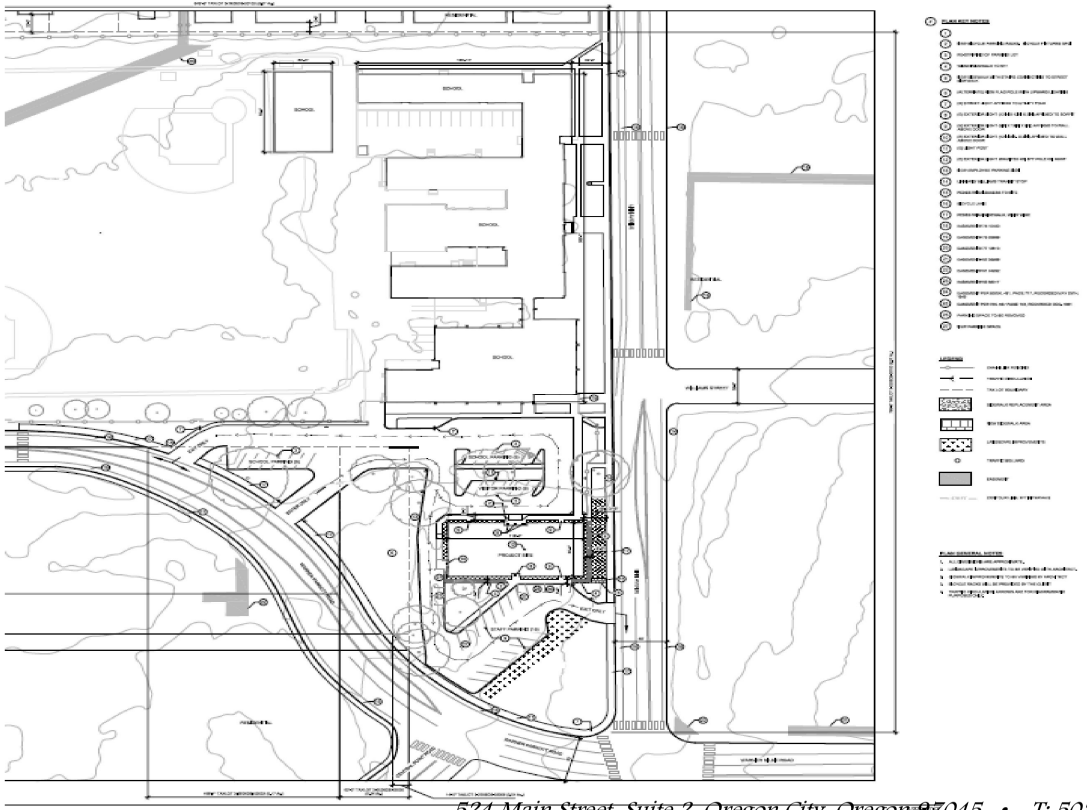
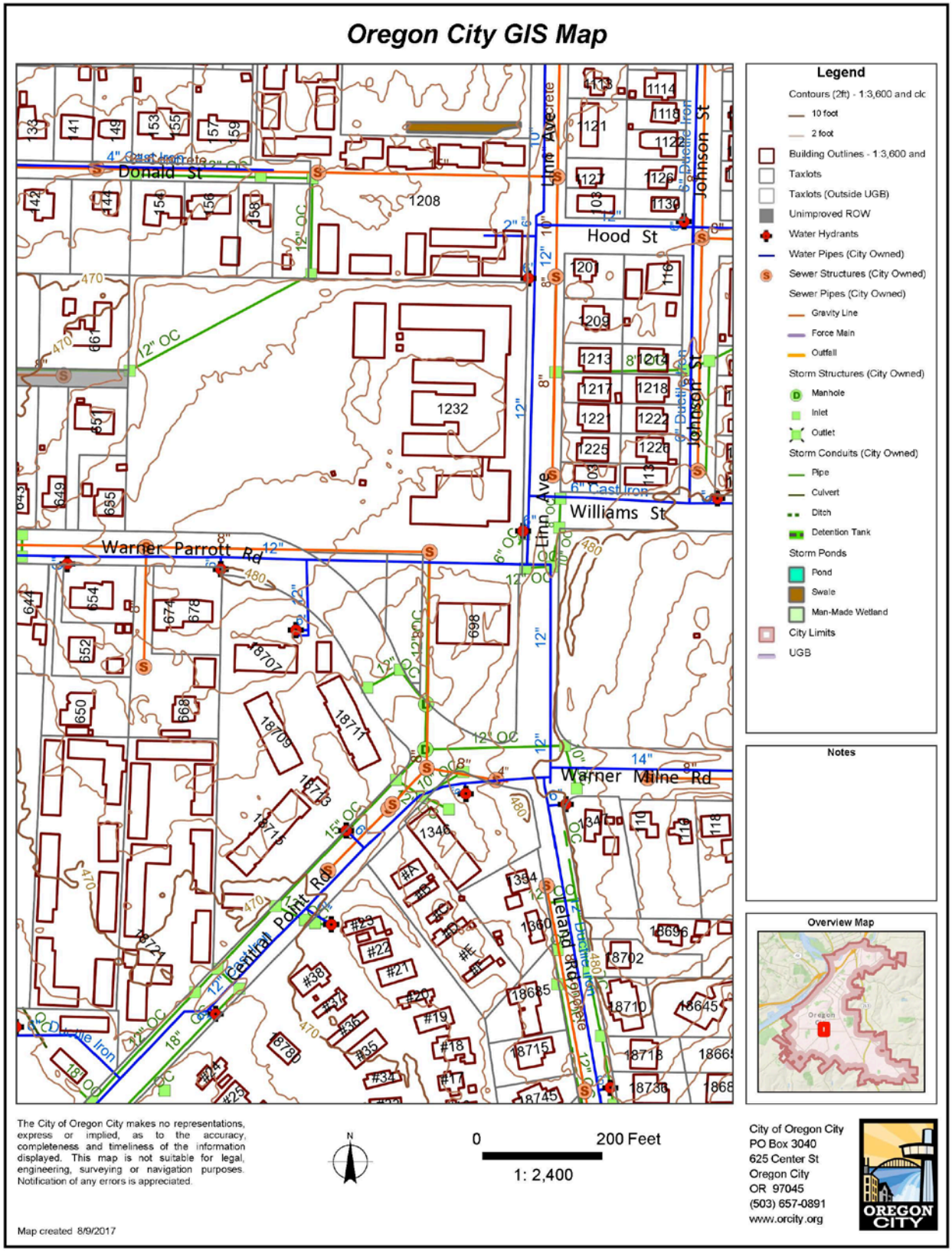
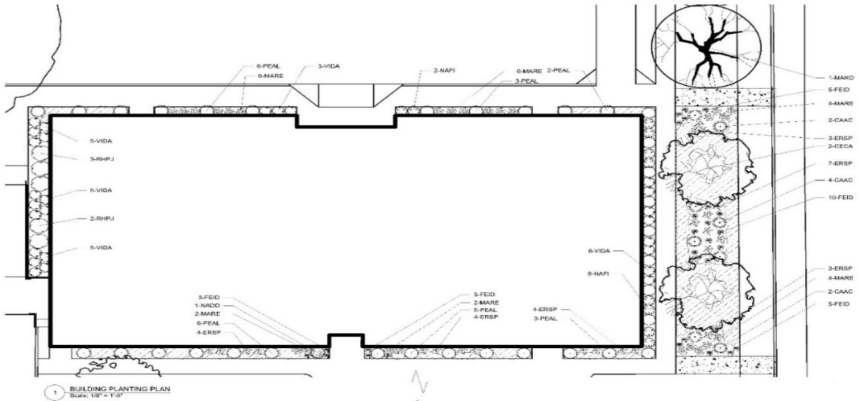
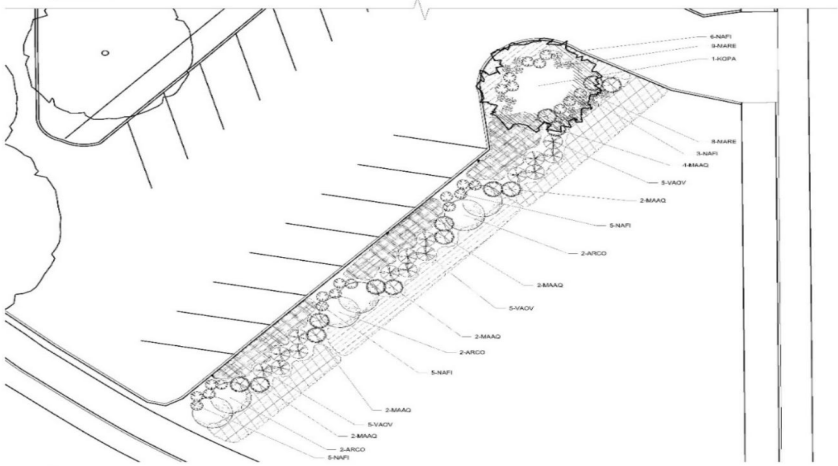


Figure 10a. Site Plan





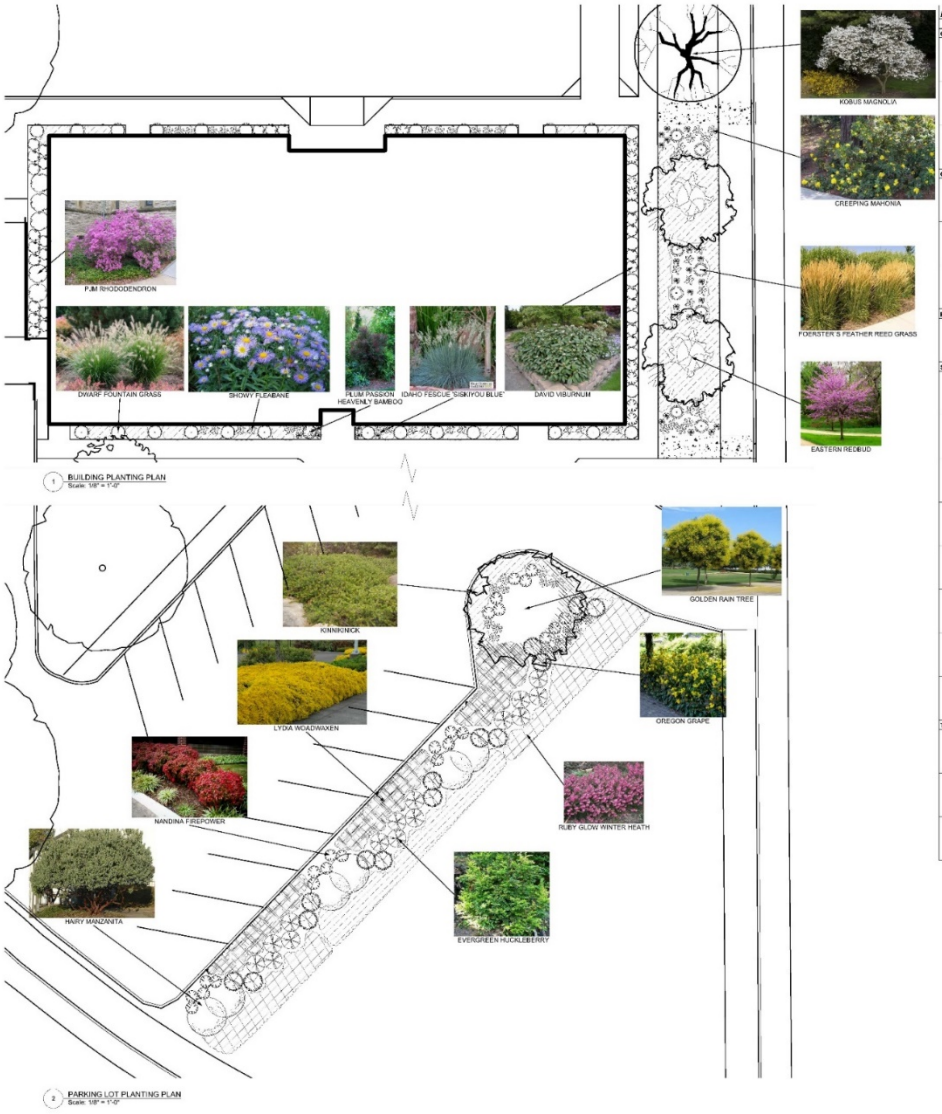
1 BUILDING PLANTING PLAN
Scale: 1/8" = 1'-0"



2 PARKING LOT PLANTING PLAN
Scale: 1/8" = 1'-0"

Plant List - Types	ID	Qty	Common Name	Botanical Name	Scheduled Size	Comments
Groundcover						
	ARJU	154	Kinnikinnick	Arctostaphylos uva-ursi 'Emerald Carpet'	4" POT	PLANT 36" O.C.
	GELY	78	Lyalls Woodreasen	Cervella lyalls	4" POT	PLANT 36" O.C.
	ERRU	167	Ruby Glow Winter Heath	Erica carnea 'Ruby Glow'	4" POT	PLANT 24" O.C.
Ornamental Grass						
	PEAL	22	Dwarf Fountain Grass	Pennisetum alopecuroides 'Hameln'	1 GAL	
	CAAC	8	Foerster's Feather Reed Grass	Calamagrostis x acutiflora 'Karl Foerster'	1 GAL	
	FEID	36	Idaho Fescue 'Elijahs Blue'	Festuca idahoensis 'Joelijahs blue'	1 GAL	
Perennials						
	ERSP	15	Showy Fleabane	Erigeron speciosus	1 GAL	
Shrubs						
	MARE	41	Creeping Mallenia	Mahonia repens	1 GAL	
	VIDA	39	David Viburnum	Viburnum davidii	1 GAL	
	VAOV	15	Evergreen Huckleberry	Vaccinium ovatum	5 GAL	
	NAFI	58	Firepower Heavenly Bamboo	Nandina domestica 'Firepower'	1 GAL	
	ARCO	6	Holly Mahonia	Arctostaphylos columbiana	5 GAL	
	MAAQ	14	Oregon Grape	Mahonia aquifolium	5 GAL	
	RHPJ	5	PJM Rhododendron	Rhododendron 'PJM'	5 GAL	
	NADO	1	Plum Passion Heavenly Bamboo (TM)	Nandina domestica 'Plum Passion' (TM)	5 GAL	
Trees						
	CECA	2	Eastern Redbud	Cercis canadensis	2" CALIPER	
	KOPA	1	Golden Rain Tree	Koelreuteria paniculata	2" CALIPER	
	MAKO	1	Kobus Magnolia	Magnolia kobus	2" CALIPER	

Figure 11b. Landscape Plan



Plant List - Typos						
	ID	Qty	Common Name	Botanical Name	Scheduled Size	Comments
Groundcover						
	ARCU	159	Kinnikinick	Arctostaphylos uva-ursi 'Massachusetts Carpet'	4" POT	PLANT 36" O.C.
	GELY	40	Lydia Woodwaxen	Genista lydia	4" POT	PLANT 36" O.C.
	ERRG	102	Ruby Glow Winter Heath	Erica carnea 'Ruby Glow'	4" POT	PLANT 24" O.C.
Ornamental Grass						
	PEAL	33	Dwarf Fountain Grass	Pennisetum alopecuroides 'Hameln'	1 GAL.	
	CAAC	8	Foerster's Feather Reed Grass	Calamagrostis x acutiflora 'Karl Foerster'	1 GAL.	
	FEID	78	Idaho Fescue 'SignYou Blue'	Festuca idahoensis 'Icevalley blue'	1 GAL.	
Perennials						
	ERSF	35	Showy Fleabane	Erigeron speciosus	1 GAL.	
Shrubs						
	MASE	41	Creeping Mahonia	Mahonia repens	1 GAL.	
	VIDA	20	David Viburnum	Viburnum davidii	1 GAL.	
	VAOV	15	Evergreen Huckleberry	Vaccinium ovatum	5 GAL.	
	NAFI	31	Firepower Heavenly Bamboo	Nandina domestica 'Firepower'	1 GAL	
	ARCO	6	Hairy Manzanita	Arctostaphylos columbiana	5 GAL.	
	MAAQ	14	Oregon Grape	Mahonia aquifolium	5 GAL.	
	RHPJ	5	P.JM Rhododendron	Rhododendron 'P.JM'	5 GAL.	
	NADO	1	Plum Passion Heavenly Bamboo (TM)	Nandina domestica 'Plum Passion' (TM)	5 GAL.	
Trees						
	CECA	2	Eastern Redbud	Cercis canadensis	2" CALIPER	
	KOPA	1	Golden Rain Tree	Koelreuteria paniculata	2" CALIPER	
	MAKO	1	Kobus Magnolia	Magnolia x kobus	2" CALIPER	

Figure 13.Title Report with Legal Description

THIS SPACE RESERVED FOR RECORDER'S USE

Clackamas County Official Records
Sherry Hall, County Clerk
2015-002426
01/16/2015 10:45:11 AM
D-D Cnt=1 Stn=8 CINDY
$25.00 $16.00 $10.00 $22.00
$73.00

After recording return to:
City of Oregon City
625 Center Street
Oregon City, OR 97045

Until a change is requested all tax statements shall be sent to the following address:
City of Oregon City
625 Center Street
Oregon City, OR 97045

File No.: 7072-2258750 (sh)
Date: January 13, 2015

FIRST AMERICAN 2258750-55

STATUTORY WARRANTY DEED

Oregon City School District No. 62, Clackamas County, also appearing of record as, and formerly known as Oregon City Public School Clackamas County School District 162, Grantor, conveys and warrants to **City of Oregon City** , Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

LEGAL DESCRIPTION: Real property in the County of Clackamas, State of Oregon, described as follows:

See attached exhibit "A"----

Subject to:

1. Covenants, conditions, restrictions and/or easements, if any, affecting title, which may appear in the public record, including those shown on any recorded plat or survey.

The true consideration for this conveyance is **$1,800,000.00**. (Here comply with requirements of ORS 93.030)

THIS SPACE RESERVED FOR RECORDER'S USE

After recording return to:
City of Oregon City
625 Center Street
Oregon City, OR 97045

Until a change is requested all tax statements shall be sent to the following address:
City of Oregon City
625 Center Street
Oregon City, OR 97045

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Date: January 13, 2015

FIRST AMERICAN 2258750-55

STATUTORY WARRANTY DEED

Oregon City School District No. 62, Clackamas County, also appearing of record as, and formerly known as Oregon City Public School Clackamas County School District 162, Grantor, conveys and warrants to **City of Oregon City** , Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

LEGAL DESCRIPTION: Real property in the County of Clackamas, State of Oregon, described as follows:

See attached exhibit "A"----

Subject to:

1. Covenants, conditions, restrictions and/or easements, if any, affecting title, which may appear in the public record, including those shown on any recorded plat or survey.

The true consideration for this conveyance is **$1,800,000.00**. (Here comply with requirements of ORS 93.030)

APN: **00859333** | Statutory Warranty Deed - continued | File No.: **7072-2258750 (sh)**

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Dated this 15th day of January, 20 15.

Oregon City School District No. 62

x Larry Didway

By: Larry Didway, Superintendent

APN: **00859333** | Statutory Warranty Deed - continued | File No.: **7072-2258750 (sh)**

STATE OF Oregon)
)ss.
County of Clackamas)

This instrument was acknowledged before me on this 15th day of January, 2015 by Larry Didway as Superintendent of Oregon City School District No. 62 and formerly known as Oregon City School District No. 162, on behalf of the District.

OFFICIAL STAMP
SHEILA MARIE HOUCK
NOTARY PUBLIC-OREGON
COMMISSION NO. 479597A
MY COMMISSION EXPIRES AUGUST 01, 2017

Notary Public for Oregon
My commission expires: 8/1/17

APN: **00859333** Statutory Warranty Deed - continued File No.: **7072-2258750 (sh)**

City of Oregon City herein accepts said conveyance

By: David W. Frasher

City Manager, David Frasher

STATE OF Oregon)
)ss.
County of Clackamas)

This instrument was acknowledged before me on this 15th day of January, 2015 by **David Frasher as City Manager for the City of Oregon City.**

Nancy S. Ide

OFFICIAL STAMP
NANCY S IDE
NOTARY PUBLIC-OREGON
COMMISSION NO. 921771
MY COMMISSION EXPIRES NOVEMBER 12, 2017

Notary Public for Oregon
My commission expires: 11/12/2017

APN: **00859333** Statutory Warranty Deed - continued File No.: **7072-2258750 (sh)**

EXHIBIT A

LEGAL DESCRIPTION: Real property in the County of Clackamas, State of Oregon, described as follows:

A tract of land being a portion of the Northeast quarter of Section 6, Township 3 South, Range 2 East, Willamette Meridian, City of Oregon City, Clackamas County, Oregon, more particularly described as follows:

Commencing at a 3/4" iron pipe at the Southeast corner of Lot 12, "Ryan's Mount Pleasant Tracts No. 1", a Plat of Record in said Section 6, said iron pipe being on the Northerly right-of-way line of Warner Parrott Road (County Road No. 61) (30.00 feet from centerline); thence leaving said right-of-way line North 00°20'03" West, along the East line of said lot a distance of 240.32 feet to the Northeast corner thereof, said point also being on the Southerly right-of-way line of Marshall Street, a 30.00 foot wide public right-of-way; thence North 00°20'03" West, a distance of 30.00 feet to the Southeast corner of Lot 21, said plat of "Ryan's Mount Pleasant Tracts No. 1", also being the Southeast corner of Parcel 2, Partition Plat No. 2014-037, also a plat of record in said Section 6, said point also being on the agreement line of that certain subdivision boundary line agreement recorded in Document Number 2014-029382, Clackamas County Deed Records; thence North 00°20'03" West along said line, a distance of 159.16 feet to the Southwest corner of Lot 31, said plat of "Ryan's Mount Pleasant Tracts No. 1"; thence along the South lines of Lots 31, 30, 29, 28, 27 and the Easterly extension thereof North 89°37'17" East, a distance of 667.51 feet to the Westerly right-of-way line of Linn Avenue (County Road No. 41) (30.00 feet from centerline); thence along said Westerly right-of-way line South 00°25'05" East, a distance of 488.68 feet to the Southerly right-of-way line of Warner Parrott Road (County Road No. 61) now vacated by Ordinance No. 93-1003, recorded in Document No. 93-26143, Clackamas County Deed Records; thence along the Southerly line of said vacated road South 89°33'10" West, a distance of 5.00 feet to a point on the Westerly right-of-way line of said Linn Avenue, (35.00 feet from centerline); thence along said Westerly right-of-way line South 00°25'05" East, a distance of 259.37 feet to the beginning of a 25.00 foot radius curve to the right; thence along the arc of said curve 45.17 feet, through a central angle of 103°31'39" (the long chord bears South 51°20'44" West, a distance of 39.27 feet) to the beginning of a 252.66 foot radius curve to the right on the Northerly right-of-way line of the relocated Warner Parrott Road (County Road No. 61) (40.00 feet from centerline); thence following said Northerly right-of-way line along the arc of said curve 235.49 feet through a central angle of 53°24'07" (the long chord bears North 50°11'23" West, a distance of 227.06 feet) to the beginning of a 340.00 foot radius reverse curve to the left; thence continuing along said Northerly right-of-way line along the arc of said curve 314.67 feet through a central angle of 53°01'41" (the long chord bears North 50°00'10" West, a distance of 303.56 feet to a non-tangent point on said Northerly right-of-way line (40.00 feet from centerline); thence continuing along said Northerly right-of-way line South 89°33'10" West, a distance of 227.82 feet to the Point of Beginning.

Page 5 of 5

17.62.050 - Standards.

A. All development shall comply with the following standards:

1. Landscaping, A minimum of fifteen percent of the lot shall be landscaped. Existing native vegetation shall be retained to the maximum extent practicable. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.

Response: Approximately 5 of the 8 approximately 8 acres site is currently developed with active recreational turf fields, grass, and a variety of landscaping. The development proposal includes the addition of a nominal pedestrian walkway and additional landscaping within a portion of the grassy area near the Annex and retain the existing vegetation to the extent practicable. There is no known nuisance plants, on the site. The proposed changes will not reduce the amount of vegetation on the site to less than the required minimum of fifteen percent. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.

a. Except as allowed elsewhere in the zoning and land division chapters of this Code, all areas to be credited towards landscaping must be installed with growing plant materials. A reduction of up to twenty-five percent of the overall required landscaping may be approved by the community development director if the same or greater amount of pervious material is incorporated in the non-parking lot portion of the site plan (pervious material within parking lots are regulated in OCMC 17.52.070).

Response: All areas requested to be credited towards landscaping are installed with growing plant materials. No reduction is requested.

b. Pursuant to Chapter 17.49, landscaping requirements within the Natural Resource Overlay District, other than landscaping required for parking lots, may be met by preserving, restoring and permanently protecting native vegetation and habitat on development sites.

Response: This standard is not applicable. The site is not within the Natural Resource Overlay District.

c. The landscaping plan shall be prepared by a registered landscape architect and include a mix of vertical (trees and shrubs) and horizontal elements (grass, groundcover, etc.) that within three years will cover one hundred percent of the Landscape area. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. The community development department shall maintain a list of trees, shrubs and vegetation acceptable for landscaping.

Response: The applicant submitted a landscape plan, stamped by a registered landscape architect, that meets the required three year/100 percent coverage requirement.

d. For properties within the Downtown Design District, or for major remodeling in all zones subject to this chapter, landscaping shall be required to the extent practicable up to the ten percent requirement.

Response: This standard is not applicable. The property is not within the Downtown Design District.

e. Landscaping shall be visible from public thoroughfares to the extent practicable.
Response: The majority of the site is landscaped and the proposed landscaping is visible from both Linn Avenue and Warner Parrott Road.

f. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum, unless otherwise permitted by the dimensional standards of the underlying zone district.
Response: The interior parking lot landscaping is not counted toward the fifteen percent minimum. The majority of the site is covered in turfed play fields.

2. Vehicular Access and Connectivity.
a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.
Response: The site is nonconforming, as an existing parking lot is already located between the Annex building and the Warner Milne frontage. Though minor adjustments to the striping within this parking lot is proposed, the extent of the boundaries of the parking lot is not being modified and thus this standard is not applicable.

b. Ingress and egress locations on thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.
Response: No new driveways or alterations to existing ingress or egress locations are proposed.

c. Alleys or vehicular access easements shall be provided in the following Districts: R-2, MUC-1, MUC-2, MUD and NC zones unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker. The corners of alley intersections shall have a radius of not less than ten feet.
Response: This standard is not applicable. The proposed zone is Institutional.

d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director.
Response: This standard is not applicable. The site does not abut an alley.

e. Where no alley access is available, the development shall be configured to allow only one driveway per frontage. On corner lots, the driveway(s) shall be located off of the side street (unless the side street is an arterial) and away from the street intersection. Shared driveways shall be required as needed to accomplish the requirements of this section. The location and design of pedestrian access from the sidewalk shall be emphasized so as to be clearly visible and distinguishable from the vehicular access to the site. Special landscaping, paving, lighting, and architectural treatments may be required to accomplish this requirement.
Response: No new driveways or alterations to existing ingress or egress locations are proposed.

f. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites.
Response: This standard is not applicable. No new driveways are proposed and there are no existing or planned streets on adjacent sites.

g. Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Such easements shall be required in addition to applicable street dedications as required in Chapter 12.04.
Response: This standard is not applicable. The proposal does not include any changes to the vehicular access onsite. The adjacent sites are developed as residential uses.

h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed impracticable by the city.
Response: This standard is not applicable. No streets are proposed or required.

i. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.
Response: This standard is not applicable. No easements are proposed.

j. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future.
Response: This standard is not applicable. No stub streets are proposed.

k. Parcels larger than three acres shall provide streets as required in Chapter 12.04. The streets shall connect with existing or planned streets adjacent to the site.
Response: This standard is not applicable. The site is over 8 acres in size, however, only minor exterior alterations are proposed. The proposed development does not warrant the nexus or proportionality to require a street connection through the site.

l. Parking garage entries shall not dominate the streetscape. They shall be designed and situated to be ancillary to the use and architecture of the ground floor. This standard applies to both public garages and any individual private garages, whether they front on a street or private interior access road.
Response: This standard is not applicable. No parking garages are proposed.

m. Buildings containing above-grade structured parking shall screen such parking areas with landscaping or landscaped berms, or incorporate contextual architectural elements that complement adjacent buildings or buildings in the area. Upper level parking garages shall use articulation or fenestration treatments that break up the massing of the garage and/or add visual interest.
Response: This standard is not applicable. No above-grade parking structures are proposed.

3. Building structures shall be complimentary to the surrounding area. All exterior surfaces shall present a finished appearance. All sides of the building shall include materials and design characteristics consistent with those on the front. Use of inferior or lesser quality materials for side or rear facades or decking shall be prohibited.
a. Alterations, additions and new construction located within the McLoughlin Conservation District, Canemah National Register District, and the Downtown Design District and when abutting a designated Historic Landmark shall utilize materials and a design that incorporates the architecture of the subject building as well as the surrounding district or abutting Historic Landmark. Historic materials such as doors, windows and siding shall be retained or replaced with in kind materials unless the community development director determines that the materials cannot be retained and the new design and materials are compatible with the subject building, and District or Landmark. The community development director may utilize the Historic Review Board's Guidelines for New Constriction (2006) to develop findings to show compliance with this section.
b. In historic areas and where development could have a significant visual impact, the review authority may request the advisory opinions of appropriate experts designated by the community development director from the design fields of architecture, landscaping and urban planning. The applicant shall pay the costs associated with obtaining such independent professional advice; provided, however, that the review authority shall seek to minimize those costs to the extent practicable.
Response: The proposal calls for the use of consistent material on all sides of the Annex. The property is not located within any of the identified districts nor does it abut a designated historic landmark. The materials proposed are allowed in the Oregon City Municipal Code and complement commercial development throughout the City. All exterior surfaces present a finished appearance and the sides of the building include materials and design characteristics consistent with those on the front.

8. Sidewalks and curbs shall be provided in accordance with the city's transportation master plan and street design standards. Upon application, the community development director may waive this requirement in whole or in part in those locations where there is no probable need, or comparable alternative location provisions for pedestrians are made.
Response: Due to the relatively small scale of the exterior building alterations, the proposal does not include installation of street improvements.

9. A well-marked, continuous and protected on-site pedestrian circulation system meeting the following standards shall be provided:
a. Pathways between all building entrances and the street are required. Pathways between the street and buildings fronting on the street shall be direct. Exceptions may be allowed by the director where steep slopes or protected natural resources prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.
Response: The existing site includes a walkway from the school to Linn Avenue and a blocked walkway from the rear of the Annex to Linn Avenue. The project includes nonconforming

upgrades to the site including removing the blocked walkway to Linn Avenue as well as installation of a direct pedestrian accessway from the front of the Annex to Linn Avenue.

b. The pedestrian circulation system shall connect all main entrances on the site. For buildings fronting on the street, the sidewalk may be used to meet this standard. Pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.
Response: The site is currently developed with a network of interior sidewalks and sidewalks within the adjacent right-of-way connecting the site. The project includes nonconforming upgrades to the site including removing the blocked walkway to Linn Avenue as well as installation of a direct pedestrian accessway from the front of the Annex to Linn Avenue to allow greater connections onsite.

c. Elevated external stairways or walkways, that provide pedestrian access to multiple dwelling units located above the ground floor of any building are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard.
Response: This standard is not applicable. No elevated external stairways or walkways are proposed.

d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site.
Response: The site is currently developed with a network of interior sidewalks and sidewalks within the adjacent right-of-way connecting the site. The project includes nonconforming upgrades to the site including removing the blocked walkway to Linn Avenue as well as installation of a direct pedestrian accessway from the front of the Annex to Linn Avenue to allow greater connections onsite.

e. The pedestrian circulation system shall connect the principal building entrance to those of buildings on adjacent commercial and residential sites where practicable. Walkway linkages to adjacent developments shall not be required within industrial developments or to industrial developments or to vacant industrially-zoned land.
Response: The site is currently developed with a network of interior sidewalks and sidewalks within the adjacent right-of-way connecting the site. The project includes nonconforming upgrades to the site including removing the blocked walkway to Linn Avenue as well as installation of a direct pedestrian accessway from the front of the Annex to Linn Avenue to improve pedestrian connections to adjacent properties.

f. On-site pedestrian walkways shall be hard surfaced, well drained and at least five feet wide. Surface material shall contrast visually to adjoining surfaces. When bordering parking spaces other than spaces for parallel parking, pedestrian walkways shall be a minimum of seven feet in width unless curb stops are provided. When the pedestrian circulation system is parallel and adjacent to an auto travel lane, the walkway shall be raised or separated from the auto travel

lane by a raised curb, bollards, landscaping or other physical barrier. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps for each direction of travel. Pedestrian walkways that cross drive isles or other vehicular circulation areas shall utilize a change in textual material or height to alert the driver of the pedestrian crossing area.
Response: The site is considered nonconforming for a variety of reasons, including a sidewalk adjacent to the front of the Annex which is 4 feet in width (west of the main entrance). Nonconforming upgrades to the site have been proposed including widening the 4 foot wide sidewalk located between the building and landscaping to 5 feet. The sidewalk will be hard surfaced, well drained, five feet wide and will contrast visually to adjoining surfaces.

The project also entails extending an on-site pedestrian walkway from the front of the Annex to Linn Avenue, which will be hard-surfaced, well drained, five feet in width, and visually contrasting to adjoining surfaces.

10. There shall be provided adequate means to ensure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.
Response: The City of Oregon City is the property owner and adequate funds are budgeted to ensure the continued maintenance of the identified areas. The City will assure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.

13. All development shall maintain continuous compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.
Response: The applicant proposes compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission

of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.

14. Adequate public water and sanitary sewer facilities sufficient to serve the proposed or permitted level of development shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. Service providers shall be presumed correct in the evidence, which they submit. All facilities shall be designated to city standards as set out in the city's facility master plans and public works design standards. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The city may require over sizing of facilities where necessary to meet standards in the city's facility master plan or to allow for the orderly and efficient provision of public facilities and services. Where over sizing is required, the developer may request reimbursement from the city for over sizing based on the city's reimbursement policy and fund availability, or provide for recovery of costs from intervening properties as they develop.
Response: No new structures are proposed. The existing public water and sanitary sewer facilities are sufficient to serve the proposed government office use.

15. Adequate right-of-way and improvements to streets, pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the city's transportation master plan and design standards and this title. Consideration shall be given to the need for street widening and other improvements in the area of the proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. Compliance with [Chapter] 12.04, Streets, Sidewalks and Public Places shall be sufficient to achieve right-of-way and improvement adequacy.
Response: No right-of-way improvements or transit facilities are proposed or required as a result of the proposed exterior structure and site modifications.

16. If a transit agency, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an agency adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the transportation system plan.
Response: No transit improvements have been identified.

17. All utility lines shall be placed underground.
Response: This standard is not applicable. No new utility lines are proposed.

18. Access and facilities for physically handicapped people shall be incorporated into the site and building design consistent with applicable federal and state requirements, with particular attention to providing continuous, uninterrupted access routes.
Response: An ADA accessible route will be provided from the sidewalk to the structure.

19. For a residential development, site layout shall achieve at least eighty percent of the maximum density of the base zone for the net developable area. Net developable area excludes all areas for required right-of-way dedication, land protected from development through Natural Resource or Geologic Hazards protection, and required open space or park dedication.
Response: This standard is not applicable. The proposal is not for a residential development

20. Screening of Mechanical Equipment:
a. Rooftop mechanical equipment, including HVAC equipment and utility equipment that serves the structure, shall be screened. Screening shall be accomplished through the use of parapet walls or a sight-obscuring enclosure around the equipment constructed of one of the primary materials used on the primary facades of the structure, and that is an integral part of the building's architectural design. The parapet or screen shall completely surround the rooftop mechanical equipment to an elevation equal to or greater than the highest portion of the rooftop mechanical equipment being screened. In the event such parapet wall does not fully screen all rooftop equipment, then the rooftop equipment shall be enclosed by a screen constructed of one of the primary materials used on the primary facade of the building so as to achieve complete screening.
Response: The existing HVAC system is proposed for removal and will be replaced with a high efficiency system. The existing indoor mechanical penthouse area of the building would be converted to an outdoor mechanical roof platform where the heat recovery ventilator unit and outdoor condensing unit of the variable refrigerant flow system would be located. This area will be architecturally screened with quality exterior metal vented material.

b. Wall-mounted mechanical equipment shall not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment, including air conditioning or HVAC equipment and groups of multiple utility meters, that extends six inches or more from the outer building wall shall be screened from view from streets; from residential, public, and institutional properties; and from public areas of the site or adjacent sites through the use of (a) sight-obscuring enclosures constructed of one of the primary materials used on the primary facade of the structure, (b) sight-obscuring fences, or (c) trees or shrubs that block at least eighty percent of the equipment from view or (d) painting the units to match the building. Wall-mounted mechanical equipment that extends six inches or less from the outer building wall shall be designed to blend in with the color and architectural design of the subject building.
Response: This standard is not applicable. No wall-mounted mechanical equipment is proposed.

c. Ground-mounted above-grade mechanical equipment shall be screened by ornamental fences, screening enclosures, trees, or shrubs that block at least eighty percent of the view. Placement and type of screening shall be determined by the community development director.
Response: This standard is not applicable. No ground-mounted mechanical equipment is proposed.

d. All mechanical equipment shall comply with the standards in this section. If mechanical equipment is installed outside of the site plan and design review process, planning staff shall review the plans to determine if additional screening is required. If the proposed screening meets this section, no additional planning review is required.
Response: All mechanical equipment complies with the standards and is proposed for installation through the site plan and design review process.

e. This section shall not apply to the installation of solar energy panels, photovoltaic equipment or wind power generating equipment.
Response: This standard is not applicable. No solar panels, photovoltaic equipment or wind power generating equipment is proposed.

21. Building Materials.
a. Preferred building materials. Building exteriors shall be constructed from high quality, durable materials. Preferred exterior building materials that reflect the city's desired traditional character are as follows:
i. Brick.
Ii. Basalt stone or basalt veneer.
iii. Narrow horizontal wood or composite siding (generally five inches wide or less); wider siding will be considered where there is a historic precedent.
iv. Board and baton siding.
v. Other materials subject to approval by the community development director.
vi. Plywood with battens or fiber/composite panels with concealed fasteners and contagious aluminum sections at each joint that are either horizontally or vertically aligned.
vii. Stucco shall be trimmed in wood, masonry, or other approved materials and shall be
Response: The applicant proposes the use of painted cement panel board, painted cement panel lap siding, tongue and groove wood paneling, and rooftop metal louvers.

b. Prohibited materials. The following materials shall be prohibited in visible locations unless an exception is granted by the community development director based on the integration of the material into the overall design of the structure.
i. Vinyl or plywood siding (including T-111 or similar plywood).
Ii. Glass block or highly tinted, reflected, translucent or mirrored glass (except stained glass) as more than ten percent of the building facade.
iii. Corrugated fiberglass.
iv. Chain link fencing (except for temporary purposes such as a construction site or as a gate for a refuse enclosure).
[v.] Crushed colored rock/crushed tumbled glass.

[vi.] Non-corrugated and highly reflective sheet metal.
Response: This standard is not applicable. The identified materials are not proposed.

c. Special material standards: The following materials are allowed if they comply with the requirements found below:
1. Concrete block. When used for the front facade of any building, concrete blocks shall be split, rock- or ground-faced and shall not be the prominent material of the elevation. Plain concrete block or plain concrete may be used as foundation material if the foundation material is not revealed more than three feet above the finished grade level adjacent to the foundation wall.
2. Metal siding. Metal siding shall have visible corner moldings and trim and incorporate masonry or other similar durable/permanent material near the ground level (first two feet above ground level).
3. Exterior Insulation and Finish System (EIFS) and similar toweled finishes shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.
4. Building surfaces shall be maintained in a clean condition and painted surfaces shall be maintained to prevent or repair peeling, blistered or cracking paint.
Response: This standard is not applicable. No special materials are proposed.

17.62.055 - Institutional and commercial building standards.
A. Purpose. The primary objective of the regulations contained in this section is to provide a range of design choices that promote creative, functional, and cohesive development that is compatible with surrounding areas. Buildings approved through this process are intended to serve multiple tenants over the life of the building, and are not intended for a one-time occupant. The standards encourage people to spend time in the area, which also provides safety though informal surveillance. Finally, this section is intended to promote the design of an urban environment that is built to human scale by creating buildings and streets that are attractive to pedestrians, create a sense of enclosure, provide activity and interest at the intersection of the public and private spaces, while also accommodating vehicular movement.

B. Applicability. In addition to Section 17.62.050 requirements, institutional and commercial buildings shall comply with design standards contained in this section.
Response: The section applies to the proposed institutional development.

C. Relationship between zoning district design standards and requirements of this section.
1. Building design shall contribute to the uniqueness of the underlying zoning district by applying appropriate materials, elements, features, color range and activity areas tailored specifically to the site and its context.
Response: The proposal is to modify the exterior of the building by expanding the number of windows, and enhancing the entranceway as required in the Oregon City Municipal Code. The proposed development will replace materials which are in poor condition and will allow the building to last far into the future. The proposed development uses materials allowed in the code and commonly found around the City. The structure will invite the public in and create an anchor on the south-east corner of the site. No new structures are proposed.

2. A standardized prototype or franchise design shall be modified if necessary to meet the provisions of this section.
Response: This standard is not applicable. The proposal is to accommodate the relocation of the City's Community Development Department by minimally modifying an existing structure.

3. In the case of a multiple building development, each individual building shall include predominant characteristics, architectural vocabulary and massing shared by all buildings in the development so that the development forms a cohesive place within the underlying zoning district or community.
Response: No new structures are proposed. The proposed building design does not alter the massing, predominant characters, or architectural vocabulary of the structure and all of the building materials proposed are allowed within the Oregon City Municipal Code and commonly found throughout the City. The proposed alterations will add additional windows to increase transparency to resemble the transparency on the existing school structure.

4. With the exception of standards for building orientation and building front setbacks, in the event of a conflict between a design standard in this section and a standard or requirement contained in the underlying zoning district, the standard in the zoning district shall prevail.
5. On sites with one hundred feet or more of frontage at least sixty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line, unless a greater setback is accepted under the provisions of Section 17.62.055D. For sites with less than one hundred feet of street frontage, at least fifty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line unless a greater setback is accepted under the provisions of Section 17.62.055D.
Response: This standard is not applicable. No new structures are proposed and no conflicts have presented themselves.

D. Relationship of Buildings to Streets and Parking.
1. Buildings shall be placed no farther than five feet from the front property line. A larger front yard setback may be approved through site plan and design review if the setback area incorporates at least one element from the following list for every five feet of increased setback requested:
a. Tables, benches or other approved seating area.
b. Cobbled, patterned or paved stone or enhanced concrete.
c. Pedestrian scale lighting.
d. Sculpture/public art.
e. Fountains/Water feature.
f. At least twenty square feet of landscaping or planter boxes for each tenant facade fronting on the activity area.
g. Outdoor café.
h. Enhanced landscaping or additional landscaping.
i. Other elements, as approved by the community development director, that can meet the intent of this section.

Response: This standard is not applicable. No new structures are proposed. The request is for approval to modify the exterior of the building.

2. The front most architecturally significant facade shall be oriented toward the street and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined and recessed or framed by a sheltering element such as an awning, arcade or portico in order to provide shelter from the summer sun and winter weather.
Response: The proposed exterior remodel will highlight the street facing façade of the Annex with exterior alterations including amending the roofline to reveal a sheltering canopy over the main entranceway, installation of lighting, and installation of wood highlights near the entry. As well as an additional window. In addition, the proposal would install a sidewalk from the front entrance to the adjacent Linn Avenue.

3. Entryways. The primary entranceway for each commercial or retail establishment shall face the major street. The entrance may be recessed behind the property line a maximum of five feet unless a larger setback is approved pursuant to Section 17.62.055.D.1 and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined, highly visible and recessed or framed by a sheltering element including at least four of the following elements, listed below.
a. Canopies or porticos;
b. Overhangs;
c. Recesses/projections;
d. Arcades;
e. Raised corniced parapets over the door;
f. Peaked roof forms;
g. Arches;
h. Outdoor patios;
i. Display windows;
j. Architectural details such as tile work and moldings which are integrated into the building structure and design;
k. Integral planters or wing walls that incorporate landscaped areas and/or places for sitting.
l. Planter boxes and street furniture placed in the right-of-way shall be approved for use according to materials, scale and type.
Response: The site is nonconforming as the existing structure is located further than 5 feet back from the street. Though no new structures or additions to the existing structure is proposed, following the proposed development, the front, primary entranceway will have a canopy, overhang in eve, display windows, landscaped plantings, and installation of wood accents to highlight the entrance.

4. Where additional stores will be located in the large retail establishment, each such store shall have at least one exterior customer entrance, which shall conform to the same requirements. (Ord. 01-1002 §2, 2001)
Response: This standard is not applicable. This is not a retail development.

5. Trellises, canopies and fabric awnings may project up to five feet into front setbacks and public rights-of-way, provided that the base is not less than eight feet at the lowest point and no higher than ten feet above the sidewalk. Awnings shall be no longer than a single storefront.
Response: This standard is not applicable. No encroachments into the front setback are proposed.

E. Corner Lots.
For buildings located at the corner of intersections, the primary entrance of the building shall be located at the corner of the building or within twenty-five feet of the corner of the building. Additionally, one of the following treatments shall be required:
1. Incorporate prominent architectural elements, such as increased building height or massing, cupola, turrets, or pitched roof, at the corner of the building or within twenty-five feet of the corner of the building.
2. Chamfer the corner of the building (i.e. cut the corner at a forty-five-degree angle and a minimum of ten feet from the corner) and incorporate extended weather protection (arcade or awning), special paving materials, street furnishings, or plantings in the chamfered area.
Response: The site is located at the corner of Linn Avenue and Warner Parrott Road. The configuration of the site extends the corner adjacent to the entire frontage of the Annex. Due to the odd configuration of the site, a roundabout is proposed in the Oregon City Transportation System Plan which would create a context where all of the Warner Parrot frontage faces a corner. Though no new structures or additions to the existing structure is proposed, the development includes alterations to the roofline of the primary entranceway facing Warner Parrott to highlight the entranceway.



F. Commercial First Floor Frontage.
In order to ensure that the ground floor of structures have adequate height to function efficiently for retail uses, the first floor height to finished ceiling of new infill buildings in the mixed use and neighborhood commercial districts shall be no lower than fourteen feet floor to floor. Where appropriate, the exterior facade at the ceiling level of new structures shall include banding, a change of materials or relief which responds to the cornice lines and window location of existing buildings that abut new structures.
Response: This standard is not applicable. The proposal would change the zoning designation to Institutional, and not commercial or mixed-use.

G. Variation in Massing.
1.A single, large, dominant building mass shall be avoided in new buildings and, to the extent reasonably feasible, in development projects involving changes to the mass of existing buildings.
Response: The proposal is to modify the exterior of the structure, eliminating the appearance of a single, large, dominant building with changes in the roofline, installation of windows, and with exterior building materials.

2. Horizontal masses shall not exceed a height: width ratio of one-to-three without substantial variation in massing that includes a change in height and projecting or recessed elements.
Response: This standard is not applicable. No changes to the building height or width is proposed.

3. Changes in mass shall be related to entrances, the integral structure and/or the organization of interior spaces and activities and not merely for cosmetic effect.
Response: The proposal calls for enhancing the primary entrance of the structure with architectural features and a change in roof line.

H. Minimum Wall Articulation.
1. Facades shall add architectural interest and variety and avoid the effect of a single, long or massive wall with no relation to human size. No wall that faces a street or connecting walkway shall have a blank, uninterrupted length exceeding thirty feet without including, but not be limited to, at least two of the following:
i. Change in plane,
ii Change in texture or masonry pattern or color,
iii. Windows, treillage with landscaping appropriate for establishment on a trellis.
iv. An equivalent element that subdivides the wall into human scale proportions.
Response: The proposed modification to the exterior of the structure brings the building into compliance with this standard. The installation of additional windows, a variety of siding and changes to exterior building material will comply with this standard. No changes to the massing, articulation or plane of the structure are proposed.

2. Facades greater than one hundred feet in length, measured horizontally, shall incorporate wall plane projections or recesses having a depth of at least three percent of the length of the facade and extending at least twenty percent of the length of the facade. No uninterrupted length of any facade shall exceed one hundred horizontal feet.
Response: The structure was constructed prior to adoption of this standard and does not comply. The proposal would not result in a change to the projection or recess of the structure, simply alterations to the roofline and the exterior building material and transparency. Though the proposal would create interest, and bring the building the existing structure closer into compliance with this standard, this standard is not applicable.

3. Ground floor facades that face public streets shall have arcades, display windows, entry areas, awnings or other such features along no less than sixty percent of their horizontal length.

Response: The proposal is to modify the exterior of an existing structure. The proposal would not alter the windows, entrance points, arcades or awnings on the north or the west façade. The proposal would increase the transparency on the east façade (adjacent to Linn Avenue) from 33% (20/60=0.33) to 60% (36/60=0.6) and increase the transparency on the south façade (adjacent to Warner Parrott) from 15% (18/118=0.15) to 37% (37/118/=0.31), however, there is a roof overhang of approximately 3.5 feet across the entire southern façade.

4. Building facades must include a repeating pattern that includes any one or more of the following elements:
a. Color change;
b. Texture change;
c. Material module change.
Response: The proposed modifications to the exterior of the structure includes material, color and texture change from cement panel board and cement panel lap siding, as well as tongue and groove wood paneling, resulting in changes to the color and texture of the texture building material.

5. Facades shall have an expression of architectural or structural bays through a change in plane no less than twelve inches in width, such as an offset, reveal or projecting rib.
Response: No changes to the building size or envelope are proposed. The structural beams of the roof are expressed at the roof eave and the existing entries to the building are inset to delineate an entrance.

6. Facades shall have at least one of elements subsections H.4. or H.5. of this section repeat horizontally. All elements shall repeat at intervals of no more than thirty feet, either horizontally or vertically.
Response: The façade will have horizontal breaks between panels that are similar the structural beams of the roof.

I. Facade Transparency.
1.Transparent windows or doors facing the street are required. The main front elevation shall provide at least sixty percent windows or transparency at the pedestrian level. Facades on corner lots shall provide at least sixty percent windows or transparency on all corner-side facades. All other side elevations shall provide at least thirty percent transparency. The transparency is measured in lineal fashion. For example, a one hundred-foot long building elevation shall have at least sixty feet (sixty percent of one hundred feet) of transparency in length. Reflective, glazed, mirrored or tinted glass is limited to ten percent of the lineal footage of windows on the street facing facade. Highly reflective or glare-producing glass with a reflective factor of one-quarter or greater is prohibited on all building facades. Any glazing materials shall have a maximum fifteen percent outside visual light reflectivity value. No exception shall be made for reflective glass styles that appear transparent when internally illuminated.
Response: The proposal would increase the transparency on the east façade (adjacent to Linn Avenue) from 33% (20/60=0.33) to 60% (36/60=0.6) and increase the transparency on the

south façade (adjacent to Warner Parrott) from 15% (18/118=0.15) to 37% (37/118/=0.31), which is in greater conformance with the code. No changes to the transparency of the north or west façade are proposed.

2. Side or rear walls that face walkways may include false windows and door openings only when actual doors and windows are not feasible because of the nature of the use of the interior use of the building. False windows located within twenty feet of a right-of-way shall be utilized as display windows with a minimum display depth of thirty-six inches.
Response: The walls that face walkways include actual windows and doors. No false doors or windows are proposed.

J. Roof Treatments.
1. All facades shall have a recognizable "top" consisting of, but not limited to:
a. Cornice treatments, other than just colored "stripes" or "bands," with integrally textured materials such as stone or other masonry or differently colored materials; or
b. Sloping roof with overhangs and brackets; or
c. Stepped parapets;
d. Special architectural features, such as bay windows, decorative roofs and entry features may project up to three feet into street rights-of-way, provided that they are not less than nine feet above the sidewalk.
Response: The roof has a 2/12 pitch with 4-foot overhangs.

2. Mixed use buildings: For flat roofs or facades with a horizontal eave, fascia, or parapet, the minimum vertical dimension of roofline modulation is the greater of two feet or 0.1 multiplied by the wall height (finish grade to top of wall). The maximum length of any
Response: This standard is not applicable. This is not a mixed-use structure.

3. Other roof forms consistent with the design standards herein may satisfy this standard if the individual segments of the roof with no change in slope or discontinuity are less than forty feet in width (measured horizontally).
Response: The roof eave line will be broken at the entry to enhance it. The roof is 33'-9" horizontally from the center ridgeline to the edge of the overhang. The roof is 24'-7" horizontally from the center ridgeline to the change in slope that occurs due to the new entry canopy. The overall dimensions of the roof are 120' by 67'-8".

K. Drive-through facilities shall:
1. Be located at the side or rear of the building.
2. Be designed to maximize queue storage on site.
Response: This standard is not applicable. No drive-through is proposed.

17.62.056 - Additional standards for large retail establishments.
Response: These standards are not applicable. The proposal is not for a retail establishment.

17.62.057 - Multi-family standards.

B. Applicability. In addition to Section 17.62.050 requirements, all multi-family buildings shall comply with the design standards contained in this section. Cottage Housing Development shall follow OCMC 17.62.58 instead of this section.
Response: This standard is not applicable. The proposal is not for a multi-family building.

17.62.059 - Cottage housing.
A. Applicability.
These guidelines apply to all cottage developments in any applicable zone within the city. Cottages are considered multi-family development and are subject to all the applicable sections of OCMC 17.62 Site Plan and Design Review and OCMC 17.52 Off Street Parking and Loading. However, this section replaces OCMC 17.62.057—Multifamily. The proposed development shall be processed under the Type II Land Use process and shall remain one lot. Where there is a conflict between these standards and the standards in other chapters, the Cottage Housing standards shall apply.
Response: This standard is not applicable. The proposal is not for cottage housing.

17.62.065 - Outdoor lighting.
B. Applicability.
1. General.
a. All exterior lighting for any type of commercial, mixed-use, industrial or multi-family development shall comply with the standards of this section, unless excepted in subsection B.3.
b. The city engineer/public works director shall have the authority to enforce these regulations on private property if any outdoor illumination is determined to present an immediate threat to the public health, safety and welfare.
Response: The proposal is for an institutional development and will comply with this section.

2. Lighting Plan Requirement.
All commercial, industrial, mixed-use, cottage housing and multi-family developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights.
Response: Exterior lighting is identified on the site plan. New lighting is proposed under the entrance canopy of the southern entryway and an up-light at the base of a new flagpole.

3. Excepted Lighting.
The following types of lighting are excepted from the requirements of this section.
a. Residential lighting for single-family attached and detached homes, and duplexes.
b. Public street and right-of-way lighting.
c. Temporary decorative seasonal lighting provided that individual lamps have a light output of sixty watts or less.
d. Temporary lighting for emergency or nighttime work and construction.
e. Temporary lighting for theatrical, television, and performance areas, or for special public events.

f. Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.
g. Lighting required and regulated by the Federal Aviation Administration.
Response: This standard is not applicable. No lighting identified as excepted is proposed.

C. General Review Standard. If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design standards of subsection D. below shall be deemed to not adversely affect adjacent properties or the community.
D. Design and Illumination Standards.
General Outdoor Lighting Standard and Glare Prohibition.
1.Outdoor lighting, if provided, shall be provided in a manner that enhances security, is appropriate for the use, avoids adverse impacts on surrounding properties, and the night sky through appropriate shielding as defined in this section. Glare shall not cause illumination on other properties in excess of a measurement of 0.5 footcandles of light as measured at the property line. In no case shall exterior lighting add more than 0.5 footcandle to illumination levels at any point off-site. Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:
Response: The only new lighting proposed is located under the entrance canopy of the southern entryway. These are down lights only, with shielding to control the spread. No landscape lighting, building lighting that is casting upwards, or lighting along the sidewalk or property line, is proposed. Existing street lights affixed to utility poles provide safety lighting in the parking lots. Glare on adjacent properties will not exceed 0.5 footcandles.

2. Any light source or lamp that emits more than nine hundred lumens (thirteen watt compact fluorescent or sixty watt incandescent) shall be concealed or shielded with a full cut-off style fixture in order to minimize the potential for glare and unnecessary diffusion on adjacent property. All fixtures shall utilize one of the following bulb types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high pressure sodium with a color rendering index above seventy.
Response: No light source or lamp that emits more than 900 lumens is proposed. This standard is not applicable.

3. The maximum height of any lighting pole serving a multi-family residential use shall be twenty feet. The maximum height serving any other type of use shall be twenty-five feet, except in parking lots larger than five acres, the maximum height shall be thirty-five feet if the pole is located at least one hundred feet from any residential use.
Response: This standard is not applicable. The proposal is not for a multi-family use.

4. Lighting levels:
Table 1-17.62.065. Foot-candle Levels

Location	*Min*	*Max*	*Avg*
Pedestrian Walkways	*0.5*	*7:1 max/min ratio*	*1.5*
Pedestrian Walkways in Parking Lots		*10:1 max/min ratio*	*0.5*
Pedestrian Accessways	*0.5*	*7:1 max/min ratio*	*1.5*
Building Entrances	*3*		
Bicycle Parking Areas	*3*		
Abutting property	*N/A*	*.5*	

Response: The only proposed exterior lighting is at the southern entrance to the Annex. The lights are down lights with shielding to control the spread of light. The lights will meet the minimum requirement for building entrances and bicycle parking areas of 3 foot-candles. The proposed bicycle parking is located adjacent to the southern entrance. Prior to issuance of a permit associated with the proposed development, the applicant shall submit documentation from a lighting specialist demonstrating that the proposed pedestrian accessways, bicycle parking and entryway lighting comply with this standard.

5. Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize pedestrian scale lighting that defines the space without glare.
Response: The site is currently lit by street lights on utility poles. No changes are proposed to the parking lot lighting.

6. Any on-site pedestrian circulation system shall be lighted to enhance pedestrian safety and allow employees, residents, customers or the public to use the walkways at night. Pedestrian walkway lighting through parking lots shall be lighted to light the walkway and enhance pedestrian safety pursuant to Table 1.
Response: Prior to issuance of a permit associated with the proposed development, the applicant shall submit documentation from a lighting specialist demonstrating that the proposed pedestrian accessways comply with the lighting requirements in this section.

7. Pedestrian Accessways. To enhance pedestrian and bicycle safety, pedestrian accessways required pursuant to OCMC 12.28 shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances. Lamps shall include a high-pressure sodium bulb with an unbreakable lens.
Response: This standard is not applicable. No off-site pedestrian accessways are proposed pursuant to OCMC 12.28.

8. Floodlights shall not be utilized to light all or any portion of a building facade between ten p.m. and six a.m.
Response: No floodlights are proposed.

9. Lighting on automobile service station, convenience store, and other outdoor canopies shall be fully recessed into the canopy and shall not protrude downward beyond the ceiling of the canopy.
Response: The proposed lighting in the canopies at the building entrances are fully recessed into the canopy.

10. The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.
Response: The proposed entry-way lighting (shielded down lighting) is incorporated into the canopy of the southern entrance and is consistent with a commercial architectural style and character.

11. In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site.
Response: Prior to issuance of a permit associated with the proposed development, the applicant shall submit documentation from a lighting specialist demonstrating that the proposed pedestrian accessways, bicycle parking and entryway lighting comply with this standard.

12. All outdoor light not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.
Response: All outdoor lighting proposed is for security purposes.

13. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.
Response: Lighting is proposed to illuminate a flag and will use a narrow cone and not extend beyond the flag.

14. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roofline.
Response: Upward directional lighting is proposed on a flagpole which will not be visible from beyond the roofline.

15. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.
Response: No flickering or flashing lights are proposed.

16. Wireless Sites. Unless required by the Federal Aviation Administration or the Oregon Aeronautics Division, artificial lighting of wireless communication towers and antennas shall be

prohibited. Strobe lighting of wireless communication facilities is prohibited unless required by the Federal Aviation Administration. Security lighting for equipment shelters or cabinets and other on-the-ground auxiliary equipment on wireless communication facilities shall be initiated by motion detecting lighting.
Response: This standard is not applicable. This is not a wireless site.

17. Lighting for outdoor recreational uses such as ball fields, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:
i. Maximum permitted light post height: eighty feet.
ii. Maximum permitted illumination at the property line: 0.5 foot-candles.
Response: No lighting is proposed for the existing play fields.

17.62.080 - Special development standards along transit streets.
B. Applicability. Except as otherwise provide in this section, the requirements of this section shall apply to the construction of new retail, office and institutional buildings which front on a transit street.

C. Development Standards.
1. All buildings shall have at least one main building entrance oriented towards the transit street. A main building entrance is oriented toward a transit street if it is directly located on the transit street, or if it is linked to the transit street by an on-site pedestrian walkway that does not cross off-street parking or maneuvering areas.
a. If the site has frontage on more than one transit street, or on a transit street and a street intersecting a transit street, the building shall provide one main building entrance oriented to the transit street or to the corner where the two streets intersect.
b. For building facades over three hundred feet in length on a transit street, two or more main building entrances shall be provided as appropriate and oriented towards the transit street.
2. Main building entrances shall be well lighted and visible from the transit street. The minimum lighting level for building entries shall be three foot-candles. Lighting shall be a pedestrian scale with the source light shielded to reduce glare.
3. In the event a requirement of this section conflicts with other requirements in Title 17, the requirements of this section shall control.
D. Exemptions. The following permitted uses are exempted from meeting the requirements of subsection C. of this section:
1. Heavy equipment sales;
2. Motor vehicle service stations, including convenience stores associated therewith;
3. Solid waste transfer stations; and
4. Truck stops, including convenience stores, eating or drinking establishments, overnight accommodations or other similar services associated therewith. A use found by the community development director to be similar to the exempt uses above.
Response: The subject site is located along Linn Avenue which is a transit street, though a new building or addition to an existing building has not been proposed. The main entrances to the building are proposed to be well-lit and visible from the streets.

17.62.085 - Refuse and recycling standards for commercial, industrial, and multi-family developments.
The purpose and intent of these provisions is to provide an efficient, safe and convenient refuse and recycling enclosure for the public as well as the local collection firm. All new development, change in property use, expansions or exterior alterations to uses other than single-family or duplex residences shall include a refuse and recycling enclosure. The area(s) shall be:
A. Sized appropriately to meet the needs of current and expected tenants, including an expansion area if necessary;
B. Designed with sturdy materials, which are compatible to the primary structure(s);
C. Fully enclosed and visually screened;
D. Located in a manner easily and safely accessible by collection vehicles;
E. Located in a manner so as not to hinder travel lanes, walkways, streets or adjacent properties;
F. On a level, hard surface designed to discharge surface water runoff and avoid ponding;
G. Maintained by the property owner;
H. Used only for purposes of storing solid waste and recyclable materials;
I. Designed in accordance with applicable sections of the Oregon City Municipal Code (including Chapter 8.20—Solid Waste Collection and Disposal) and city adopted policies.
Response: There is currently a refuse area on the northern portion of the site. No new refuse area is proposed.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

17.50.030 *Summary of the City's Decision-Making Processes.*
Response: The applicant is aware of the city's decision making process.

17.50.050 *Preapplication Conference*
Response: A pre-application conference was held on Friday, July 7, 2017.

17.50.055 *Neighborhood Association Meeting*
Response: A meeting was held with the Rivercrest Neighborhood Association

17.50.060 *Application Requirements.*
Response: All application materials required are submitted with this narrative.

CHAPTER 17.39 - INSTITUTIONAL DISTRICT

17.39.20 Permitted Uses.
Permitted Uses in the Institutional district are:

A. Private and/or public educational or training facilities;
B. Parks, playgrounds, playfields and community or neighborhood community centers;
C. Public facilities and services including courts, libraries and general government offices and maintenance facilities.
D. Stadiums and arenas
E. Banquet, conference facilities and meeting rooms;
F. Government offices
G. Transportation facilities
Response: The proposal is to relocate the City's Community Development Department into the 6,700 square foot building on the south-east corner of the property. The proposed development will not limit the ability of the legally nonconforming elementary school to continue onsite.

17.39.30 Accessory Uses.
The following uses are permitted outright if they are accessory to and related to the primary institutional use:
A. Offices
B. Retail (not to exceed 20% of total gross floor area of all building)
C. Child care centers or nursery schools
D. Scientific, educational, or medical research facilities and laboratories.
E. Religious Institutions
Response: No accessory uses are proposed at this time.

17.39.40 Conditional Uses.
Uses requiring conditional use permit are:
A. Any uses listed under 17.39.030 that are not accessory to the primary institutional use.
B. Boarding and lodging houses, bed and breakfast inns.
C. Cemeteries, crematories, mausoleums, and columbariums;
D. Correctional facilities;
E. Helipad in conjunction with a permitted use,
F. Parking lots not in conjunction with a primary use;
G. Public utilities, including sub-stations (such as buildings, plants and other structures);
H. Fire Stations
Response: No conditional uses are proposed at this time. The proposed development will not limit the ability of the legally nonconforming elementary school to continue onsite.

17.39.50 Dimensional Standards.
Dimensional standards in the I district are:
A. Maximum building height: within 100 feet of any district boundary, not to exceed 35 feet; elsewhere, not to exceed 70 feet.
B. Minimum required setbacks: 25 feet from property line except when the development is adjacent to a public-right-of-way. When adjacent to a public right-of-way, the minimum setback is 0 feet and the maximum setback is 5 feet.

Response: No new structures are proposed at this time for the site. The proposed flag pole will be less than 100 feet in height.

CHAPTER 17.16 R-3.5 DWELLING DISTRICT

Response: A portion of the site is within the R-3.5 Dwelling District but is not utilized as a residential use. The proposal would change the zoning designation to "I" Institutional.

CHAPTER 17.08 SINGLE-FAMILY DWELLING DISTRICT

Response: A portion of the site is within the R-10 Single-Family Dwelling District but is not utilized as a residential use. The proposal would change the zoning designation to "I" Institutional.

CHAPTER 17.52 OFF-STREET PARKING AND LOADING

17.52.010 - Applicability.
The construction of a new structure or parking lot, or alterations to the size or use of an existing structure, parking lot or property use shall require site plan review approval and compliance with this chapter. This chapter does not apply to single- and two-family residential dwellings.
Response: This standard is not applicable. No alterations or new parking lots/structures are proposed.

17.52.015 - Planning commission adjustment of parking standards.
A. Purpose: The purpose of permitting a planning commission adjustment to parking standards is to provide for flexibility in modifying parking standards in all zoning districts, without permitting an adjustment that would adversely impact the surrounding or planned neighborhood. The purpose of an adjustment is to provide flexibility to those uses which may be extraordinary, unique or to provide greater flexibility for areas that can accommodate a denser development pattern based on existing infrastructure and ability to access the site by means of walking, biking or transit. An adjustment to a minimum or maximum parking standard may be approved based on a determination by the planning commission that the adjustment is consistent with the purpose of this Code, and the approval criteria can be met.
B. Procedure: A request for a planning commission parking adjustment shall be initiated by a property owner or authorized agent by filing a land use application. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development and parking plan, the extent of the adjustment requested along with

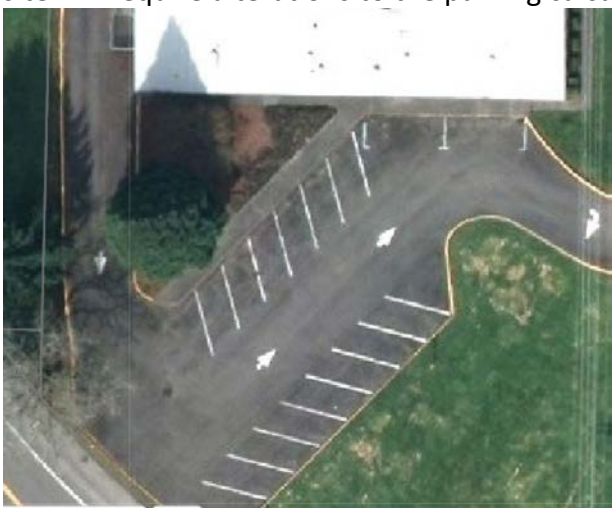
findings for each applicable approval criteria. A request for a parking adjustment shall be processed as a Type III application as set forth in Chapter 17.50.
C. Approval criteria for the adjustment are as follows:
1. Documentation: The applicant shall document that the individual project will require an amount of parking that is different from that required after all applicable reductions have been taken.
2. Parking analysis for surrounding uses and on-street parking availability: The applicant must show that there is a continued fifteen percent parking vacancy in the area adjacent to the use during peak parking periods and that the applicant has permission to occupy this area to serve the use pursuant to the procedures set forth by the community development director.
a. For the purposes of demonstrating the availability of on street parking as defined in [Section] 17.52.020.B.3., the applicant shall undertake a parking study during time periods specified by the community development director. The time periods shall include those during which the highest parking demand is anticipated by the proposed use. Multiple observations during multiple days shall be required. Distances are to be calculated as traversed by a pedestrian that utilizes sidewalks and legal crosswalks or an alternative manner as accepted by the community development director.
b. The onsite parking requirements may be reduced based on the parking vacancy identified in the parking study. The amount of the reduction in onsite parking shall be calculated as follows:
i. Vacant on-street parking spaces within three hundred feet of the site will reduce onsite parking requirements by 0.5 parking spaces; and
ii. Vacant on-street parking spaces between three hundred and six hundred feet of the [site] will reduce onsite parking requirements by 0.2 parking spaces.
3. Function and Use of Site: The applicant shall demonstrate that modifying the amount of required parking spaces will not significantly impact the use or function of the site and/or adjacent sites.
4. Compatibility: The proposal is compatible with the character, scale and existing or planned uses of the surrounding neighborhood.
5. Safety: The proposal does not significantly impact the safety of adjacent properties and rights-of-way.
6. Services: The proposal will not create a significant impact to public services, including fire and emergency services.
Response: No alterations to the parking requirements are requested.

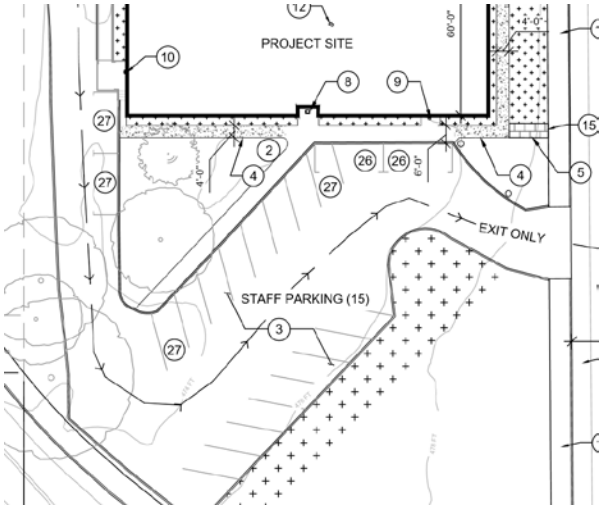
17.52.020 - Number of automobile spaces required.
A.The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated.

Table 17.52.020		
LAND USE	*PARKING REQUIREMENTS*	
	MINIMUM	*MAXIMUM*

Elementary/Middle School	*1 per classroom (17 Min)*	*1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium (17+3+50=70 Max)*
Office	*2.70 (18 Min)*	*3.33 (22 Max)*
Total	***35***	***92***

Response: The subject site currently contains an elementary school with 17 classrooms and 3 administrative staff and a gym which can accommodate 200 folding chairs. In addition, the annex structure is approximately 6,700 square feet and for the purposes of parking is being calculated for future office use. The subject site is currently constructed with 40 parking stalls, an additional 13 stalls fenced behind the northern portion of the building which are currently fenced, and 14 parallel on-street stalls which are also considered toward the minimum number of off-street parking stalls. In addition, two zero degree parking stalls are proposed along the drive aisle adjacent to the west side of the Annex and a slight reconfiguration of the parking stalls on the south side of the parking lot is proposed but would not change the number of stalls in this location. The proposal exceeds the 35 minimum parking stalls. Future changes to the site will require alterations to the parking calculation.





1. Multiple Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately.
Response: The parking calculations include the sum of all uses onsite.

2. Requirements for types of buildings and uses not specifically listed herein shall be determined by the community development director, based upon the requirements of comparable uses listed.
Response: The uses proposed are specifically listed.

3. Where calculation in accordance with the above list results in a fractional space, any fraction less than one-half shall be disregarded and any fraction of one-half or more shall require one space.
Response: The calculations above were created utilizing the rounding identified in this section.

4. The minimum required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only, and shall not be used for storage of vehicles or materials or for the parking of vehicles used in conducting the business or use.
Response: No storage of vehicles or materials is proposed for the existing parking lots. All spaces are proposed for customers and employees.

5. A change in use within an existing habitable building located in the MUD Design District or the Willamette Falls Downtown District is exempt from additional parking requirements. Additions to an existing building and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage.
Response: This standard is not applicable. The property in question is not located in the MUD Design District or the Willamette Falls Downtown District or include an addition.

B. Parking requirements can be met either onsite, or offsite by meeting the following conditions:
1.Mixed Uses. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (e.g. the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced accordingly, up to a maximum reduction of fifty percent, as determined by the community development director.
Response: The applicant did not utilize a parking reduction for mixed-use.

2. Shared Parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlay (e.g., uses primarily of a daytime versus nighttime nature), that the shared parking facility is within one thousand feet of the potential uses, and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument authorizing the joint use.
Response: The applicant did not utilize shared parking.

3. On-Street Parking. On-street parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:
a. Dimensions. The following constitutes one on-street parking space:
1. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;
2. [Forty-five/sixty] degree diagonal, each with [fifteen] feet of curb;
3. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.
4. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for

general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.
Response: The required minimum parking can be accommodated on-site. However, there are approximately 14 spaces available on-street.

C. Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced in the Downtown Parking Overlay District: Fifty percent reduction in the minimum number of spaces required is allowed prior to seeking further reductions in [sub]sections 2. and 3. below:
1. Transit Oriented Development. For projects not located within the Downtown Parking Overlay District, the community development director may reduce the required number of parking stalls up to twenty-five percent when it is determined that a project in a commercial center (sixty thousand square feet or greater of retail or office use measured cumulatively within a five hundred-foot radius) or multi-family development with over eighty units, is adjacent to or within one thousand three hundred twenty feet of an existing or planned public transit street and is within one thousand three hundred twenty feet of the opposite use (commercial center or multi-family development with over eighty units).
2. Reduction in Parking for Tree Preservation. The community development director may grant an adjustment to any standard of this requirement provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction must take into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the community development director. This reduction is discretionary.
3. Transportation Demand Management. The community development director may reduce the required number of parking stalls up to twenty-five percent when a parking-traffic study prepared by a traffic engineer demonstrates:
a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of Transportation Engineers vehicle trip generation rates and further that the transportation demand management program promotes or achieves parking utilization lower than minimum city parking requirements.
b. Transportation demand management (TDM) program has been developed for approval by, and is approved by the city engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the city determines the plan is not successful, the plan may be revised. If the city determines that no good-faith effort has been made to implement the plan, the city may take enforcement actions.
Response: This standard is not applicable. No reduction of parking is requested.

17.52.030 - Standards for automobile parking.
A. Access. Ingress and egress locations on public thoroughfares shall be located in the interests of public traffic safety. Groups of more than four parking spaces shall be so located and served

by driveways so that their use will require no backing movements or other maneuvering within a street right-of-way other than an alley. No driveway with a slope of greater than fifteen percent shall be permitted without approval of the city engineer.
Response: The existing entrance driveway and an exit only driveway are located off of Warner Parrott Road an additional exit-only driveway is located off of Linn Avenue. The parking lots are located off of interior drive aisles so backing movements are solely contained on-site. The existing driveway slopes are less than fifteen percent.

B. Surfacing. Required off-street parking spaces and access aisles shall have paved surfaces adequately maintained. The use of pervious asphalt/concrete and alternative designs that reduce storm water runoff and improve water quality pursuant to the city's stormwater and low impact development design standards are encouraged.
Response: The existing parking lots and access aisles are paved with asphaltic concrete.

C. Drainage. Drainage shall be designed in accordance with the requirements of Chapter 13.12 and the city public works stormwater and grading design standards.
Response: Drainage of the parking lots and drive aisles is accommodated by an existing storm drain.

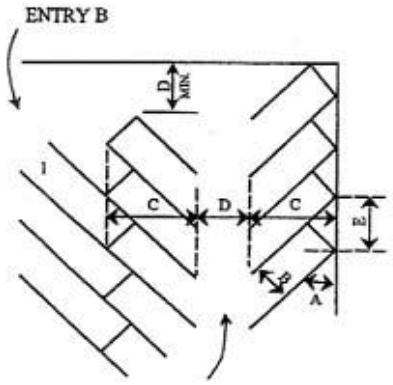
D. Dimensional Standards.
1. Requirements for parking developed at varying angles are according to the table included in this section. A parking space shall not be less than seven feet in height when within a building or structure, and shall have access by an all-weather surface to a street or alley. Parking stalls in compliance with the American with Disabilities Act may vary in size in order to comply with the building division requirements. Up to thirty-five percent of the minimum required parking may be compact, while the remaining required parking stalls are designed to standard dimensions. The community development director may approve alternative dimensions for parking stalls in excess of the minimum requirement which comply with the intent of this chapter.
2. Alternative parking/plan. Any applicant may propose an alternative parking plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. In such situations, the community development director may approve an alternative parking lot plan with variations to parking dimensions of this section. The alternative shall be consistent with the intent of this chapter and shall create a safe space for automobiles and pedestrians while providing landscaping to the quantity and quality found within parking lot landscaping requirements.

PARKING STANDARD
PARKING ANGLE SPACE DIMENSIONS

A Parking Angle		*B Stall Width*	*C Stall to Curb*	*D Aisle Width*	*E Curb Length*	*F Overhang*

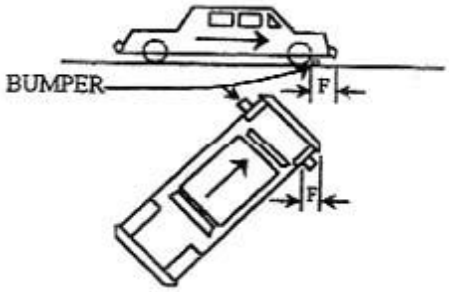
0 degrees		*8.5*	*9.0*	*12*	*20*	*0*
30 degrees	*Standard* *Compact*	*9'* *8'*	*17.3'* *14.9'*	*11'* *11'*	*18'* *16'*	
45 degrees	*Standard* *Compact*	*8.5* *8.5*	*19.8'* *17.0'*	*13'* *13'*	*12.7'* *11.3'*	*1.4*
60 degrees	*Standard* *Compact*	*9'* *8'*	*21'* *17.9'*	*18'* *16'*	*10.4'* *9.2'*	*1.7*
90 degrees	*Standard* *Compact*	*9'* *8'*	*19.0'* *16.0'*	*24'* *22'*	*9'* *8'*	*1.5*

All dimensions are to the nearest tenth of a foot.



L. TYPICAL PARKING LAYOUT

M. ENTRY A



NOTE: SPACE 1 CONTINGENT UPON ENTRY B

OVERHANG

NOTE: Overhang dimensions are intended to indicate possible location from parking area edge for location of bumpers.

Response: The proposed development entails restriping the existing parking stalls near the Annex building with minor amendments. Within the existing parking lot between the Annex and the intersection of Warner Parrott, minor changes to the parking lot striping are proposed within the existing pavement. Two new zero degree parking stalls are proposed along the drive aisle adjacent to the west side of the Annex and slight reconfiguration of the parking stalls on the west side of the parking lot. The two existing zero degree parking stalls in front of the entryway is proposed to be reconfigured to match the adjacent 60 degree stalls.

E. Carpool and Vanpool Parking. New developments with seventy-five or more parking spaces, and new hospitals, government offices, group homes, nursing and retirement homes, schools and transit park-and-ride facilities with fifty or more parking spaces, shall identify the spaces available for employee, student and comjmiokluy 56trmmuter parking and designate at least five percent, but not fewer than two, of those spaces for exclusive carpool and vanpool parking. Carpool and vanpool parking spaces shall be located closer to the main employee, student or commuter entrance than all other employee, student or commuter parking spaces with the exception of ADA accessible parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only."

Response: This standard is not applicable. This is not a new development, nor are there more than fifty parking spaces.

17.52.040 - Bicycle parking standards.

A. Purpose-Applicability. To encourage bicycle transportation to help reduce principal reliance on the automobile, and to ensure bicycle safety and security, bicycle parking shall be provided in conjunction with all uses other than single-family dwellings or duplexes.

Response: The proposal calls for the installation of two uncovered, ground-affixed, bicycle parking racks, one on each side of the structure adjacent to the entryways.

B. Number of Bicycle Spaces Required. For any use not specifically mentioned in Table A, the bicycle parking requirements shall be the same as the use which, as determined by the community development director, is most similar to the use not specifically mentioned. Calculation of the number of bicycle parking spaces required shall be determined in the manner established in Section 17.52.020 for determining automobile parking space requirements. Modifications to bicycle parking requirements may be made through the site plan and design, conditional use, or master plan review process.

*TABLE A Required Bicycle Parking Spaces**

Where two options for a requirement are provided, the option resulting in more bicycle parking applies. Where a calculation results in a fraction, the result is rounded up to the nearest whole number.

USE	*MINIMUM BICYCLE PARKING*	*MINIMUM BICYCLE PARKING - COVERED - The following percentage of bicycle parking is required to be covered*
Elementary	*4 per classroom (minimum of 2) 17 classrooms*	*50% (minimum of 1)*
Bank, office	*1 per 20 auto spaces (minimum of 2) 18 auto spaces*	*50% (minimum of 1)*

**Covered bicycle parking is not required for developments with two or fewer stalls.*

Response: The calculation for the elementary school is 68 bicycle spaces (17 classrooms) and the calculation for the proposed office is one (18 required auto spaces). The elementary school site is under a separate lease and the installation of additional bicycle parking in this lease area is limited. The conversion of the classrooms to office use in the annex should reduce the

number of bicycle parking stalls required for the site and no changes to the bicycle parking are proposed for the elementary school. The proposal entails installation of 4 bicycle parking stalls near the Annex building consisting of two bike racks, each holding two bikes. One of the bicycle racks is proposed under the shelter of the building eve.

C. Security of Bicycle Parking. Bicycle parking facilities shall be secured. Acceptable secured bicycle parking area shall be in the form of a lockable enclosure onsite, secure room in a building onsite, a covered or uncovered rack onsite, bicycle parking within the adjacent right-of-way or another form of secure parking where the bicycle can be stored, as approved by the decision maker. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience and, when in the right-of-way shall comply with clearance and ADA requirements.

Response: The proposed bicycle parking is in the form of uncovered, ground-mounted, racks on site.

D. Bicycle parking facilities shall offer security in the form of either a lockable enclosure or a stationary rack to which the bicycle can be locked. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience.

Location of Bicycle Parking:

1. Bicycle parking shall be located on-site, in one or more convenient, secure and accessible location. The city engineer and the community development Director may permit the bicycle parking to be provided within the right-of-way provided adequate clear zone and ADA requirements are met. If sites have more than one building, bicycle parking shall be distributed as appropriate to serve all buildings. If a building has two or more main building entrances, the review authority may require bicycle parking to be distributed to serve all main building entrances, as it deems appropriate.

Response: The proposed bicycle parking is to be located on-site as stationary racks, secured to the ground, adjacent to the entryways on the north and south side of the Annex.

2. Bicycle parking areas shall be clearly marked or visible from on-site buildings or the street. If a bicycle parking area is not plainly visible from the street or main building entrance, a sign must be posted indicating the location of the bicycle parking area. Indoor bicycle parking areas shall not require stairs to access the space unless approved by the community development director.

Response: The proposed bicycle parking areas are plainly visible from the main building entrances; they are located adjacent to the north and south entrances to the structure.

3. All bicycle parking areas shall be located to avoid conflicts with pedestrian and motor vehicle movement.

a. Bicycle parking areas shall be separated from motor vehicle parking and maneuvering areas and from arterial streets by a barrier or a minimum of five feet.

b. Bicycle parking areas shall not obstruct pedestrian walkways; provided, however, that the review authority may allow bicycle parking in the right-of-way where this does not conflict with pedestrian accessibility.
Response: No pedestrian or vehicle conflicts are anticipated with the location of the proposed bicycle parking areas at the north and south entrances of the structure. The locations shall be raised from the parking lot and placed to allow 5 feet for pedestrian access adjacent to the bicycle parking.

4. Accessibility.
a. Outdoor bicycle areas shall be connected to main building entrances by pedestrian accessible walkways.
b. Outdoor bicycle parking areas shall have direct access to a right-of-way.
c. Outdoor bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle space, or fifty feet, whichever is less, unless otherwise determined by the community development director, city engineer, or planning commission.
Response: The bicycle parking is proposed to be installed near a pedestrian accessway which connects to the entrances of the site with direct access to the Linn Avenue right-of-way. With the installation of the proposed pedestrian walkways from Linn Avenue and the existing pedestrian walkways on site, the proposed bike parking areas meet these criteria.

17.52.060 - Parking lot landscaping.
A. Development Standards.
1. The landscaping shall be located in defined landscaped areas that are uniformly distributed throughout the parking or loading area.
Response: The existing landscaping is located in defined landscaped areas. Additional landscaping is proposed east of the 6,700 square foot Annex along Linn Avenue and along the southeastern edge of the southern most parking lot.

2. All areas in a parking lot not used for parking, maneuvering, or circulation shall be landscaped.
Response: All areas in the parking lots available for landscaping contain landscaping or are proposed to be landscaped.

3. Parking lot trees shall be a mix of deciduous shade trees and coniferous trees. The trees shall be evenly distributed throughout the parking lot as both interior and perimeter landscaping to provide shade.
Response: The existing trees on site are both deciduous and coniferous and distributed throughout the parking lots. The proposed perimeter landscaping also contains both deciduous shade trees and coniferous trees.

4. Required landscaping trees shall be of a minimum two-inch minimum caliper size (though it may not be standard for some tree types to be distinguished by caliper), planted according to American Nurseryman Standards, and selected from the Oregon City Street Tree List.

Response: All proposed trees are specified as 2" caliper, will be planted according to American Nurseryman Standards, and none of the plants listed on the landscaping plan are identified on the Oregon City Nuisance Plant List.

5. Landscaped areas shall include irrigation systems unless an alternate plan is submitted, and approved by the community development director, that can demonstrate adequate maintenance.
Response: The proposed landscaping will include installation of an irrigation system for the proposed planting areas. The design of the irrigation plan will be submitted once the landscape plan is approved.

6. All plant materials, including trees, shrubbery and ground cover should be selected for their appropriateness to the site, drought tolerance, year-round greenery and coverage and staggered flowering periods. Species found on the Oregon City Native Plant List are strongly encouraged and species found on the Oregon City Nuisance Plant List are prohibited.
Response: A landscaping plan was submitted which was prepared by Gregory T. Covey, registered landscape architect. The proposed landscape plan calls for plants which are low maintenance, drought tolerant, and provide year-round visual interest. None of the plants listed on the landscaping plan are identified on the Oregon City Nuisance Plant List.

7. The landscaping in parking areas shall not obstruct lines of sight for safe traffic operation and shall comply with all requirements of Chapter 10.32, Traffic Sight Obstructions.
Response: The existing landscaping does not interfere with lines of sight. The proposed landscaping is located on the perimeter of the parking area and between the building and right-of-way. Lines of sight will not be obstructed by the proposed landscaping.

B. Perimeter Parking Lot Landscaping and Parking Lot Entryway/Right-of-Way Screening. Parking lots shall include a five-foot wide landscaped buffer where the parking lot abuts the right-of-way and/or adjoining properties. In order to provide connectivity between non-single-family sites, the community development director may approve an interruption in the perimeter parking lot landscaping for a single driveway where the parking lot abuts property designated as multi-family, commercial or industrial. Shared driveways and parking aisles that straddle a lot line do not need to meet perimeter landscaping requirements.
1. The perimeter parking lot are[a] shall include:
a. Trees spaced a maximum of thirty-five feet apart (minimum of one tree on either side of the entryway is required). When the parking lot is adjacent to a public right-of-way, the parking lot trees shall be offset from the street trees;
b. Ground cover, such as wild flowers, spaced a maximum of16-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and
c. An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average. The hedge/shrubs shall be parallel to and not nearer than two feet from the right-of-way line. The required screening shall be designed to allow for free access to

the site and sidewalk by pedestrians. Visual breaks, no more than five feet in width, shall be provided every thirty feet within evergreen hedges abutting public right-of-ways.
Response: The subject site was constructed prior to this standard being in place and does not comply with the landscaping requirement. In order to mitigate the proposed Minor Site Plan and Design Review, the proposal entails upgrading portions of the parking lot to be in greater conformance with this standard. Though the upgrade far exceeds the minimum amount of plantings required per OCMC Chapter 17.58 Lawful Nonconforming Uses, Structures and Lots, the proposal would not result in a parking lot which fully complies with this standard. However, the incremental improvements within this landscaping area do comply.

The nonconforming upgrades focus on the southernmost parking lot between the front of the Annex and the street. The landscaping plan includes shrubs (placed every 4 feet) and groundcover along the eastern side of the southernmost parking lot, in compliance with this standard. In the locations where landscaping is proposed, the groundcover will cover one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

C. Parking Area/Building Buffer. Parking areas shall be separated from the exterior wall of a structure, exclusive of pedestrian entranceways or loading areas, by one of the following:
1. Minimum five-foot wide landscaped planter strip (excluding areas for pedestrian connection) abutting either side of a parking lot sidewalk with:
a. Trees spaced a maximum of thirty-five feet apart;
b. Ground cover such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent
of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and
c. An evergreen hedge of thirty to forty-two inches or shrubs placed no more than four feet apart on average; or
2. Seven-foot sidewalks with shade trees spaced a maximum of thirty-five feet apart in three-foot by five-foot tree wells.
Response: The subject site was constructed prior to this standard being in place and does not comply with the landscaping requirement. In order to mitigate the proposed Minor Site Plan and Design Review, the proposal entails upgrading portions of the parking lot to be in greater conformance with this standard. Though the upgrade far exceeds the minimum amount of plantings required per OCMC Chapter 17.58 Lawful Nonconforming Uses, Structures and Lots, the proposal would not result in a parking lot which fully complies with this standard. However, the incremental improvements within this landscaping area do comply.

The nonconforming upgrades focus on the southernmost parking lot between the front of the Annex and the street. The site is constrained by the cost of the nonconforming upgrade as well as a limited physical space for the parking area/building buffer. The southernmost existing parking lot is separated from the base of the building by a landscaping area less than 4 feet in width. The proposal includes installation of groundcover and ornamental grasses in this narrow location. In the locations where landscaping is proposed, the groundcover will cover one

hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

D. Interior Parking Lot Landscaping. Surface parking lots shall have a minimum ten percent of the interior of the gross area of the parking lot devoted to landscaping to improve the water quality, reduce storm water runoff, and provide pavement shade. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum total site landscaping required by Section 17.62.050(1) unless otherwise permitted by the dimensional standards of the underlying zone district. Pedestrian walkways or any impervious surface in the landscaped areas are not to be counted in the percentage. Interior parking lot landscaping shall include:
a. A minimum of one tree per six parking spaces.
b. Ground cover, such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.
c. Shrubs spaced no more than four feet apart on average.
d. No more than eight contiguous parking spaces shall be created without providing an interior landscape strip between them. Landscape strips shall be provided between rows of parking shall be a minimum of six feet in width and a minimum of ten feet in length.
e. Pedestrian walkways shall have shade trees spaced a maximum of every thirty-five feet in a minimum three-foot by five-foot tree wells; or Trees spaced every thirty-five feet, shrubs spaced no more than four feet apart on average, and ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.
Response: The subject site was constructed prior to this standard being in place and does not comply with the landscaping requirement. In order to mitigate the proposed Minor Site Plan and Design Review, the proposal entails upgrading portions of the parking lot to be in greater conformance with this standard. Though the upgrade far exceeds the minimum amount of plantings required per OCMC Chapter 17.58 Lawful Nonconforming Uses, Structures and Lots, the proposal would not result in a parking lot which fully complies with this standard. However, the incremental improvements within this landscaping area do comply.

The nonconforming upgrades focus on the southernmost parking lot between the front of the Annex and the street. The proposal includes installation of a tree within the interior parking lot landscaping as well as shrubs spaced no more than 4 feet apart. There are no spans of parking stalls greater than 8 spaces. In the locations where landscaping is proposed, the groundcover will cover one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

E. Installation.
1. All landscaping shall be installed according to accepted planting procedures, according to American Nurseryman Standards.
2. The site, soils and proposed irrigation systems shall be appropriate for the healthy and long-term maintenance of the proposed plant species.

3. Certificates of occupancy shall not be issued unless the landscaping requirements have been met or other arrangements have been made and approved by the city, such as the posting of a surety.
Response: The landscaping shall be installed per American Nurseryman Standards and protected with the installation of an irrigation system. The species were chosen by a landscape architect to ensure the proper species and long-term viability of the landscaping.

17.52.070 - Alternative landscaping plan.
Any applicant may propose an alternative landscaping plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. Alternative plans may include the use of low impact development techniques and minimized landscaping requirements. In such situations, the community development director may approve variations to the landscaping standards of section 17.52.060.
A. General Review Standard. The alternative shall be meet or exceed the intent of this chapter and shall create a safe space for automobiles and pedestrians. The alternative landscaping plan shall be prepared by a licensed landscape architect.
B. Credit for Pervious/Low Impact Development. The community development director may count up to fifty percent of the square footage of any pervious hardscaped landscape material within a parking lot that is designed and approved pursuant to the city's adopted stormwater and low impact development design standards toward minimum landscaping requirements for the site. (This includes porous pavement detention, open celled block pavers, porous asphalt, porous concrete pavement, porous turf, porous gravel, etc.).
Response: An alternative landscaping plan has not been proposed.

17.52.080 - Maintenance.
The owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of the site including but not limited to the off-street parking and loading spaces, bicycle parking and all landscaping which shall be maintained in good condition so as to present a healthy, neat and orderly appearance and shall be kept free from refuse and debris.
All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:
a. It will not interfere with the maintenance or repair of any public utility;
b. It will not restrict pedestrian or vehicular access; and
c. It will not constitute a traffic hazard due to reduced visibility.
Response: The City of Oregon City has the resources to and will maintain the site amenities in good condition. The City shall be responsible for the maintenance of the site including but not limited to the off-street parking and loading spaces, bicycle parking and all landscaping which shall be maintained in good condition so as to present a healthy, neat and orderly appearance and shall be kept free from refuse and debris.
All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:
a. It will not interfere with the maintenance or repair of any public utility;
b. It will not restrict pedestrian or vehicular access; and
c. It will not constitute a traffic hazard due to reduced visibility.

17.52.090 - Loading areas.
B. Applicability.
1. Section 17.52.090 applies to uses that are expected to have service or delivery truck visits with a forty-foot or longer wheelbase, at a frequency of one or more vehicles per week. The city engineer and decision maker shall determine through site plan and design review the number, size, and location of required loading areas, if any.
C. Standards.
1. The off-street loading space shall be large enough to accommodate the largest vehicle that is expected to serve the use without obstructing vehicles or pedestrian traffic on adjacent streets and driveways. Applicants are advised to provide complete and accurate information about the potential need for loading spaces because the city engineer or decision maker may restrict the use of other public right-of-way to ensure efficient loading areas and reduce interference with other uses.
2. Where parking areas are prohibited between a building and the street, loading areas are also prohibited.
3. The city engineer and decision maker, through site plan and design review, may approve a loading area adjacent to or within a street right-of-way when all of the following loading and unloading operations conditions are met:
a. Short in duration (i.e., less than one hour);
b. Infrequent (less than three operations daily between 5:00 a.m. and 12:00 a.m. or all operations between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);
c. Does not obstruct traffic during peak traffic hours;
d. Does not interfere with emergency response services; and
e. Is acceptable to the applicable roadway authority.
Response: No service or delivery trucks with a forty-foot or longer wheelbase are expected to be associated with the Annex. A new or amendments to any existing loading areas are not proposed.

CHAPTER 17.56 CONDITIONAL USES
Response: An elementary school is identified as a conditional use in the existing zoning designations, though no conditional use has been identified associated with the subject site. The elementary school use was established prior to the requirement to obtain a conditional use onsite. No alterations to the conditional use are proposed with this development and the elementary school use may continue as a nonconforming use until removed.

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

15.48.030 Applicability—Grading permit required.
A. A city-issued grading permit shall be required before the commencement of any of the following filling or grading activities:
1. Grading activities in excess of ten cubic yards of earth;

2. Grading activities which may result in the diversion of existing drainage courses, both natural and man-made, from their natural point of entry or exit from the grading site;
3. Grading and paving activities resulting in the creation of impervious surfaces greater than two thousand square feet or more in area;
4. Any excavation beyond the limits of a basement or footing excavation, having an unsupported soil height greater than five feet after the completion of such a structure; or
5. Grading activities involving the clearing or disturbance of one-half acres (twenty-one thousand seven hundred eighty square feet) or more of land.
Response: This standard is not applicable. The soil will be disturbed for landscape planting and sidewalk installation only.

15.48.090 Submittal requirements.
An engineered grading plan or an abbreviated grading plan shall be prepared in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards whenever a city approved grading permit is required. In addition, a geotechnical engineering report and/or residential lot grading plan may be required pursuant to the criteria listed below.
A. Abbreviated Grading Plan. The city shall allow the applicant to submit an abbreviated grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards if the following criteria are met:
1. No portion of the proposed site is within the flood management area overlay district pursuant to Chapter 17.42, the unstable soils and hillside constraints overlay district pursuant to Chapter 17.44, or a water quality resource area pursuant to Chapter 17.49; and
2. The proposed filling or grading activity does not involve more than fifty cubic yards of earth.
B. Engineered Grading Plan. The city shall require an engineered grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer if the proposed activities do not qualify for abbreviated grading plan.
C. Geotechnical Engineering Report. The city shall require a geotechnical engineering report in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer who specializes in geotechnical work when any of the following site conditions may exist in the development area:
1. When any publicly maintained facility (structure, street, pond, utility, park, etc.) will be supported by any engineered fill;
2. When an embankment for a stormwater pond is created by the placement of fill;
3. When, by excavation, the soils remaining in place are greater than three feet high and less than twenty feet wide.
D .Residential Lot Grading Plan. The city shall require a residential lot grading plan in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer for all land divisions creating new residential building lots or where a public improvement project is required to provide access to an existing residential lot.
Response: This standard is not applicable. A city grading permit is not required for the proposed exterior building modifications and site improvements.

CHAPTER 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.

A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.

Response: This standard is not applicable. Minor digging is required for installation of landscaping and sidewalk installation.

CHAPTER 17.41 - TREE PROTECTION STANDARDS

17.41.020 - Tree protection—Applicability.

1. Applications for development subject to Chapters 16.08 or 16.12 (Subdivision or Minor Partition) or Chapter 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments.

2. For public capital improvement projects, the city engineer shall demonstrate compliance with these standards pursuant to a Type II process.

3. Tree canopy removal greater than twenty-five percent on sites greater than twenty-five percent slope, unless exempted under Section 17.41.040, shall be subject to these standards.

4. A heritage tree or grove which has been designated pursuant to the procedures of Chapter 12.08.050 shall be subject to the standards of this section.

Response: The proposal includes compliance with Chapter 17.62, compliance with this section is applicable.

17.41.030 - Tree protection—Conflicting code provisions.

Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in Section 17.04, shall govern.

Response: No conflicting provisions have been identified.

17.41.040 - Same—Exemptions.

These regulations are not intended to regulate normal cutting, pruning and maintenance of trees on private property except where trees are located on lots that are undergoing development review or are otherwise protected within the Natural Resource Overlay District (NROD) of section 17.49. These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development

site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930. The community development director has the authority to modify or waive compliance in this case.
Response: The proposed development is not exempt.

17.41.050 - Same—Compliance options.
Applicants for review shall comply with these requirements through one or a combination of the following procedures:
A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.
B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to Sections 17.41.080—17.41.100; or
C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to Sections 17.41.110—17.41.120; or
D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130.
A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.
The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:
1. Preclude achieving eighty percent of minimum density with reduction of lot size; or
2. Preclude meeting minimum connectivity requirements for subdivisions.
Response: This standard is not applicable. No trees are proposed for removal.

17.41.060 - Tree removal and replanting—Mitigation (Option 1).
A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in Chapter 17.04to the extent practicable. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. At the applicant's expense, the city may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under section 12.08—Community Forest and Street Trees.
B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:
1. Trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or

2. Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in Section 17.04.1360, may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.

Table 17.41.060-1

Tree Replacement Requirements

All replacement trees shall be either:

Two-inch caliper deciduous, or

Six-foot high conifer

Size of tree removed (DBH)	*Column 1* *Number of trees to be planted. (If removed Outside of construction area)*	*Column 2* *Number of trees to be planted. (If removed Within the construction area)*
6 to 12"	*3*	*1*
13 to 18"	*6*	*2*
19 to 24"	*9*	*3*
25 to 30"	*12*	*4*
31 and over"	*15*	*5*

Steps for calculating the number of replacement trees:

1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.

2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.

3. Document any trees that are currently diseased or hazardous.

4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.

5. Define the construction area (as defined in Chapter 17.04).

6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.

7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.

8. Determine the total number of replacement trees from steps 6. and 7.

Response: This standard is not applicable. No trees are proposed for removal.

17.41.070 - Planting area priority for mitigation (Option 1).
Development applications which opt for removal of trees with subsequent replanting pursuant to section 17.41.050A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:
A. First Priority. Replanting on the development site.
B. Second Priority. Off-site replacement tree planting locations. If the community development director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and must be approved by the community development director.
Response: This standard is not applicable. No trees are proposed for removal.

17.41.075 - Alternative mitigation plan.
The community development director may, subject to a Type II procedure, approve an alternative mitigation plan that adequately protects habitat pursuant to the standards for the natural resource overlay district alternative mitigation plan, Section 17.49.190.
Response: This standard is not applicable. No habitat is proposed for destruction.

17.41.080 - Tree preservation within subdivisions and partitions—Dedicated tract (Option 2).
A. Applicants for new subdivision and partition plats may delineate and show the regulated trees or groves as either a separate tract or part of a larger tract that meets the requirements of subsection D. of this section.
B. The standards for land divisions subject to this section shall apply in addition to the requirements of the city land division ordinance and zoning ordinance, provided that the minimum lot area, minimum average lot width, and minimum average lot depth standards of the base zone may be superseded in order to allow for a reduction of dimensional standards pursuant to Section 17.41100 below.
C. Prior to preliminary plat approval, the regulated tree or grove area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection D. of this section, which shall not be a part of any parcel used for construction of a structure. The size of the tract shall be the minimum necessary as recommended by a consulting arborist to adequately encompass the dripline of the tree, protect the critical root zone and ensure long term survival of the tree or grove.
D. Prior to final plat approval, ownership of the regulated tree or grove tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:
1. Private open space held by the owner or a homeowners association; or
2. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or
3. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or
4. Any other ownership proposed by the owner and approved by the community development director.

Response: This standard is not applicable. No trees are proposed for removal.

17.41.090 - Density transfers incentive for tree protection tracts (Option 2).
A. The purpose of this section is to allow dimensional adjustments within a regulated tree protection tract to be transferred outside said tract to the remainder of the site. This provision applies on-site and density shall not be transferred beyond the boundaries of the development site.
B. Development applications for subdivisions and minor partitions that request a density transfer shall:
1. Provide a map showing the net buildable area of the tree protection tract;
2. Provide calculations justifying the requested dimensional adjustments;
3. Demonstrate that the minimum lot size requirements can be met based on an average of all lots created, including the tree protection tract created pursuant to Section 17.41.080;
4. Demonstrate that, with the exception of the tree protection tract created pursuant to Section 17.41.080, no parcels have been created which would be unbuildable in terms of minimum yard setbacks;
5. Meet all other standards of the base zone except as modified in section 17.41.100.
C. The area of land contained in a tree protection tract may be excluded from the calculations for determining compliance with minimum density requirements of the zoning code.
Response: This standard is not applicable. No trees are proposed for removal.

17.41.100 - Permitted modifications to dimensional standards (Option 2 only).
A. An applicant proposing to protect trees in a dedicated tract pursuant to section 17.41.080 may request, and the community development director, pursuant to a Type II procedure, may grant a reduction to, the lot size, width, depth, and setbacks of the underlying zone district in approving a subdivision or partition if necessary to retain a regulated tree or grove in a tract, as long as the calculation of average lot size, including tree protection tracts, meet the minimum lot size for the zone. The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the area of the tree tract.
Table 17.41.100 A
Lot Size Reduction

ZONE	Min. Lot Size [sq. feet]	Min. Lot Width	Min. Lot Depth
R-10	5,000 sq. feet	50'	65'
R-8	4,000 sq. feet	45'	60'
R-6	3,500 sq. feet	35'	55'
R-5	3,000 sq. feet	30'	50'
R-3.5	1,800 sq. feet	20'	45'

Table 17.41.100 B
Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
8,000—9,999 square feet	*15 feet*	*20 feet*	*7/9 feet*	*15 feet*	*40%*
6,000—7,999 square feet	*10 feet*	*15 feet*	*5/7 feet*	*15 feet*	*40%*
4,000—5,999 square feet	*10 feet*	*15 feet*	*5/5 feet*	*10 feet*	*40%*
1,800—3,999 square feet	*5 feet*	*15 feet*	*5/5 feet*	*10 feet*	*55%*

Table 17.41.100 C
Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
3,500—7,000 square feet	*10 feet*	*15 feet*	*5/0* feet*	*10 feet*	*40%*
1,800—3,499 square feet	*5 feet*	*15 feet*	*5/0* feet*	*10 feet*	*55%*

**0 foot setback is only allowed on single-family attached units*

Response: This standard is not applicable. No modifications are requested and this is not a residential project.

17.41.110 - Tree protection by restrictive covenant (Option 3).
Any regulated tree or grove which cannot be protected in a tract pursuant to Section 17.41.080 above shall be protected with a restrictive covenant in a format to be approved by the community development director. Such covenant shall be recorded against the property deed and shall contain provisions to permanently protect the regulated tree or grove unless such tree or grove, as determined by a certified arborist and approved by the community development director, are determined to be diseased or hazardous.

Response: This standard is not applicable. No Trees are proposed for removal.

17.41.120 - Permitted adjustments (Option 3 Only).
A. The community development director, pursuant to a Type II procedure, may grant an adjustment to the side, front and rear yard setback standards by up to 50 percent if necessary to retain a Regulated Tree or Grove through a restrictive covenant pursuant to this section. In no case may the side yard setback be reduce less than three feet. The adjustment shall be the

minimum necessary to accomplish preservation of trees on the lot and shall not conflict with other conditions imposed on the property.
B. The community development director, pursuant to a Type II procedure, may grant an adjustment to street standards, pursuant to adopted public works standards, in order to preserve a tree. This may include flexibility to redesign sidewalk and planter strip sizes and locations and allow placement of sidewalks and planter strips in an easement within private lots.
C. The community development director, pursuant to a Type II procedure, may allow other adjustments in order to preserve any healthy tree that cannot be moved due to its size, but will contribute to the landscape character of the area and will not present a foreseeable hazard if retained.
Response: This standard is not applicable. No adjustments are requested.

17.41.1[25] - Cash-in-lieu of planting (tree bank/fund) (Option 4).
The applicant may choose this option in-lieu-of or in addition to Compliance Options 1 through 3. In this case, the community development director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above.
A. The cash-in-lieu payment per tree shall be as listed on the adopted fee schedule and shall be adjusted annually based on the Consumer Price Index (Index). The price shall include the cost of materials, transportation and planting.
B. The amount of the cash-in-lieu payment into the tree bank shall be calculated as the difference between the value of the total number of trees an applicant is required to plant, including cost of installation and adjusted for Consumer Price Index, minus the value of the trees actually planted. The value of the trees shall be based on the adopted fee schedule.
Response: This standard is not applicable, no mitigation is required.

17.41.130 - Regulated tree protection procedures during construction.
A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.
B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:
1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.
2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline,

whichever is greater. An alternative may be used with the approval of the community development director.
3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.
4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.
5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.
6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.
7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.
8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.
9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.
10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.
C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.
Response: The proposed development will adequately protect existing trees onsite as identified in this section with temporary fencing, etc. With the exception of sidewalk widening on the southwest side of the building, no ground disturbance within the protection area is anticipated. Arborists will be consulted as needed.

CHAPTER 17.54.100 – FENCES, HEDGES AND WALLS
Response: No new fences or walls are proposed.

CHAPTER 17.58 LAWFUL NONCONFORMING USES, STRUCTURES AND LOTS

17.58.015 Applicability.
The regulations of this chapter apply only to those nonconforming situations that were lawfully established or that were approved through a land use decision. All nonconforming structures, uses or lots shall have been maintained over time. These situations have lawful nonconforming status. Nonconforming situations that were not allowed when established or have not been maintained over time have no lawful right to continue.
Response: The subject site is nonconforming for a variety of reasons including the setback from the property lines, the location of a parking lot in front of a structure, minimum transparency requirements, etc. This chapter is applicable.

17.58.040 Lawful nonconforming structure

A structure that was lawfully established but no longer conforms to all development standards of this land use code (such as setbacks) shall be considered a lawful nonconforming structure. Notwithstanding development standard requirements in this Code, minor repairs and routing maintenance of a lawful nonconforming structure are permitted. The continuation of a lawful nonconforming structure is subject to the following:
A. Accidental Destruction. When a nonconforming structure is damaged by fire or other causes, the structure may be rebuilt using the same structure footprint.
Response: This standard is not applicable. The structure was not damaged or destroyed.

B. Intentional Destruction. When a nonconforming structure is removed or intentionally damaged by fire or other causes within the control of the owner, the replacement structure shall comply with the development standards of this title.
Response: This standard is not applicable. The structure was not removed or intentionally damaged.

C. Expansion. An expansion of a lawful nonconforming structure may be approved, conditionally approved or denied in accordance with the standards and procedures of this section.
1. In making a determination on such applications, the decision maker shall weigh the proposal's positive and negative features and the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed, and, to approve such expansion, it must be found that the criteria identified in Section 17.58.060 have either been met, can be met by observance of conditions, or are not applicable.
2. An expansion of a nonconforming structure with alterations that exceed the threshold of subparagraph C.2.a. below shall comply with the development standards listed in subparagraph C.2.b. The value of the alterations and improvements is based on the entire project and not individual building permits.
a. Thresholds triggering compliance. The standards of subparagraph C.2.b. below shall be met when the value of the proposed exterior alterations or additions to the site, as determined by

the community development director, is more then seventy-five thousand dollars. The following alterations and improvements shall not be included in the threshold calculation:
1. Proposed alterations to meet approved fire and life safety agreements;
2. Alterations related to the removal of existing architectural barriers, as required by the Americans with Disabilities Act, or as specified in Section 1113 of the Oregon Structural Specialty Code;
3. Alterations required to meet Seismic Design Requirements; and
4. Improvements to on-site stormwater management facilities in conformance with Oregon City Stormwater Design Standards.
Response: The application entails exterior alterations to a lawfully nonconforming structure. Including a new roof and exterior building materials, minor changes to the parking lot striping, and lighting. The cost of the proposed exterior alterations is anticipated to be approximately $135,649, requiring nonconforming improvements. The total cost for the exterior alterations are provided below:

- Roof and exterior mechanical screen: $ 61,271
- Siding: $ 71,878
- Lighting: $ 1,000
- Repainting the parking lot: $ 1,500

b. Standards that shall be met. Developments not complying with the development standards listed below shall be brought into conformance.
1. Pedestrian circulation systems, as set out in the pedestrian standards that apply to the sites;
2. Minimum perimeter parking lot landscaping;
3. Minimum interior parking lot landscaping;
4. Minimum site landscaping requirements;
5. Bicycle parking by upgrading existing racks and providing additional spaces in order to comply with Chapter 17.52—Off-Street Parking and Loading;
6. Screening; and
7. Paving of surface parking and exterior storage and display areas.
Response: The site currently does not comply with the pedestrian circulation, minimum perimeter parking lot landscaping, and bicycle parking standards. The proposal includes nonconforming upgrades to the following

- Pedestrian circulation -
  - New pedestrian accessway from the front of the annex to Linn Avenue
  - Widening the sidewalk on the southwest side of the structure from 4 feet to 5 feet.
  - Removing the fencing to allow the pedestrian accessway to extend from the rear of the building to Linn Avenue.
- Minimum perimeter parking lot landscaping
  - Installation of bushes, trees, shrubs, groundcover and irrigation
- Bicycle parking standards
  - Installation of two bicycle parking facilities which each hold 2 bikes, for a total of 4 bicycle parking stalls.

c. Area of required improvements.
1. Generally. Except as provided in C.2.c.2. below, required improvements shall be made for the entire site.
2. Exception for sites with ground leases. Required improvements may be limited to a smaller area if there is a ground lease for the portion of the site where the alterations are proposed. If all of the following are met, the area of the ground lease will be considered as a separate site for purposes of required improvements. The applicant shall meet the following:
i. The signed ground lease — or excerpts from the lease document satisfactory to the city attorney — shall be submitted to the community development director. The portions of the lease shall include the following:
•The term of the lease. In all cases, there must be at least one year remaining on the ground lease; and
•A legal description of the boundaries of the lease.
ii. The boundaries of the ground lease shall be shown on the site plan submitted with the application. The area of the lease shall include all existing and any proposed development that is required for, or is used exclusively by, those uses within the area of the lease; and
iii. Screening shall not be required along the boundaries of ground leases that are interior to the site.
Response: A majority of the subject site is leased by Marylhurst Elementary School (see APPENDIX E). The proposed improvements are limited to the portion of the site associated with the proposed development, which is not within a lease agreement.

d. Timing and cost of required improvements. The applicant may choose one of the two following options for making the required improvements:
1. Option 1. Required improvements may be made as part of the alteration that triggers the required improvements. The cost of the standards that shall be met, identified in subparagraph C.2.b. above, is limited to ten percent of the value of the proposed alterations. It is the responsibility of the applicant to document to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal. When all required improvements are not being made, the priority for the improvements shall be as listed in subparagraph C.2.b. above.
2. Option 2. Required improvements may be made over several years, based on the compliance period identified in Table 17.58—1 below. However, by the end of the compliance period, the site shall be brought fully into compliance with the standards listed in subparagraph C.2.b. Where this option is chosen, the following must be met:
i. Before a building permit is issued, the applicant shall submit the following to the community development director:
•A Nonconforming Development Assessment, which identifies in writing and on a site plan, all development that does not meet the standards listed in Subparagraph C.2.b.
•A covenant, in a form approved by the city attorney, executed by the property owner that meets the requirements of 17.50.150. The covenant shall identify development on the site that does not meet the standards listed in Subparagraph C.2.b., and require the owner to bring that development fully into compliance with this title. The covenant shall also specify the date by

which the owner will be in conformance. The date must be within the compliance periods set out in Table 17.58 — 1.
ii. The nonconforming development identified in the Nonconforming Development Assessment shall be brought into full compliance with the requirements of this Title within the following compliance periods. The compliance period begins when a building permit is issued for alterations to the site of more than seventy-five thousand dollars. The compliance periods are based on the size of the site (see Table 17.58—1 below).
iii. By the end of the compliance period, the applicant or owner shall request that the site by certified by the community development director as in compliance. If the request is not received within that time, or if the site is not fully in conformance, no additional building permits will be issued.
iv. If the regulations referred to by subparagraph C.2.b. are amended after the Nonconforming Development Assessment is received by the community development director, and those amendments result in development on the site that was not addressed by the Assessment becoming nonconforming, the applicant shall address the new nonconforming development using Option 1 or 2. If the applicant chooses Option 2, a separate Nonconforming Development Assessment, covenant and compliance period will be required for the new nonconforming development.
Table 17.58—1
Compliance Periods for Option 2

Square footage of site	*Compliance Period*
Less than 150,000 sq. ft.	*2 years*
150,000 sq. ft. or more, up to 300,000 sq. ft.	*3 years*
300,000 sq. ft. or more, up to 500,000 sq. ft.	*4 years*
More than 500,000 sq. ft.	*5 years*

Response: The applicant proposes to abide by Option 1. The required improvements will be made as part of the exterior remodel of the structure. The cost of the exterior alterations is $135,649 which requires up to $13,564.90 on nonconforming upgrades. The cost of the proposed upgrades is $60,949, far exceeding the minimum requirement.

- Landscaping: $ 58,239 (Though a portion is not dedicated to nonconforming upgrades)
- Changes to the pedestrian accessway: $ 2,060
- Installation of the bike parking stalls: $ 500
- Removal of the fence panel adjacent to the rear of the building: $ 150

CHAPTER 12.04 - STREETS SIDEWALKS AND PUBLIC PLACES

Response: The application includes a proposed amendment to the Comprehensive Plan and Zone Change which are not considered development and do not require street improvements. However, the application includes a Minor Site Plan and Design Review application to accommodate minor exterior alterations to the exiting Annex (such as a new roof, mechanical units, new exterior siding, windows, re striping the parking lot, and nonconforming upgrades to

the site for pedestrian accessways, landscaping, and bicycle parking). Due to the small scale of Minor Site Plan and Design Review applications and thus the minor impact on the City's infrastructure, as well as a concern for requiring unproportional improvements, the City does not require street improvements with Minor Site Plan and Design Review applications.

Chapter 12.08 - PUBLIC AND STREET TREES

Response: The proposed amendment to the Comprehensive Plan and Zone Change which are not considered development and do not require street improvements. However, the application includes a Minor Site Plan and Design Review application to accommodate minor exterior alterations to the exiting Annex (such as a new roof, mechanical units, new exterior siding, windows, re-striping the parking lot, and nonconforming upgrades to the site for pedestrian accessways, landscaping, and bicycle parking). Due to the small scale of Minor Site Plan and Design Review applications and the minor impact on the City's infrastructure the City does not require street improvements with Minor Site Plan and Design Review applications.

APPENDIX A RIVERCREST NEIGHBORHOOD ASSOCIATION INFORMATION

Rivercrest – Neighborhood Association Meeting Notes
June 15, 2017

Kelly Reid presented to the neighborhood association on behalf of the applicant at a regular meeting on June 15, 2017. She described the project, including the zone change, comprehensive plan amendment, minor site plan for exterior alterations, and the trip cap. The members present were generally in support and commented that parking will be easier at the new location. They asked if the zone change would apply for the entire site and if the police station is covered in the proposed zoning district. They also asked about the process, how to comment, and the anticipated timing of the application.

Rivercrest Neighborhood Association Minutes
General Meeting
June 15, 2017, 7:00 PM
First Evangelical Presbyterian Church of Oregon City
Acting Chair/Nominee: Ed Lindquist, Co-Chair: Karin Morey
Acting Secretary/Treasurer/Nominee: Violet Stephenson

21 members present (Sign Up Sheet attached)
Guests:
Sgt. David Edwins, OCPD
Kelly Reid, Oregon City Planning
Tony Konkol, City Manager
Wes Rogers, OCSD
Jonathan Waverly, OC Parks

Karin Morey called the meeting to order. Presented last meeting minutes for review.

Officer Elections:
Karin presented steering committee nominations to fill open Chair and Secretary/Treasurer positions. Opened the floor for nominations. Vern Buttolph nominated Ed Lindquist for Chair, nomination seconded and general membership voted unanimously to confirm. Ed Lindquist nominated Violet Stephenson for Secretary/Treasurer, nomination was seconded and unanimously confirmed by general members. Ed and Violet accepted the positions. Elections process was closed.

Treasurer Report:
Opening Balance: $2487.08
Flower Sale Deposits: $1865.00
Checks Written: $1402.50 for flower baskets & $184.00 for annual Liability Insurance Policy Premium.

Ending Balance: $2765.58

Bank account will be updated to reflect new officer names and contact information.

Guest Presentations:

Kelly Reid, Oregon City Planning

Kelly presented membership with the plan to submit an application to Planning Commission to modify the Mt. Pleasant school property parcel zoning to "institutional" from "quasi-public." The City owns the property and this modification will allow for the Community Development and Planning department to move into the annex building located to the side of the school building. The current location of the Planning department is coming to the end of their lease agreement. Kelly advised that the traffic in NOT expected to be impacted by this move. Kelly advised that after the application is submitted there will be public hearings scheduled and announced. Expected timing for submission of application is July-August 2017. RNA may convene an additional meeting to collect input for public hearing process.

Sgt. David Edwins, OCPD

Sgt. Edwins presented membership with the Call Activity Report dated May, 2017. He discussed with members the continued challenges with the area within our neighborhood referred to as " The Cross," "The bluff." Members expressed continued frustration with noise, vandalism in this area as well as the increased traffic of individuals going to the location. There have been increased patrols and increased traffic stops since the last meeting. Members requested continued focus on this area as it affects the livability of the entire neighborhood. Sgt. Edwins reiterated the importance of calling in any illegal or suspicious activity. All the calls provide insight into the activity and help the OCPD respond and allocate resources. Sgt. Edwins announced the addition of an officer to a new roll focused on the transient and homeless population. Officer Mike Day assumes these duties this summer and will work with neighborhoods as well as the transient population. RNA would like to have Officer Day attend our next meeting if possible.

Tony Konkol, City Manager

Tony presented the members with the 2017-2019 Goals and Priorities for the city of Oregon City. He provided copies of the document as well as made it clear that the information is available online at the City website. Tony shared some of the awards the City has received in recent year as well as the accomplishments of previous years goals. Good membership discussion regarding the focus of the City Commissions goals.

Wes Rogers, Oregon City School District

Wes presented the Gardiner Middle School proposal to add two modular classrooms on school property. He provided a map for proposed locations as well as architectural renderings of the facilities. He advised that the student population has increased and the current school is at full capacity. Based on incoming student enrollments the two modular are required. General discussion included parking challenges to an already tight parking area. Wes invited additional comments or questions and provided his contact information to members.

Jonathan Waverly, Oregon City Parks Department
Karin introduced Jonathan and advised members that he attended at the request of members to discuss safety and security concerns at Rivercrest Park. Specific discussion was focused on the request for viability of a Park Host at Rivercrest. Jonathan described current park host locations within the park system in Oregon City and presented some of the perceived challenges. After much discussion it was requested that more information or study be done to address the security and safety at Rivercrest and Waterboard, aka: "the Cross, the Bluff". . Jonathan reiterated Sgt. Edwins advice to make the calls to OCPD when witnessing any suspicious activities. Members requested additional wood chips be added to the dog disposal stand areas, requested evaluation be done to install better drain system in swampy area by picnic shelter. Members asked about tree replacement plans after losing multiple trees over the past couple of years. There may be funds available from a Metrol Enhancement Grant-more information is needed. Chair, Ed Lindquist suggested a sub committee or task force may be helpful to further this discussion.

General Meeting Discussion/Action:

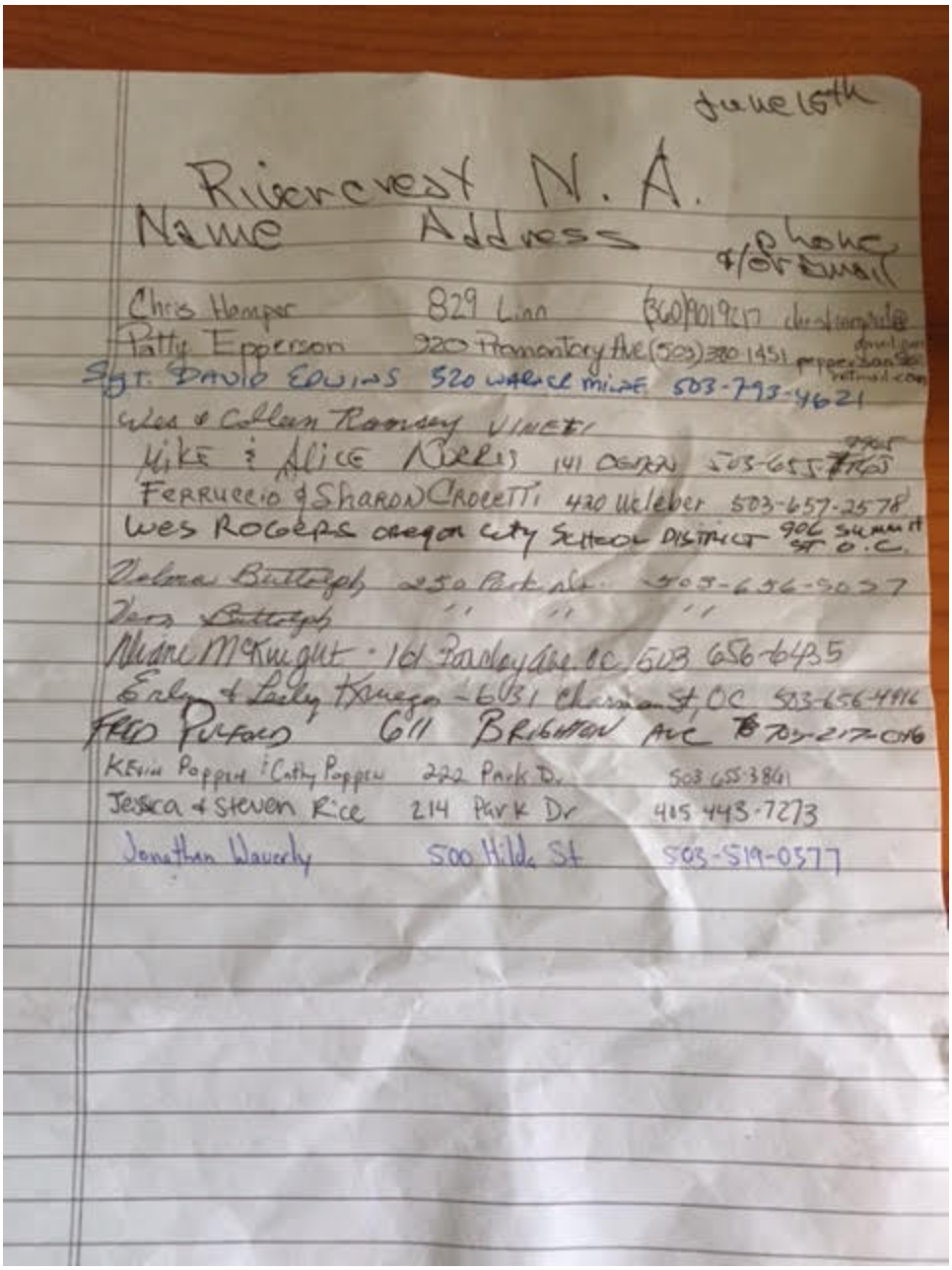
Karin Morey nominated Ed Lindquist to be the back up representative to the Citizens Involvement Committee. He accepted and general membership approved.

Karin Morey presented the quotes Vern Buttolph obtained for purchasing new RNA signs. Two bids were received. The bid will be awarded to the vendor that can meet the delivery requirement of June 30, 2017. Both vendors operate in Oregon City.

Reminder announcement made about the RNA Annual BBQ & Dessert Potluck: August 15 @ 5:30 pm. Picnic committee needs to meet to confirm plans. Reservation for shelter areas has been received.

Upcoming Meeting Dates:
Steering Committee- October 19
General Membership Meeting – November 16

Meeting closed by Chair Ed Lindquist at 9:00 pm.



June 15th

Rivercrest N.A.

Name	Address	Phone #/or Email
Chris Hemper	829 Linn	(360)901-9217 chemper@...
Patty Epperson	320 Promontory Ave	(503) 380-1451 pepperson...
Sgt. David Edwins	520 Warner Milne	503-793-4621
Wes & Colleen Rooney	VINETI	
Mike & Alice Norris	141 Ogden	503-655-[illegible]
Ferruccio & Sharon Crocetti	420 Weleber	503-657-2578
Wes Rogers	Oregon City School District	906 Summit St O.C.
Debra Buttaph	250 Park St	503-656-5037
Jess Buttaph	" " "	
Marie McKnight	161 Barclay Ave OC	503 656-6435
Erby & Lacy Kanega	6031 Clairmont OC	503-656-4916
Fred Purves	611 Brighton Ave	503-227-2016
Kevin Poppen / Cathy Poppen	222 Park Dr	503 655-3861
Jessica & Steven Rice	214 Park Dr	405 443-7273
Jonathan Waverly	500 Hilda St	503-519-0577

APPENDIX B STATE HISTORIC PRESERVATION OFFICE LETTER

Oregon
Kate Brown, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE Ste C
Salem, OR 97301-1266
Phone (503) 986-0690
Fax (503) 986-0793
www.oregonheritage.org

July 18, 2017

Ms. Diliana Vassileva
City of Oregon City Planning
221 Molalla Ave
Ste 200
Oregon City, OR 97045

RE: SHPO Case No. 17-1018
City of Oregon City, PA 17-35, Zone change from Residential to Institutional Plan Zone change
1232 Linn Ave (3S 2E 06DB, Oregon City, Clackamas County

Dear Ms. Vassileva:

Our office recently received a request to review your application for the project referenced above. In checking our statewide archaeological database, it appears that there have been no previous surveys completed near the proposed project area. However, the project area lies within an area generally perceived to have a high probability for possessing archaeological sites and/or buried human remains. In the absence of sufficient knowledge to predict the location of cultural resources within the project area, extreme caution is recommended during project related ground disturbing activities. Under state law (ORS 358.905 and ORS 97.74) archaeological sites, objects and human remains are protected on both state public and private lands in Oregon. If archaeological objects or sites are discovered during construction, all activities should cease immediately until a professional archaeologist can evaluate the discovery. If you have not already done so, be sure to consult with all appropriate Indian tribes regarding your proposed project. If the project has a federal nexus (i.e., federal funding, permitting, or oversight) please coordinate with the appropriate lead federal agency representative regarding compliance with Section 106 of the National Historic Preservation Act (NHPA). If you have any questions about the above comments or would like additional information, please feel free to contact our office at your convenience. In order to help us track your project accurately, please reference the SHPO case number above in all correspondence.

Sincerely,

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@oregon.gov

APPENDIX C KITTELSON AND ASSOCIATES TRAFFIC ANALYSIS

KITTELSON & ASSOCIATES
610 SW ALDER STREET, SUITE 700
PORTLAND, OR 97205
P 503.228.5230 F 503.273.8169

August 14, 2017 Project #: 21365

John Replinger, PE
Replinger & Associates LLC
6330 SE 36th Avenue
Portland, OR 97202

City of Oregon City Planning
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

RE: Oregon City Community Development Department Relocation Transportation Analysis Letter

Dear Mr. Replinger,

The City of Oregon City is proposing redevelopment of the "annex" portion of the former Mt. Pleasant Elementary School to house the Oregon City Community Development Department. The site is located at 1232 Linn Avenue and is bounded by Warner Parrott Road and Linn Avenue. This Traffic Analysis Letter (TAL) documents the expected trips to be generated by the proposed development, the location of site driveways, the compliance of these driveways with city regulations, and the agreement of the surrounding area with the City's *Transportation System Plan* (TSP).

SUMMARY OF FINDINGS

The proposed renovation of the 7,000 square feet annex building to a government office building will require rezoning the site from a Residential Zone to an Institutional Zone. To limit the potential transportation impact the new zoning could have on the community, the City proposes a trip cap on the site that will limit future site trip generation to no more trips than currently allowed under the existing zoning. Further, review of local conditions determined that key study intersections close to the development will operate in conformance with the City's standards with the proposed land use change, and that there are no historic safety issues associated with streets surrounding the site. Based on our review, preparation of a TAL fully addresses the City's Community Development Code requirements and a full Traffic Impact Analysis is not necessary.

EXISTING CONDITIONS

This section summarizes the existing characteristics of the transportation system and adjacent land uses in the vicinity of the proposed development, including an inventory of the existing transportation facilities and a summary of recent study intersection crash history. Employees from Kittelson and Associates, Inc. (KAI) visited the site in June 2017 to take measurements, observe traffic, and examine the current conditions of the surrounding area. Findings are documented in the following sections.

Street Characteristics

Table 1 displays some of the features of the primary roadways in the vicinity.

Table 1. Street Characteristics in Site Vicinity

Street	Comprehensive Plan Designation	Classification[1]	Speed Limit	Motor Vehicle Travel Lanes	Pavement Width	Sidewalks	Bike Lanes	On-Street Parking
Warner Parrott Road/Warner Milne Road	Residential/ Mixed Use	Minor Arterial	30	2-4[2]	60 feet	Yes	Yes	No[3]
Linn Avenue/ Leland Road	Residential/ Mixed Use	Minor Arterial	35	2-3[4]	50 feet	Yes	Yes	Yes[5]
S Central Point Road	Residential	Collector	35	2-3[6]	48 feet	Yes	Yes	No
Williams Street	Residential	Local	25*	2	48 feet	No	No	Yes

[1] Per *City of Oregon City Transportation System Plan*, Figure 8

[2] Warner Parrott Road/Warner Milne Road widens to a four-lane cross-section at the Linn Avenue/Leland Road intersection to accommodate right-turn and left-turn lanes.

[3] Some on-street parking is available on the south side of Warner Parrott Road west of the existing site exit.

[4] Linn Avenue/Leland Road widens to a three-lane cross-section at the Warner Parrott/Warner Milne intersection to accommodate left-turn lanes.

[5] Some on-street parking is available on the west side of Linn Avenue between Williams Street and Hood Street.

[6] S Central Point Road widens to a three-lane cross-section between Warner Parrott Road and a point approximately 700 feet to the southwest to accommodate a two-way-left-turn lane.

*No speed limit posted; therefore, assumed to be 25 mph.

The City of Oregon City's *Transportation System Plan* (TSP) and the *Oregon City Municipal Code 12.04.180 – Street Design* provide street design criteria. Oregon City identifies roadway frontage improvement requirements for its streets depending in part on the surrounding land use classification. The TSP does not have an Institutional land use classification for determining street design parameters; therefore, this letter compares the roadways fronting the site to the Residential designation, as this classification is the best comparable one available from the TSP and a residential zone often allows some institutional land uses as a conditional use.

Figure 1 below from the TSP shows a cross section of a road with the various components that comprise a complete street. For residential roads the TSP recommends a high priority be placed on walking without neglecting the needs of motorists and bicyclists. The roads fronting the proposed site have bike lanes, sidewalks, and landscaping strips today, each of which are encouraged in the TSP. The combined width of these features is less than the maximum allowable right of way set forth in the municipal code. On-street parking is available on the south side of Warner Parrott Road just west of the site, and on the west side of Linn Avenue north of the site.

Figure 1. Components of Oregon City Streets

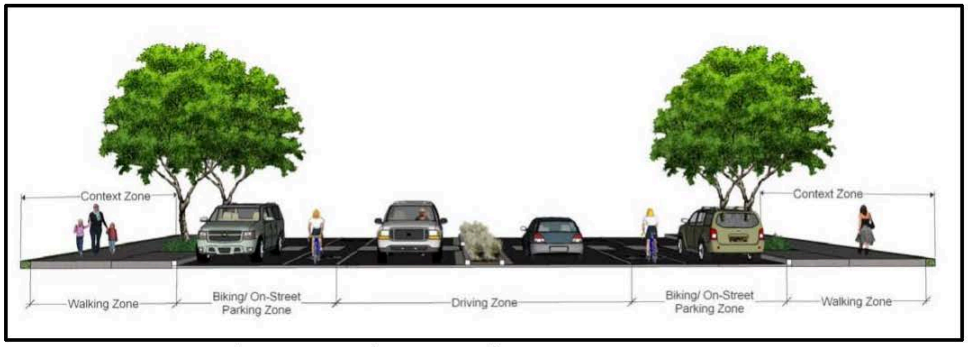


Image Source: Oregon City Transportation System Plan

Traffic Safety

The reported crash histories of four intersections near the site were reviewed to identify potential safety issues. The Oregon Department of Transportation (ODOT) provided reported crash records from the study intersections for the most recently available three-year period, from January 1, 2013 to December 31, 2015. Table 2 summarizes the crash data at the four intersections. *Appendix "A" includes the crash data.*

Table 2. Intersection Crash Summary (2013-2015)

Intersection	Crash Type				Severity			Total Crashes
	Rear End / Backing	Turning / Angle	Fixed / Other Object	Pedestrian or Bike	PDO[1]	Injury Crashes	Fatal Crashes	
Site Driveway/ Warner Parrott Road	1	-	1	-	2	-	-	2
S Central Point Road/ Linn Avenue	3	2	1	-	4	2	-	6
Warner Parrott Road-Warner Milne Road/Linn Avenue-Leland Road	11	6	1	2	10	10	-	20
Linn Avenue / Williams Street	-	-	-	-	-	-	-	-

[1] Property Damage Only

As displayed in Table 2, there have been relatively few reported crashes around the site in the three year study period. There were no reported fatalities, and many of the reported crashes involved property damage only. In the future, the intersection of Warner Parrott/Warner Milne Road and Linn Avenue/Leland Road is expected to be reconstructed into a modern roundabout. The intersection reconfiguration as a roundabout is expected to improve both intersection operations and safety performance once completed.

During our field investigation it was noted that current signing at the site driveways to the annex building is outdated and should be removed or replaced in conjunction with the proposed site re-development. For example, there is currently a sign posted that reads, "SCHOOL ENTRANCE," as shown in Photo 1. While this indicates that the driveway is an entrance, it is does not necessarily suggest that it is an entrance only. Additionally, as shown in Photo 2, the "STOP" sign and "DO NOT ENTER" sign at the driveway exit on Linn Avenue are faded and should be considered for replacement with the proposed site redevelopment.

Photo 1: Existing School Entrance Sign



Photo 2: Existing Driveway Stop Sign to Linn Avenue



Current Detour Route Implications on Intersection Operations

Vehicles turning at or traveling through the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road currently experience a fair amount of delay. Current traffic volumes at the intersection are higher than historic patterns due to the temporary closure of the southbound lane of South End Road in Oregon City. Oregon City has posted a South End Road detour route that directs traffic through the Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road intersection. The detour route, obtained from the City's website, is illustrated in Figure 2.

Figure 2. South End Road Detour Route



Image Source: City of Oregon City

Pedestrian Facilities

Field observation determined there is a relatively complete existing network of sidewalks and crosswalks connecting the site to the surrounding area. A few items were identified that could be improved in conjunction with site frontage improvements including:

- The sidewalk along the site frontage on Warner Parrott Road currently terminates approximately 150 feet prior to the west end of the property as shown in Figure 3 on the following page. The missing segment of sidewalk should be completed in conjunction with standard frontage improvements.
- A north-south crosswalk of Warner Parrott Road is currently located at the western terminus of the frontage sidewalk on the north side of Warner Parrott Road; however, there is no curb ramp on either side of the crosswalk, as shown in Photo 3 on the following page. Should the City choose to retain the crosswalk, consideration should be given to providing ADA-compliant ramps for the crosswalk.
- The intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road has crosswalks with pedestrian signal heads signs on all four intersection legs. The pedestrian signal heads currently do not have countdown timers, which would be preferable. Additionally, the curb cut at the northwest corner of the intersection, on the corner adjacent to the property, may not meet ADA standards. There is only one curb ramp, where there should be one for each crosswalk.

- The sidewalk on the east side of Linn Avenue currently terminates prior to Williams Street and the curb ramp directs users into the northbound bike lane, as shown in Photo 4. The City could consider reconstructing the sidewalk and curb ramp on the southeast corner of the Linn Avenue/Williams Street intersection. It appears that reconfiguration of the sidewalk would impact a stormwater inlet as well as support wires for a utility pole.

Figure 3. Aerial with Locations of Pedestrian Facility Considerations



Image Source: Google Maps

Photo 3: No Ramp from Sidewalk to Crosswalk



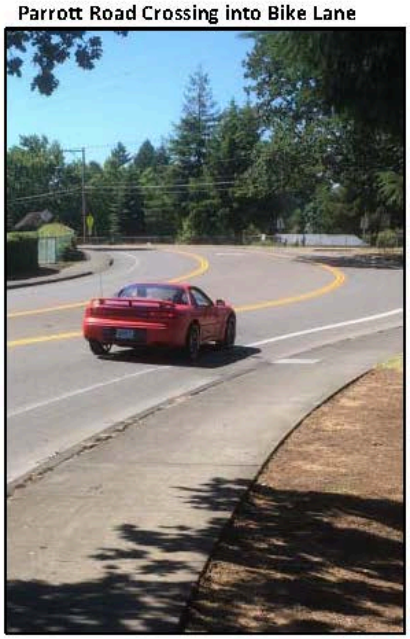
Photo 4: Sidewalk Ramp into Bicycle Lane



Bicycle Facilities

Bicycle facilities are provided in the site vicinity, including designated bike lanes along both sides of the roadways fronting the site. During our field observations it was noted that some motor vehicles traveling westbound through the horizontal curve along Warner Parrott Road along the site frontage cross into the bike lane instead of staying within the travel lane around the curve as shown in Photo 5. The bicycle lane markings in this area are worn from cars repeatedly driving over the lane line. This issue may be addressed when the future roundabout is installed.

Photo 5: Westbound Vehicle on Warner Parrott Road Crossing into Bike Lane



Transit Facilities

There is a TriMet Park & Ride facility located across the street from the site at the First Presbyterian Church, east of Linn Avenue and south of Williams Street. The lot serves TriMet Route #33, a high frequency route which operates between Clackamas Community College and Clackamas Town Center Transit Center.

PROPOSED DEVELOPMENT SUMMARY

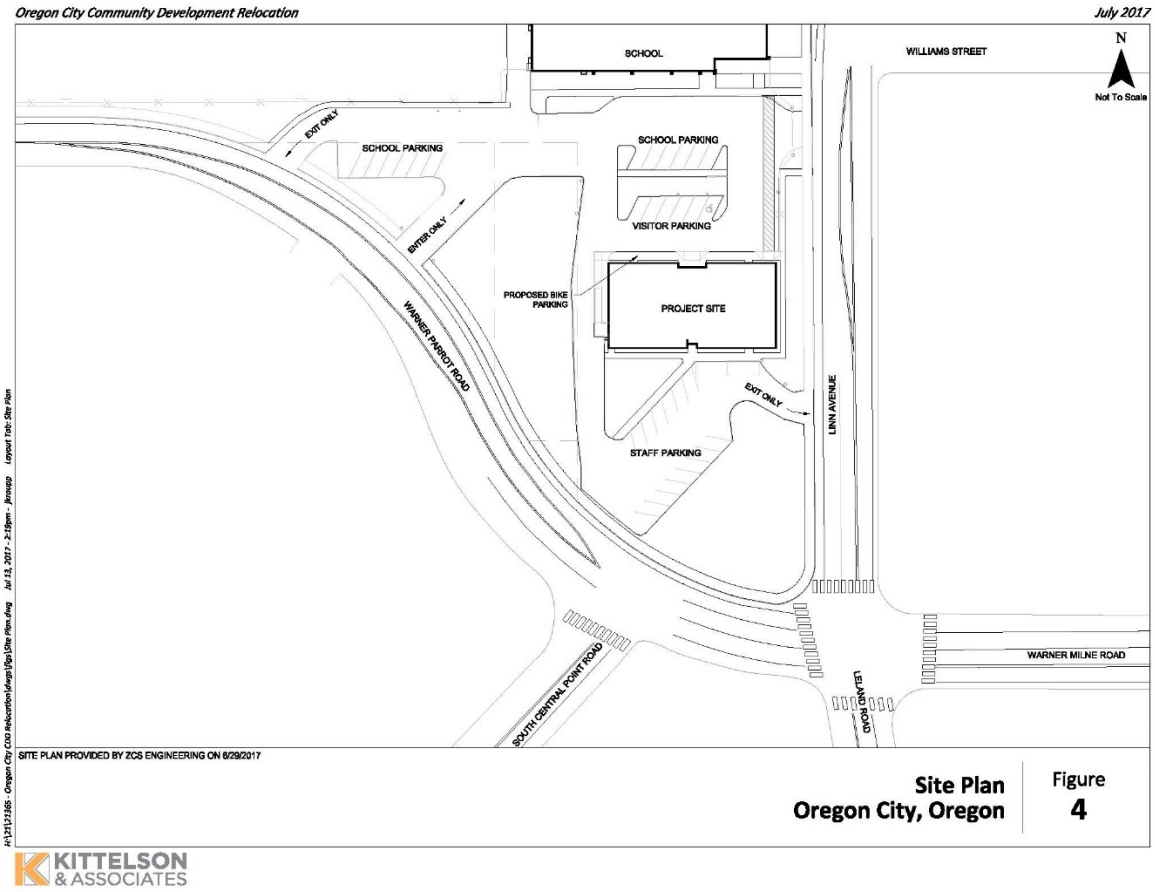
The proposed development re-purposes the annex, a 7,000 square foot building of the former elementary school for use as a government office space. As shown in Figure 4, the proposed site plan would retain the existing site driveways including separate entrance and exit driveways located on Warner Parrott Road as well as an exit-only driveway on Linn Avenue.

TRAFFIC ANALYSIS LETTER DOCUMENTATION

The seven requirements for a TAL to support the land use application are outlined below in *italicized* text, followed by an explanation as to how the requirements are being satisfied.

1. *The expected trip generation of the proposed development including the AM peak hour, the PM peak hour, daily traffic, and other germane periods as may be appropriate, together with appropriate documentation and references.*

Response: The projected weekday daily, AM, and PM peak-hour vehicle trip ends for the former elementary school and the currently proposed development were based on trip rates from the *Trip Generation Manual*, 9th Edition. Table 3 summarizes the forecast trip generation for the former school use and the proposed government use of the 7,000 square foot portion of the existing building.



KITTELSON & ASSOCIATES

Two methods of were used to compute the portion of the elementary school that the government annex building represents. The first estimate was prepared using the square footage of the building. The second used the proportion of formerly enrolled students that the 7,000 square foot portion of the existing building would represent. The former elementary school building is 39,000 square feet, and 400 students were enrolled. 7,000 square feet is 17.9 percent of 39,000, and 72 student represents 17.9 percent of the former 400 student enrollment.

Table 3. Trip Generation Estimate

Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Former Elementary School Use (7,000 Square Foot Portion of Existing Building)									
Elementary School (sq. ft.)	520	7,000 sq. ft.	108	36	20	16	8	4	4
Elementary School (students)	520	72 students	93	32	18	14	11	5	6
Currently Proposed Site Plan									
Government Office	730	7,000 sq. ft.	483	41	34	7	8	2	6

As shown in Table 3, the critical weekday PM peak hour trip generation for a government office building is less than or equal to the number of trips generated by the former elementary school building of the same size. Consequently, weekday PM peak hour intersection capacity analysis and transportation system development charges would not be triggered by the proposed land use change.

The relatively small incremental increase in weekday AM peak hour trips will have little if any demonstrable impact to local area intersection operations.

Oregon Transportation Planning Rule Considerations

We understand that compliance with the Oregon Transportation Planning Rule (TPR) will be addressed through the rezoning of the proposed development site. The TPR implements Statewide Planning Goal 12, "Transportation." Oregon Administrative Rule (OAR) 660-012-0060(1) and (2) established a two-step process for evaluating an amendment's impacts on roads. The first step in assessing an amendment's potential transportation impact is to compare the trip generation potential of the site assuming a "reasonable worst-case" development scenario under the existing and proposed zoning. If the trip generation potential increases under the proposed zoning, additional operational analysis is required to assess whether the rezone will "significantly affect" the transportation system. Conversely, if the trip generation under the proposed zoning is equal to or less than that under the existing zoning, no additional operational analysis is necessary to conclude that the proposal does not "significantly affect" the transportation system. In the case of the proposed rezone, we understand that a trip cap will be placed on the property that will limit

the total trips generated by the entire site to the number associated with the former elementary school and thus will ensure there are no new trip impacts associated with the proposed rezone.

2. *Site plan showing the location of all access driveways or private streets where they intersect with public streets plus driveways of abutting properties and driveways on the opposite side of the street from the proposed development.*

Response: Figure 4 (shown previously) illustrates the site plan. As previously noted, the proposed site plan retains the existing building as well as the existing site driveways.

3. *Documentation that all site access driveways meet Oregon City Private Access Driveway Width Standards.*

Response: *Oregon City Municipal Code Section 12.04.025* requires that all non-residential driveway access be a minimum of 15 feet and maximum of 40 feet in width. Both exits onto Warner Parrott and Linn Avenue satisfy this standard, with widths of 24 feet and 28 feet, respectively. The existing entrance on Warner Parrott Road is only 12 feet wide; therefore, it is recommended that this driveway be widened to at least 15 feet to satisfy the Code standards.

4. *Documentation that all site access driveways meet Oregon City's Minimum City Street Intersection Spacing Standards.*

Response: The City of Oregon City classifies both Warner Parrott Road and Linn Avenue as Minor Arterials (per Figure 8 "Multi-modal Street System" from the *City of Oregon City Transportation System Plan* as adopted in June 2013). Table 1 of the June 2013 *City of Oregon City Transportation System Plan*, Spacing Standards, identifies a minimum driveway spacing standard (street to driveway and driveway to driveway) of 175 feet for minor arterial facilities in mixed-use or residential areas. The Transportation System Plan offers the following guidance with respect to access spacing: "Within developed areas of the City, streets not complying with these standards could be improved with strategies that include shared access points, access restrictions (through the use of a median or channelization islands) or closed access points as feasible. New streets or redeveloping properties must comply with these standards, to the extent practical (as determined by the City). Figure 4 illustrates the site driveway locations relative to other driveways along the site frontage.

The two existing driveways on Warner Parrott Road satisfy the City access spacing requirements. The existing exit-only driveway on Linn Avenue satisfies the spacing standard with respect to SE Williams Street to the north but is located 110 feet from Warner Parrott Road/Warner Milne. This distance is smaller than the minimum spacing of 175 feet allowed in a Mixed-Use/Residential area.

To mitigate this issue the City might consider making the exit a "right turn only." This option would negate the effects of any potential hindrances of the driver's view of opposing traffic resulting from the driveway's close proximity to the intersection. The City may choose to add a "RIGHT TURN

ONLY" sign in compliance with the *Manual on Uniform Traffic Control Devices* and may additionally alter the driveway so that it discourages left turns.

5. *Documentation that all site accesses and/or private street intersections meet AASHTO intersection sight distance guidelines.*

Currently available intersection sight distance and stopping sight distance was observed at the proposed driveway locations. Based on the posted 30 miles per hour speed limit on Warner Parrott Road/Warner Milne Road, *A Policy on Geometric Design of Highways and Streets, 6th Edition* (published by the American Association of State Highway and Transportation Officials, AASHTO) identifies a desired 335 feet of intersection sight distance and 200 feet of stopping sight distance[1]. There is a clear line of sight of over 350 feet from the exit facing left towards S Central Point Road, and there is greater than 400 feet of sight distance facing to the west; therefore, the sight distance at the exit meets the standards set by the City. There are some tree branches on site that, if not maintained, could reduce the driver's sight distance to the left. A driver's view facing left along Warner Parrott Road from the driveway exit onto Warner Parrott Road is shown in Photo 6.

Photo 6: Warner Parrott Exit, Driver Facing West (Left)



We recommend on-site landscaping along the site frontage to the left of the proposed driveway continue to be maintained to the extent necessary in order to provide the City-required minimum intersection sight distance.

6. *Documentation that there are no inherent safety issues associated with the design and location of the site access driveways.*

The proposed site driveways have or can be provided with sufficient intersection sight distance and comply with City access spacing standards. No safety issues were identified while on-site observing

[1] Per AASHTO requirements, intersection sight lines were measured from a vertex point located 14.5 feet from the curb line along the center of the approaching travel lane. The assumed driver eye height was 3.5 feet above the driveway and the object height was 3.5 feet, providing enough space on the approaching vehicle to recognize it. For stopping sight distance purposes, the assumed driver eye height was 3.5 feet above the street and the object height was 2.0 feet above the driveway.

the proposed driveway locations. As previously noted, we recommend the existing signage at the driveways be reviewed and replaced as appropriate. Based on the above considerations, we conclude that there are no inherent safety issues associated with the design and location of the site access driveways.

7. *Documentation that the applicant has reviewed the City's TSP and that proposed streets and frontage improvements do or will comply with any applicable standards regarding the functional classification, typical sections, access management, traffic calming and other attributes as appropriate.*

The applicant has reviewed the *City's Transportation System Plan* as adopted in June 2013. As previously noted, both Warner Parrott Road and Linn Avenue are classified as Minor Arterials. The site frontage is largely complete today including a striped bicycle lane and sidewalks commensurate with the Minor Arterial designation. The missing section of sidewalk along the west portion of the Warner Parrott Road frontage should be completed.

A review of the Oregon City TSP indicates that Project D34 (planned roundabout at the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road) is the only notable improvement planned within the immediate vicinity of the development site. Functional class and access management were previously addressed in this report. No traffic calming measures were noted for the site frontage in the TSP beyond completion of sidewalks.

CONCLUSIONS AND RECOMMENDATIONS

The proposed Community Development Department building use is not expected to have a significant trip impact on the surrounding transportation facilities as compared to the prior elementary school use on the site. Further, the proposed building can comply with the seven TAL criteria as documented in this letter.

Based on the findings of this review, we offer the following recommendations:

- As part of the proposed property rezoning, the City should implement a trip cap on the development property to limit the total trips generated by the entire site to the number associated with the former elementary school and thus ensure there is no new trip impact associated with the proposed rezone.
- Existing site driveway signage should be removed or replaced in conjunction with the proposed site re-development, particularly the "SCHOOL ENTRANCE" sign on Warner Parrot Road as well as the "STOP" sign and "DO NOT ENTER" sign at the Linn Avenue exit driveway.
- Sidewalk should be completed along the Warner Parrott Road site frontage in conjunction with standard frontage improvements. Should the City choose to retain the existing north-south mid-block crosswalk of Warner Parrott Road along the site frontage, consideration should be given to providing ADA-compliant ramps for the crosswalk.

- The City should consider replacing the current pedestrian signals at the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road with countdown timers and constructing ADA-compliant curb ramps on the frontage side of the intersection.
- The City could consider reconstructing the sidewalk and curb ramp on the southeast corner of the Linn Avenue/Williams Street intersection.
- The City could choose to make the Linn Avenue exit at right turn only exit. A "RIGHT TURN ONLY" sign could be added, and additionally the driveway could be altered in a way to discourage left turns.
- On site landscaping along Warner Parrott Road should be continued to be maintained in order to maintain sight distance at the exit.

Please contact us if you have any questions regarding this report or our findings.

Sincerely,
KITTELSON & ASSOCIATES, INC.

Chris Brehmer, PE
Senior Principal Engineer

Zachary Horowitz
Senior Project Manager

REGISTERED PROFESSIONAL ENGINEER
12834PE
OREGON
JULY 11, 2000
CHRISTOPHER LYNN BREHMER
Expires: 12-31-17

APPENDIX D PRE-APPLICATION MEETING NOTES

OREGON CITY

Pre-Application Conference Notes

PA 17-35

Pre-Application Conference Date: **7/7/2017**

Proposed Project:

- Community Development Department relocation to Mt. Pleasant Annex Building. Zone Change, Comp Plan Amendment, and exterior building and site changes

General Information:

- Location: 698 Warner Parrott
- Zoning: R-10 and R-3.5
- No Overlay Districts
- Applications anticipated:
  - Zone Change (to Institutional):
  - Comp Plan Amendment (to Quasi-Public):
  - Mailing Labels: $15 or provided by applicant
  - Minor Site Plan and Design Review:
  - Traffic Analysis review:
  - Type I Minor Site Plan may be submitted for roof replacement wither before or after the Type IV land use process – see attached Type I application

Timing and Process:

This application is a **Type IV** decision process. Type IV decisions require a minimum of one public hearing before the Planning Commission and one before the City Commission, and involve the greatest amount of discretion and evaluation of subjective approval standards.

Transportation Impacts:

TPR Compliance for the Zone Change is required to be demonstrated through a traffic study. Applicant is proposing a trip cap.

Based on the information provided by the applicant, it appears the transportation analysis associated with this development proposal can be satisfied by submittal of a Transportation Analysis Letter (TAL). This option is available when specific criteria are met. These include a determination that the development generates 24 or fewer AM and PM peak hour trips and fewer than 250 daily trips. Details for a TAL can be found in Section 3.1 of the Guidelines. It is the applicant's responsibility to verify the trip generation characteristics of the proposed development.

Due to the unique configuration of the site, the applicant is advised to pay particular attention to on-site circulation and access to the adjacent streets including recommendations, if any, for turning restrictions and for signing or other appropriate features associated with site access.

Because the proposal includes a zone change, the applicant will also need to address the requirements of Oregon's Transportation Planning Rule (TPR). Specifically, the applicant

shall address the provisions of 660-12-0060 Plan and Land Use Regulation Amendments. When a zone change is proposed, a future year analysis is required assessing the impact associated with the planning horizon specified in the city's adopted Transportation System Plan. One possible scenario for showing compliance with the TPR is for the applicant to propose a trip cap equal to the approved prior use of the site. Should a future proposal include a more intense use of the site beyond what is permitted under the trip cap, additional analysis showing compliance with the TPR would be required.

The applicant's traffic engineer is welcome to contact the city's traffic engineering consultant, John Replinger, at Replinger-Associates@comcast.net or at 503-719-3383.

Zone Change and Comp Plan Amendment:
See attached code template with Goals and Policies that apply.

Site Plan and Design Review Items to Consider

- ***17.52.020 - Number of automobile spaces required.***
  A. The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated.

Office	*2.7*	*3.3*
Elementary School	*1 per classroom*	

- 17.52.040 – Bicycle parking
- 17.62.085 – Refuse enclosures
- 17.62.050.A.1 - Landscaping plan by a landscape architect or other qualified professional
- 17.62.065 - Outdoor lighting. For architectural or entryway lighting on exterior of building, a cut sheet and a letter from a lighting professional addressing code requirements will suffice in place of a full photometric plan.
- 17.62.050.A.21 – Building Materials
- 17.62.055.D.3 – Building Entrances

Non-Conforming Upgrades:

- Expansion of a non-conforming structure where alterations exceed $75,000 triggers non-conforming upgrades to the following:
  - Pedestrian circulation systems, as set out in the pedestrian standards that apply to the sites;
  - Minimum perimeter parking lot landscaping;
  - Minimum interior parking lot landscaping;
  - Minimum site landscaping requirements;
  - Bicycle parking by upgrading existing racks and providing additional spaces in order to comply with Chapter 17.52—Off-Street Parking and Loading;
  - Screening; and
  - Paving of surface parking and exterior storage and display areas.

Notes:

- A Neighborhood Association meeting with Rivercrest is required – applicant has already held meeting.
- Notice of the proposed development has been provided to the State Historic Preservation Office (SHPO) and affected tribes. Responses and comments received have been provided.

Planning Division
Kelly Reid, Planner with the Oregon City Planning Division reviewed your pre-application. You may contact Laura Terway at 503.496.1540 or kredi@orcity.org.

Development Services Division (Utilities/Public Improvements/SDC's etc):
Wendy Marshall, Development Engineering Manager with the Oregon City Development Services Division reviewed your pre-application. You may contact Wendy at 503.496.1548 or wmarshall@orcity.org

Building Division:
You may contact Mike Roberts, Building Official at 503.496.1517 or by email at mroberts@orcity.org.

- ADA access – as long as there is a provided ADA route from the sidewalk, additional connections may be added and are not required to be accessible.

Clackamas Fire District:
Questions can be directed to Mike Boumann, Lieutenant Deputy Fire Marshal of Clackamas Fire District #1. You may contact Mr. Boumann at (503)742-2660 or michaelbou@ccfd1.com.

Oregon City Municipal Code Criteria:
The following chapters of the Oregon City Municipal Code (OCMC) may be applicable to this proposal:
OCMC 17.50 – Administrative Processes
OCMC 17.52 – Off-Street parking and Loading
OCMC 17.62 – Site Plan and Design Review
OCMC 17.58 – Nonconforming Uses, Structures and Lots
A template for your submittal with the applicable criteria will be been emailed by the City.

Pre-application conferences are required by Section 17.50.050 of the City Code, as follows:
A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.
B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

NOTICE TO APPLICANT: A property owner may apply for any permit they wish for their property. HOWEVER, THERE ARE NO GUARANTEES THAT ANY APPLICATION WILL BE APPROVED. No decisions are made

until all reports and testimony have been submitted. This form will be kept by the Community Development Department. A copy will be given to the applicant. IF the applicant does not submit an application within six (6) months from the Pre-application Conference meeting date, a NEW Pre-Application Conference will be required.

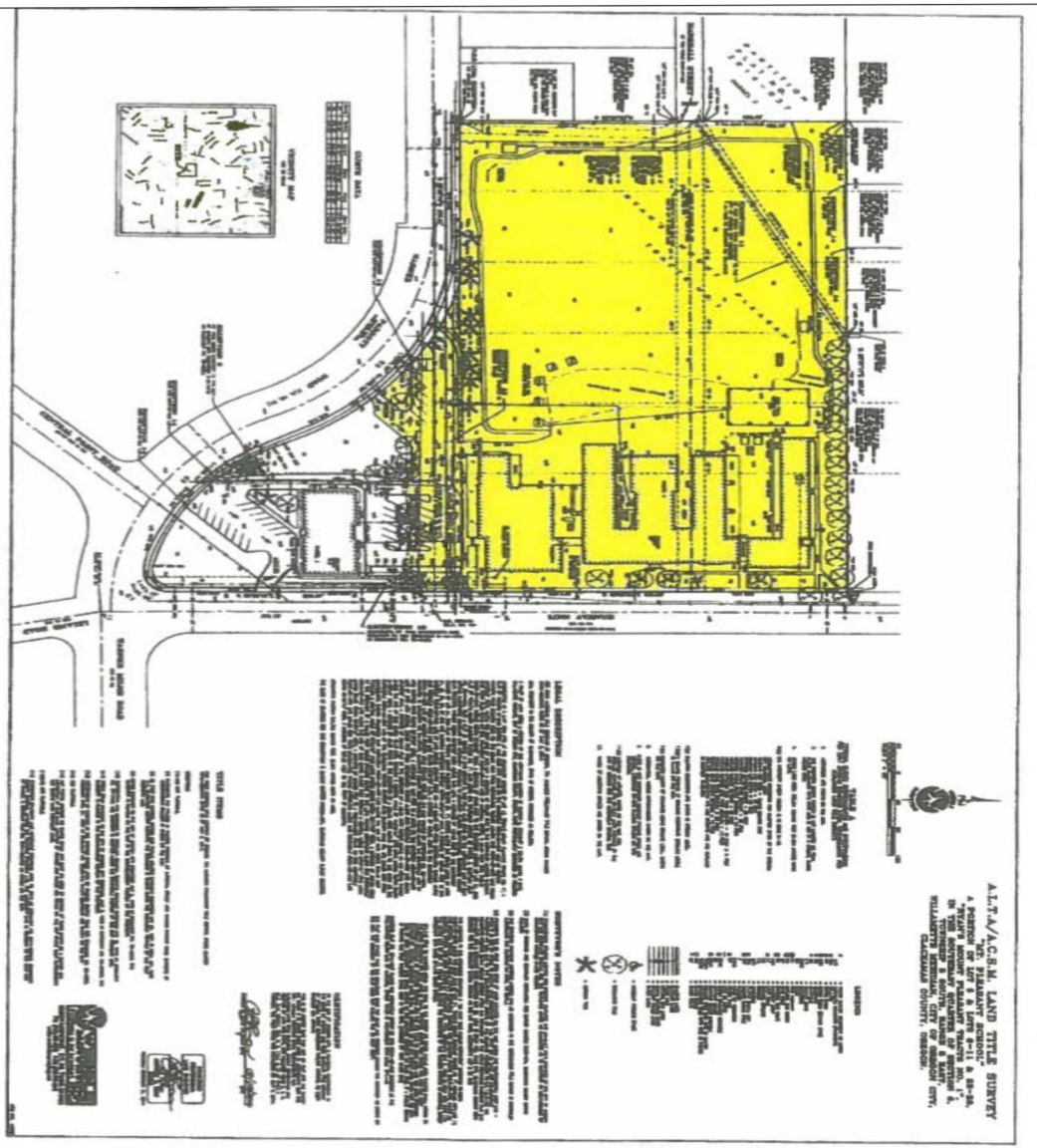

A.L.T.A./A.C.S.M. LAND TITLE SURVEY
"ST. PEARANT SCHOOL"
PARCEL 1, PARTITION PLAT NO. 2004-094,
"PLAT A MINOR PLANNED UNIT DEVELOPMENT"
AND A REPLAT OF PARCEL 1, PARTITION PLAT NO. 1999-110,
IN THE SOUTHEAST QUARTER OF SECTION 2,
TOWNSHIP 3 SOUTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CITY OF GRESHAM,
CLACKAMAS COUNTY, OREGON.

EXHIBIT A

LEASE AGREEMENT

Between

CITY OF OREGON CITY
("Landlord")

And

The Marylhurst School
("Tenant")

Dated Effective: July 1, 2017 Through June 30, 2019

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COMMERCIAL LEASE

1. BASIC LEASE TERMS.

(a)	LANDLORD: Address (for Notices):	City of Oregon City 625 Center Street Oregon City, OR 97045
(b)	TENANT:	The Marylhurst School
(c)	PREMISES:	The real property described in Exhibit "A" attached hereto and incorporated herein, together with all improvements thereon and appurtenances thereto, commonly known as The Mt. Pleasant School (formerly), 1232 Linn Avenue, Oregon City, OR (the "**Premises**").
(d)		USE OF PREMISES: Tenant shall use the Premises as a private school, including classroom instruction, general office and ancillary purposes.
(e)	TERM OF LEASE:	Commencement Date: July 1, 2017 Expiration Date: June 30, 2019
(h)	SECURITY DEPOSIT:	Waived.
(f)	MONTHLY RENT:	$3500

2. PREMISES.

Upon the terms and conditions herein contained, Landlord hereby leases the Premises to Tenant and Tenant hereby leases the Premises from Landlord. Tenant acknowledges that it has inspected the Premises and accepts the Premises in its present condition, AS-IS, and subject to all applicable zoning, municipal, county, and state laws, ordinances and regulations, and all liens, encumbrances, easements, covenants, conditions and restrictions of record. Landlord makes no representations or warranties regarding the condition of the Premises or the suitability of the Premises for Tenant's use and operations. If Tenant is unable to receive an Occupancy Permit or other qualification set out by the municipality, without reasonable costs to the Tenant, the Tenant will have the ability to terminate this contract without penalty.

3. TERM.

(a) **Initial Term**. The initial term of this Lease shall commence on July 1, 2017 (the "**Commencement Date**") and continue until midnight on the Expiration Date of June 30, 2019 (the "**Term**").

(b) **Extension Options.** Any extension would be negotiated by both parties and require a new lease agreement.

4. RENT.

(a) **Monthly Rent**. "**Monthly Rent**" means the amount of monthly base rent due hereunder as shown in Section 1(f). Beginning with the Commencement Date and through the Expiration Date of the Term, Tenant agrees to pay the Monthly Rent for its use and occupancy of the Premises. Monthly Rent shall be payable in advance on the first day of each calendar month of the Term.

(b) **Rent**. For purposes hereof, the term "**Rent**" shall mean Monthly Rent.

(c) **Rent Payments**. All Monthly Rent shall be paid by Tenant to Landlord monthly pursuant to the terms hereof, at the address for Landlord shown in Section 1(a), or such other place as Landlord may designate in writing from time to time. All other sums due hereunder shall be paid, when due, to the party or parties to whom such amount is owed. All Rent shall be paid in lawful currency of the United States of America and shall be paid by Tenant without abatement, deduction or setoff. All Rent due for any partial month shall be prorated based on the number of days in such month.

(d) **Late Fees and Interest**. Tenant acknowledges that its late payment of Rent will cause Landlord to incur certain costs and expenses not contemplated by this Lease, including without limitation administrative and collection costs and processing and accounting expenses, the exact amount of which is extremely difficult or impractical to fix. Accordingly, if any Rent payable to Landlord is not paid within ten (10) days after the date such Rent was due, Tenant shall pay to Landlord, in addition to the Rent then owing, a late payment charge equal to five percent (5%) of the amount of the delinquent Rent. In addition, if any Rent is not paid within thirty (30) days after the date such Rent was due, such unpaid Rent shall bear interest at the statutory rate in ORS 82.010 from the due date until paid in full. No late fees will be collected until the Tenant has received prior written notice. The parties agree that this late charge and interest represents a reasonable estimate of the costs and expenses incurred by Landlord from, and is fair compensation to Landlord for its loss suffered by, such nonpayment by Tenant. Notwithstanding the foregoing, Landlord shall waive such late penalties once per calendar year provided that Tenant pays all amounts due within five (5) days' notice by Landlord. Nothing in this Section shall relieve Tenant of its obligation to pay any Rent at the time and in the manner provided by this Lease or constitute a waiver of any default of Tenant with regard to any nonpayment of Rent.

(e) **Security Deposit**. The amount of one month's rent $3500 has been waived.

(f) **Net Lease**. This is a net lease. As such, it is intended that the Rent provided for in this Lease shall be an absolutely net return to Landlord for the Term of this Lease.

5. USE OF PREMISES.

(a) **Permitted Use**. Tenant shall use the Premises solely for the purposes set forth in Section 1(d) above and for no other purpose without obtaining the prior written consent of Landlord..

(b) **Compliance With Laws**.

(i) Tenant shall promptly and at all times comply with all governmental (including without limitation federal, state and local) statutes, laws, ordinances, orders, rules, and regulations (herein "**Laws**") affecting the Premises, including but not limited to the terms, conditions and requirements pertaining to any governmental approval and/or recorded subdivision plat and/or issuance of any site plan, building permit, or certificate of occupancy, or any other governmental approvals relating to the Premises. Laws, as that term is used herein, includes without limitation the Americans with Disabilities Act of 1990, as amended from time to time, and all other Laws, as just specified, in all matters regarding the Premises

and Tenant's operations at the Premises. Tenant shall promptly provide Landlord with copies of all communications to or from any government entity that relate to Lessee's noncompliance, or alleged noncompliance, with any Laws affecting the Premises.

(ii) Tenant shall procure at its sole expense any permits and licenses required for the transaction of business in the Premises and otherwise comply with all Laws. However, the Landlord must maintain fire permits. At Landlord's request, Tenant shall deliver to Landlord copies of all such permits and licenses and proof of Tenant's compliance with all such Laws.

(c) **No Actions Increasing Insurance Costs.** Tenant shall not, without Landlord's prior written consent, keep anything within the Premises or use the Premises for any purpose which increases the insurance premium cost or that invalidates any insurance policy carried on the Premises by Landlord. All property kept, stored or maintained within the Premises by Tenant shall be at Tenant's sole risk. Tenant shall be responsible for the installation, maintenance, service, monitoring fees and all other costs, fees and/or expenses relating to any fire alarm system required, or desired by Tenant, to be installed in the Premises.

(d) **Care and Trash.** Tenant shall take good care of the Premises, keep the Premises secure, and keep the Premises free from waste at all times. Tenant shall not overload the floors in the Premises, nor deface or injure the Premises, reasonable wear and tear excepted. Tenant shall keep the Premises, including the sidewalks, service-ways and loading areas, neat, clean and free from dirt, rubbish. Tenant shall store all trash and garbage within the Premises, or in a trash dumpster or similar container approved by Landlord as to type, location and screening. Tenant is financially responsible for its trash and garbage arrangements (i.e., the charges for the containers for and the regular pick-up of such trash and garbage). Tenant shall not operate an incinerator or burn trash or garbage.

(e) **Windows, Exterior Lighting and Signs.** Tenant shall maintain all exterior portions of the Premises, including windows in a neat, attractive condition, and shall keep all windows, exterior electric signs and exterior lighting in good working order. Tenant shall not place on any signs, decorations, awnings, canopies, or advertising on the Premises without first obtaining Landlord's written consent.

(f) **Park Lawn and Landscaping.** Tenant is responsible for lawn care and maintenance of the area in front of the school (Linn Avenue) and play field in the back of the property. The tenant is responsible for keeping the lawn and landscaping in neat, attractive condition.

6. TAXES AND INSURANCE.

(a) **Real Estate Taxes.** The parties anticipate that this property will remain exempt from real estate taxes. To the extent real estate taxes are assessed against the property, Tenant is responsible for the payment of those taxes.

7. UTILITIES AND ALARM SYSTEM.

July 1, 2017 through June 30, 2018 the Landlord shall pay for all water, sewer and alarm system provided to the Premises and the Tenant shall pay all gas and electricity provided to the premises. July 1, 2018 through June 30, 2019 the Tenant shall be responsible for all utilities (gas/electricity), water/sewer and alarm system. In no event shall Landlord be liable for any interruption or failure in the supply of any utilities or services to the Premises, unless such interruption or failure is the result of Landlord's negligence or misconduct. If Landlord fails to pay utilities then Tenant may do the same and abate such amounts from Monthly Rent.

8. MAINTENANCE.

(a) **Tenant's Obligations**. Except for those items that Landlord is obligated to maintain and repair under Section 8(b) hereof, Tenant shall maintain and repair at its sole cost and expense the entire Premises and keep the same in good condition, reasonable wear and tear excepted, including, without limitation, the general maintenance of the electrical, plumbing and sewage systems, fire sprinkler system, exterior doors (including glass), the heating, ventilating and air conditioning system servicing the Premises, all walls, floors, ceilings, interior doors, exterior and interior windows, fixtures, the parking lots, walkways, driveways, landscaping, fences, signs and utility installations, as well as, subject to Sections 11 and 12 hereof, damage caused in whole or in part by the acts or omissions of Tenant, its agents, employees, licensees, contractors, subcontractors, invitees or guests or any other third parties and damage caused by fire or other casualty. If Tenant fails to maintain the Premises as required herein, Landlord may, but shall not be obligated to, reasonably perform such maintenance, repair and replacement without waiving Tenant's default, and the cost of all such maintenance, repair and replacement shall be considered Additional Rent hereunder, and Tenant shall immediately reimburse Landlord as provided in Section 4 above.

(b) **Landlord's Obligations**. Subject to the provisions of Sections 8(a) and 12 (Damage or Destruction), and except for damage caused by any negligent or intentional act or omission of Tenant, Tenant's employees, suppliers, shippers, customers, or invitees, in which event Tenant shall repair the damage, Landlord, at Landlord's expense, shall keep in good condition and repair the structural condition of the roof, foundation, exterior walls and structural condition of interior bearing walls. Landlord shall not, however, be obligated to paint the exterior or interior surface of exterior walls, nor shall Landlord be required to maintain, repair or replace windows, doors or plate glass of the building. Landlord shall have no obligation to make repairs under this paragraph until a reasonable time after receipt of written notice from the Tenant of the need for such repairs. Landlord will be responsible for the exterior building envelope. Landlord will also be responsible for maintenance of the current boiler system. Tenant expressly waives the benefits of any statute now or hereafter in effect which would otherwise afford Tenant the right to make repairs at Landlord's expense or to terminate this Lease because of Landlord's failure to keep the Premises in good order, condition and repair. Landlord shall not be liable for damages or loss of any kind or nature by reason of Landlord's strikes, lockout, or other labor disturbances or disputes of any character, or by any other cause beyond the reasonable control of Landlord.

9. ALTERATIONS.

(a) **Landlord's Consent Required.** Except as provided below, Tenant shall not make any alterations whatsoever to the Premises without Landlord's prior written consent, which shall not be unreasonably withheld. Any alterations made shall remain on and be surrendered with the Premises upon expiration or termination of this Lease, except that Landlord may, at the time of Landlord's consent, elect to require Tenant to remove any alterations which Tenant may have made to the Premises. If Landlord so elects, at its own cost Tenant shall restore the Premises to the condition reasonably designated by Landlord in its election at the time of Landlord's consent. Landlord's consent shall not be required for alterations that do not affect the structural or exterior elements of the building, the cost of which do not exceed $5,000. Notwithstanding anything herein to the contrary, any fixtures or improvements made in conjunction with the installation of fixtures and which can be removed without damage to the building shall remain the property of Tenant.

(b) **Construction.** Any request for Landlord's consent to alterations to the Premises shall be made at least forty-five (45) days before any work may be commenced and shall be accompanied by (i) detailed plans and specifications for all alterations, and (ii) Tenant's written agreement to provide to Landlord, upon completion of work, a complete set of as-built plans and specifications. All alterations

shall be constructed in a good and workmanlike manner and in conformity with all Laws. Tenant shall contract with a contractor approved by Landlord in its reasonable discretion for the construction of such alterations, shall secure all appropriate governmental approvals and permits, and shall complete such alterations in a first class manner, with due diligence and in compliance with the plans and specifications approved by Landlord.

(c) **No Liens.** Tenant shall pay all costs for construction of alterations and shall keep the Premises free and clear of all liens that may result from work by third parties authorized by Tenant. If any such lien is filed, the same shall be an event of default hereunder if Tenant fails to remove such lien within fifteen (60) days of the filing thereof or post a reasonable bond in the amount of the lien, in the event that Tenant wishes to challenge the validity thereof.

10. RELEASE AND INDEMNITIES.

As material consideration to Landlord, Tenant agrees that Landlord shall not be liable to Tenant for any damage to Tenant or Tenant's property except in the event of Landlord's gross negligence or intentional acts. Tenant shall defend, indemnify and hold Landlord, its directors, officers, shareholders, employees, agents, and independent contractors harmless from all claims, losses, causes of action, costs and expenses, and damages arising out of (a) any damage to any person or property occurring in, on or about the Premises, except as caused by the gross negligence or intentional acts of Landlord, (b) use of the Premises by Tenant or its agents, employees, licensees, contractors, subcontractors, invitees or guests of the Premises, and (c) Tenant's breach or violation of any term of this Lease.

11. INSURANCE; MUTUAL WAIVER OF SUBROGATION.

(a) **Liability Insurance.** Tenant, at all times during the Term, at its sole cost and expense, shall keep or cause to be kept the activities of the Tenant insured against claims for bodily injury, personal injury, contractual liability, property damage or death under a primary policy of commercial general liability insurance, with a single limit of not less than $1,000,000 for damage in any one accident or occurrence. Tenant shall also maintain workers compensation insurance as required by Laws. Additionally, Tenant shall maintain at its sole cost and expense, property insurance against fire and all other risks included within special form coverage with respect to the full replacement value of all of Tenant's personal property to be located upon the Premises, with all proceeds of such insurance to be used by Tenant to replace all personal property and restore any of Tenant's improvements or installations upon the Premises (if any) upon any casualty with respect thereto. Landlord and any lender of Landlord holding a lien or encumbrance upon the Premises (a "**Lender**") shall be named as additional insureds under any insurance policies maintained by Tenant with respect to the Premises. The policy or policies of insurance required to be maintained by Tenant under this Section shall be provided by reputable, financially sound insurance carriers authorized to do business in the State of Oregon as an admitted insurance carrier and shall contain endorsements requiring at least thirty (30) days prior written notice of cancellation to Landlord before cancellation. Tenant shall deliver to Landlord a certificate or copy of its policy (or policies) together with evidence of payment of all premiums due thereunder within fifteen (15) days after the execution date hereof by the Parties.

(b) **Risk Insurance.** Landlord, at all times during the Term, shall keep or cause to be kept the Premises insured with property insurance against fire and all other risks included within special form coverage in an amount equal to the full replacement cost of the building included in the Premises.

(c) **Mutual Waiver of Subrogation.** Where allowable by Law, Tenant hereby releases Landlord from liability and waives all right of recovery against Landlord for any property loss in or about the Premises, from perils required to be insured against under Tenant's insurance policies, including any

endorsements thereunder, whether due to negligence of Landlord, its employees or agents or any other cause, Tenant agreeing to look solely to insurance coverage in the event of any such loss. Landlord hereby releases Tenant from liability and waives all right of recovery against Tenant for any property loss in or about the Premises, including, without limitation, damage to the building, from perils required to be insured against under Landlord's insurance policies, including any endorsements thereunder, whether due to negligence of Tenant, its employees or agents or any other cause, Landlord agreeing to look solely to insurance coverage in the event of any such loss.

(d) **Landlord's Approval of Insurance**. Landlord shall be named as an additional insured on all such policies. The policy or policies of insurance required to be maintained by Tenant under this Section shall be provided by reputable, financially sound insurance carriers authorized to do business in the State of Oregon as an admitted insurance carrier. Tenant shall deliver to Landlord a certificate or copy of its policy (or policies) together with evidence of payment of all premiums due thereunder within fifteen (15) days after the execution date hereof by the Parties. Notwithstanding anything herein to the contrary, Tenant may fulfill its insurance coverage requirements hereunder through the use of self-insurance or umbrella policies.

12. DAMAGE OR DESTRUCTION.

(a) **Definitions**.

(i) "**Premises Building Partial Damage**" shall mean if the building of which the Premises are a part is damaged or destroyed to the extent that the cost to repair is less than fifty percent of the then replacement cost of the building.

(ii) "**Premises Building Total Destruction**" shall mean if the building of which the Premises are a part is damaged or destroyed to the extent that the cost to repair is fifty percent or more of the then replacement cost of the building.

(iii) "**Insured Loss**" shall mean damage or destruction which was caused by an event required to be covered by the insurance described in paragraph 11. The fact that an Insured Loss has a deductible amount shall not make the loss an uninsured loss.

(iv) "**Replacement Cost**" shall mean the amount of money necessary to be spent in order to repair or rebuild the damaged area to the condition that existed immediately prior to the damage occurring excluding all improvements made by Tenants.

(b) **Premises Partial Damage; Premises Building Partial Damage**.

(i) Subject to the provisions of Sections 12(d) and 12(e), if at any time during the term of this Lease there is damage which is an Insured Loss and which falls into the classification of Premises Building Partial Damage, then Landlord shall, at Landlord's expense, repair such damage to the Premises, but not Tenant's fixtures, equipment or Tenant improvements, as soon as reasonably possible and this Lease shall continue in full force and effect.

(c) Subject to the provisions of Sections 12(d) and 12(e), if at any time during the term of this Lease there is damage which is not an Insured Loss and which falls within the classification of Premises Building Partial Damage, unless caused by a negligent or willful act of Tenant (in which event Tenant shall make the repairs at Tenant's expense), which damage prevents Tenant from using the Premises, Landlord may at Landlord's option either (i) repair such damage as soon as reasonably possible at Landlord's expense, in which event this Lease shall continue in full force and effect, or (ii) give written

notice to Tenant within thirty (30) days after the date of the occurrence of such damage of Landlord's intention to cancel and terminate this Lease as of the date of the occurrence of such damage. In the event Landlord elects to give such notice of Landlord's intention to cancel and terminate this Lease, Tenant shall have the right within ten (10) days after the receipt of such notice to give written notice to Landlord of Tenant's intention to repair such damage at Tenant's expense, without reimbursement from Landlord, in which event this Lease shall continue in full force and effect, and Tenant shall proceed to make such repairs as soon as reasonably possible. If Tenant does not give such notice within such 10-day period this Lease shall be canceled and terminated as of the date of the occurrence of such damage.**Premises Building Total Destruction.** Subject to the provisions of Sections 12(d) and 12(e), if at any time during the term of this Lease there is damage, whether or not it is an Insured Loss, and which falls into the classifications of Premises Building Total Destruction then Landlord may at Landlord's option either (i) repair such damage or destruction, but not Tenant's fixtures, equipment or Tenant improvements, as soon as reasonably possible at Landlord's expense, and this Lease shall continue in full force and effect, or (ii) give written notice to Tenant within thirty (30) days after the date of occurrence of such damage of Landlord's intention to cancel and terminate this Lease, in which case this Lease shall be canceled and terminated as of the date of the occurrence of such damage. Tenant has right to terminate this Lease in the event of "Premises Building Total Destruction" by giving written notice to Landlord within thirty (30) days after the date of occurrence of such damage of Tenant's intention to cancel and terminate this Lease, in which case this Lease shall be canceled and terminated as of the date the notice was provided to Landlord.

(d) **Damage Near End of Term.**

(i) Subject to Section 12(e), if at any time during the last six months of the Term of this Lease there is substantial damage, whether or not an Insured Loss, which falls within the classification of Premises Building Partial Damage, Landlord or Tenant may cancel and terminate this Lease as of the date of occurrence of such damage by giving written notice to the other party within thirty (30) days after the date of occurrence of such damage.

(ii) If at any time during the last year of the Term of this Lease there is substantial damage, whether or not an Insured Loss, which falls within the classification of Premises Building Total Destruction, Landlord or Tenant may cancel and terminate this Lease as of the date of occurrence of such damage by giving written notice to the other party within thirty (30) days after the date of occurrence of such damage.

(iii) Notwithstanding Section (d)(i), in the event that Tenant has an option to extend or renew this Lease, and the time within which said option may be exercised has not yet expired, Tenant shall exercise such option, if it is to be exercised at all, no later than twenty (20) days after the occurrence of an Insured Loss falling within the classification of Premises Partial Damage during the last six months of the term of this Lease. If Tenant duly exercises such option during said twenty (20) day period, Landlord shall, at Landlord's expense, repair such damage, but not Tenant's fixtures, equipment or tenant improvements, as soon as reasonably possible and this Lease shall continue in full force and effect. If Tenant fails to exercise such option during said twenty (20) day period, then Landlord may at Landlord's option terminate and cancel this Lease as of the expiration of said twenty (20) day period by giving written notice to Tenant of Landlord's election to do so within ten (10) days after the expiration of said twenty (20) day period, notwithstanding any term or provision in the grant of option to the contrary.

(e) **Abatement of Rent; Remedies.**

(i) In the event Landlord repairs or restores the Premises pursuant to the provisions of this Section 12, the Rent payable hereunder for the period during which such damage, repair or restoration continues shall be abated in proportion to the degree to which Tenant's use of the Premises is impaired. Except for abatement of Rent, if any, Tenant shall have no claim against Landlord for any damage suffered by reason of any such damage, destruction, repair or restoration.

(ii) If Landlord shall be obligated to repair or restore the Premises under the provisions of this Section 12 and shall not commence such repair or restoration within 90 days after such obligation shall accrue, Tenant may at Tenant's option cancel and terminate this Lease by giving Landlord written notice of Tenant's election to do so at any time prior to the commencement of such repair or restoration. In such event this Lease shall terminate as of the date of this notice.

(iii) If Landlord shall be obligated to repair or restore the Premises under the provisions of this Section 12 and it is reasonable believed that such repairs will not be completed within nine (9) months, Tenant may cancel and terminate this Lease as of the date of occurrence of such damage by giving written notice to Landlord within 30 days after the date of occurrence of such damage.

(f) **Terminate – Advance Payments.** Upon termination of this Lease pursuant to this Section 12, an equitable adjustment shall be made concerning advance Rent and any advance payments made by Tenant to Landlord. Landlord shall, in addition, return to Tenant so much of the Deposit as has not theretofore been applied by Landlord.

(g) **Waiver.** Landlord and Tenant waive the provisions of any statute which relate to termination of leases when leased property is destroyed and agree that such event shall be governed by the terms of this Lease.

13. CONDEMNATION.

(a) **Definitions.** The following definitions shall apply. (1) "**Condemnation**" means (a) the exercise of any governmental power of eminent domain, whether by legal proceedings or otherwise by condemnor and (b) the voluntary sale or transfer by Landlord to any condemnor either under threat of condemnation or while legal proceedings for condemnation are proceeding; (2) "**Date of Taking**" means the date the condemnor has the right to possession of the property being condemned; (3) "**Award**" means all compensation, sums or anything of value awarded, actually paid and received on a total or partial condemnation; and (4) "**Condemnor**" means any public or quasi-public authority, or private corporation or individual, having a power of condemnation.

(b) **Obligations To Be Governed by Lease.** If during the Term there is any taking of all or any part of the Premises, the rights and obligations of the Parties shall be determined pursuant to this Lease.

(c) **Total Taking.** If all of the Premises is taken by Condemnation, or if a material portion of the Premises is taken by Condemnation such that, within the reasonable judgment of Tenant, the remaining portion of the Premises is reasonably unsuitable for the use which Tenant was then making of the Premises, then this Lease shall terminate as of the Date of Taking. If Total Taking then Tenant may terminate this Lease at its sole discretion.

(d) **Partial Taking.** If a portion of the Premises is taken by a Condemnation such that the remaining portion of the Premises is reasonably suitable for the use which Tenant was then making of the Premises, then this Lease shall remain in full force and effect. In such event, on the Date of Taking the

Monthly Rent shall be reduced by an amount in the same ratio as the total number of square feet in the Premises taken bears to the total number of square feet in the Premises immediately before the Date of Taking.

(e) **Award**. Tenant shall not have any right to a portion of the Award for any purposes whatsoever. Tenant shall have the right to pursue against the Condemnor any claim available to Tenant for its relocation costs and the taking of Tenant's personal property provided it does not reduce the Award paid to Landlord.

14. ASSIGNMENT OR SUBLEASE.

(a) **Consent Required**. Subject to the terms hereof, and except as provided below, Tenant shall not assign or encumber its interest in this Lease or the Premises or sublease all or any part of the Premises or allow any other person or entity to occupy or use all or any part of the Premises without first obtaining Landlord's prior written consent. No interest of Tenant in this Lease shall be assignable by involuntary assignment through operation of law. Each of the following acts shall be considered an assignment: (a) If Tenant is or becomes bankrupt or insolvent, makes an assignment for the benefit of creditors, or institutes proceedings under the Bankruptcy Act in which Tenant is the bankrupt; (b) if a writ of attachment or execution is levied on this Lease; (c) if in any proceeding or action to which Tenant is a party, a receiver is appointed with authority to take possession of the Premises, (d) a sale of all or substantially all of Tenant's assets, or (e) a transfer of shares or other ownership interest of Tenant that results in a transfer of more than fifty percent (50%) of the shares or other ownership interest of Tenant, regardless of whether the transfer occurs voluntarily or involuntarily, by operation of law, or otherwise, or because of any act or occurrence. Notwithstanding the foregoing, Tenant may without Landlord's consent, upon thirty (30) days' prior notice to Landlord that identifies the proposed assignee and the effective date of the assignment or sublease, assign its interest in this Lease or sublease the Premises to any entity owned by Tenant or under common ownership with Tenant; provided, however, no such assignment or sublease will relieve Tenant of its liability under this Lease.

(b) **Procedure for Consent**. Should Tenant desire to assign this Lease or sublease the Premises, Tenant shall request Landlord's consent in writing, which request shall include (i) a copy of the proposed assignment or sublease document, (ii) current financial statements of the proposed assignee or subtenant, (iii) description of the identity and previous experience of the proposed assignee or sublessee, (iv) a fee of $1,000 for Landlord's costs and expenses in reviewing the request for consent, and (iv) such other information as Landlord may require.

(c) **Continued Liability**. Notwithstanding any consent of Landlord to any assignment or sublease, Tenant shall remain primarily liable to Landlord for the performance of all of Tenant's obligations under this Lease.

15. DEFAULT.

The occurrence of any of the following shall constitute a default by Tenant, in addition to any other Tenant defaults described elsewhere herein: (a) failure to pay Rent within five (5) days after receipt of written notice from Landlord specifying such failure; provided, however, Landlord shall not be required to provide notice of such failure more than once in any calendar year; (b) failure to perform any other provision of this Lease within thirty (30) days after receipt of written notice from Landlord that the failure to perform constitutes a breach (provided, however, if performance reasonably requires more than thirty (30) days and Tenant commences performance within thirty (30) days after notice from Landlord and diligently pursues the matter to completion, Tenant shall be entitled to such longer period as may be reasonably necessary to complete performance, provided that in no event shall such time exceed ninety

(90) days; (c) if Tenant is or becomes bankrupt or insolvent, makes an assignment for the benefit of creditors, or institutes proceedings under the Bankruptcy Act, or a receiver is appointed for the Premises; or (d) if Tenant defaults under any other lease agreement between Tenant and Landlord.

16. LANDLORD'S REMEDIES.

Upon a default, Landlord may exercise any one or more of the following remedies, or any other remedy available under applicable law:

(a) **Termination**. Landlord may terminate this Lease, in which case Tenant shall immediately surrender possession of the Premises to Landlord and shall pay Landlord damages as provided in this Section 16.

(b) **Retake Possession**. To the extent permitted by law, and whether or not Landlord terminates this Lease, Landlord may re-enter and retake possession of the Premises, without notice, either through self-help (including altering locks or other security devices), by summary proceedings or other applicable action or proceeding, or any other means. In the event of such re-taking of possession of the Premises by Landlord, Tenant shall remove all personal property located thereon and upon failure to do so upon demand of Landlord, Landlord may, in addition to other remedies, remove and store Tenant's personal property at the expense and risk of Tenant. On re-entry, Landlord may use the Premises for Landlord's own purposes or relet it upon any reasonable terms without prejudice to any other remedies that Landlord may have by reason of Tenant's default. None of these actions will be deemed an acceptance of surrender or waiver of Landlord's right to damages.

(c) **Relet the Premises**. Landlord at its option may relet the whole or any part of the Premises, from time to time either in the name of Landlord or otherwise, to such tenants, for such terms ending before, on, or after the expiration date of the Term, at such rentals and upon such other conditions (including concessions and free rent periods) as Landlord, in its sole discretion, may determine to be appropriate.

(d) **Damages for Default**. Whether or not Landlord retakes possession of or relets the Premises, Landlord may recover all damages caused by the default (including but not limited to unpaid and future Rent, lease commissions incurred for this Lease, the unamortized cost of improvements to the Premises installed or paid for by the Landlord and all Tenant improvement costs incurred with respect to any subsequent lease, leasing commissions paid by Landlord in reletting, together with any costs Landlord incurs as a result of this Lease being rejected in any Tenant bankruptcy proceedings). Landlord may sue periodically to recover damages as they accrue during the remainder of the Term without barring a later action for further damages. Landlord may at any time bring an action for accrued damages plus damages for the remaining Term as allowed by law. Any damages attributable to the remaining Term will be equal to the difference between the Rent under this Lease and the reasonable rental value of the Premises (including Additional Rent) for the remainder of the Term, discounted by applying a discount rate of one percent (1%) below the prime rate as published in the Wall Street journal on the date of judgment.

(e) **Cure of Tenant's Default**. Without prejudice to any other remedy for default, Landlord may perform any obligation of Tenant or make any payment required by Tenant under this Lease if Tenant fails to do so, including any payment of Additional Rent. The cost of performance, including reasonable attorney fees and all disbursements, shall immediately be repaid by Tenant upon demand, together with interest from the date of expenditure until fully paid at the Interest Rate.

(f) **Costs.** It is further agreed that, in addition to payments required pursuant to the paragraphs above in this Section, Tenant shall compensate Landlord for all expenses incurred by Landlord in repossession (including, among other expenses, any increase in insurance premiums caused by the vacancy of the Premises and attorney fees), all reasonable expenses incurred by Landlord in reletting (including, without limitation, repairs, remodeling, replacements, advertisements and brokerage fees), all concessions granted to a new tenant upon reletting (including, among other concessions, renewal options), all losses incurred by Landlord as a direct or indirect result of Tenant's default and a reasonable allowance for Landlord's administrative efforts, salaries and overhead attributable directly or indirectly to Tenant's default and Landlord's pursuing the rights and remedies provided in this Lease and under Laws.

(g) **Legal Fees.** If on account of any breach or default by Tenant in its obligations under this Lease, Landlord shall employ an attorney to prosecute, enforce or defend any of Landlord's rights or remedies under this Lease, Tenant agrees to pay any attorneys' fees incurred by Landlord in such connection.

17. ENTRY ON PREMISES.

Landlord and its authorized representatives shall have the right to enter the Premises at all reasonable times during regular business hours for any of the following purposes: (a) to determine whether the Premises are in good condition and whether Tenant is complying with its obligations under this Lease; (b) to do any necessary maintenance, restoration, or improvement to the Premises that Landlord has the right, obligation, or desire to perform; or (c) to exhibit the Premises to others. Landlord must provide prior verbal communication (preferably at least 24 hours notice) in the event its authorized representatives will be entering the premises. Landlord shall not be liable for any inconvenience, disturbance, loss of business, nuisance or other damage arising out of Landlord's entry onto the Premises as provided in this Section 17. Landlord shall conduct its activities on the Premises as provided herein in a manner that will cause the least inconvenience, annoyance or disturbance to Tenant. During the last nine (9) months of the Term, Landlord may place "for lease" signs on the Premises.

18. SUBORDINATION AND ESTOPPEL CERTIFICATES.

(a) **Subordination.** Tenant accepts this Lease subject and subordinate to any holder of a mortgage, deed of trust or other lien on the Premises ("Mortgagee"), and any matters affecting record title to the Premises, whether presently existing or hereafter placed upon the Premises or any portion thereof, and to any renewals and extensions thereof. Tenant agrees that any Mortgagee shall have the right at any time to subordinate its mortgage, deed of trust or other lien to this Lease; provided, however, notwithstanding that this Lease may be (or made to be) superior to a mortgage, deed of trust or other lien, the Mortgagee shall not be liable for prepaid rents, security deposits and claims accruing during Landlord's ownership. Landlord is hereby irrevocably vested with full power and authority to subordinate this Lease to any mortgage, deed of trust or other lien, or any matter affecting record title to the Premises, hereafter placed upon the Premises, and Tenant agrees upon demand to execute further instruments subordinating this Lease as Landlord or its lender may reasonably request. At any time when a Mortgagee has given Tenant written notice of its interest in this Lease, Tenant may not exercise any remedies for default by Landlord under this Lease unless and until the Mortgagee shall have received written notice of such default and a reasonable time thereafter (not less than thirty (30) days) shall have elapsed without the default having been cured. Upon Tenant's request, Landlord agrees to use commercially reasonable efforts to obtain an agreement from the Mortgagee that provides, among other things, that so long as Tenant is not in default under this Lease, Tenant's use and occupancy of the Premises and its rights under this Lease shall not be disturbed by the Mortgagee.

(b) **Estoppel Certificates.** Tenant, within ten (10) business days after receipt of notice from Landlord, shall execute and deliver to Landlord certificates stating that this Lease is not in default or stating any claimed defaults, is unmodified and in full force and effect, or in full force and effect as modified, and stating the modifications. This certificate should also state the amount of current monthly rent, the dates to which rent has been paid in advance, the amount of any security deposit and prepaid rent (if any), and such other matters as Landlord may request. Failure by Tenant to execute and deliver the certificate in question to Landlord within ten (10) business days after the date delivered by Landlord to Tenant hereunder shall be deemed acquiescence and approval by Tenant of all of the terms and provisions of the certificate.

19. NOTICE.

Any notice, demand, request, consent, approval or communication desired by either party or required to be given, shall be in writing and delivered: (a) personally, or (b) by prepaid certified first class mail, return receipt requested and addressed as set forth in Section 1. Either party may change its address by notification to the other party. Notice shall be deemed given when actually received or two (2) days after mailing as set forth above.

20. WAIVER.

No delay or omission in the exercise of any right or remedy by either party hereto shall impair such right or remedy or be construed as a waiver. Landlord's consent to or approval of any act by Tenant requiring Landlord's consent or approval shall not be deemed to waive or render unnecessary Landlord's consent to or approval of any subsequent act by Tenant.

21. SURRENDER OF PREMISES; HOLDING OVER.

Subject to Section 11, upon expiration of the Term or the termination of this Lease or of Tenant's right of possession, Tenant shall surrender to Landlord the Premises and all Tenant improvements and alterations (except alterations which Landlord requires Tenant to remove under Section 9), together with all keys and access codes to the Premises in substantially the same condition as on the Effective Date, broom clean, ordinary wear and tear excepted. Tenant shall remove all of its personal property and trade fixtures prior to surrender, and repair all damage caused by such removal. Landlord can elect to retain or dispose of in any manner Tenant's personal property and trade fixtures not removed from the Premises by Tenant within thirty (30) days after expiration of the Term. Tenant shall have no claims against Landlord for any damage to Tenant resulting from Landlord's retention or disposition of Tenant's personal property or trade fixtures in accordance with the terms hereof. Tenant shall be liable to Landlord for Landlord's actual costs for storage, removal or disposal of Tenant's personal property and trade fixtures and shall pay to Landlord as Additional Rent all such sums within ten (10) days after receipt from Landlord of an invoice describing such sums due. If Tenant fails to surrender the Premises upon the expiration of the Term, or upon the termination of this Lease or of Tenant's right of possession, Tenant shall defend, indemnify and hold Landlord harmless from all resulting loss or liability, including without limitation, any claim made by any succeeding tenant founded on or resulting from such failure.

If Tenant, without Landlord's consent, remains in possession of the Premises after expiration of this Lease, such possession by Tenant shall be deemed to be a month-to-month tenancy terminable on written 30-day notice at any time by either party at a Monthly Rent amount equal to one hundred fifty percent (150%) of the Monthly Rent due hereunder immediately prior to expiration. All other provisions of this Lease, including the obligation to pay Additional Rent, shall apply to the month-to-month tenancy.

22. HAZARDOUS SUBSTANCES; DISPOSAL OF WASTE; COMPLIANCE WITH LAWS; INDEMNITY.

(a) **Presence and Use of Hazardous Substances.** Except as allowed by the Tenant's use of the Premises described in Section 1(d), and except in accordance with Environmental Laws or permits obtained under Environmental Laws, Tenant shall not use, transport, store, treat, generate, sell or dispose of any Hazardous Substances on or in any manner that affects the Premises or surrounding properties in violation of Environmental Laws. "**Affects the Premises or surrounding properties**" shall include, but not be limited to, allowing any Hazardous Substances to migrate off the Premises, or the release of any Hazardous Substances into adjacent surface waters, soils, sediments, ground waters or air to the extent caused by Tenant, or by Tenant's employees, contractors, invitees or agents. Tenant shall give prior written notice to Landlord of any violation of any Laws with respect to use of Hazardous Substances. "**Hazardous Substances**" shall mean hazardous materials, hazardous substances, toxic wastes, toxic substances, pollutants, petroleum products, underground tanks, oils, pollution, asbestos, PCB's, materials, or contaminants, as those terms are commonly used or as defined by federal, state, and/or local law or regulation applicable to the Premises that relate to protection of health or the environment, including but not limited to, the Resource Conservation and Recovery Act (RCRA) (42 U.S.C. § 6901 et seq.); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. § 9601, et seq.); the Toxic Substances Control Act (15 U.S.C. § 2601, et seq.); the Clean Water Act (33 U.S.C. § 1251, et seq.); and the Clean Air Act (42 U.S.C. § 7401 et seq.) as any of same may be amended from time to time, and/or by any rules and regulations promulgated thereunder (collectively, the "**Environmental Laws**").

(b) **Compliance with Law.** Notwithstanding any other provision in this Lease to the contrary, Tenant shall comply, at Tenant's sole cost and expense, with all Laws, including (without limitation) Environmental Laws in complying with its obligations under this Lease, and in particular, Laws relating to the storage, use and disposal of Hazardous Substances.

(c) **Tenant's Indemnity.** Tenant shall defend, indemnify and hold Landlord and the Premises harmless from and against all claims, losses, damages, costs, response costs and expenses, liabilities, and other expenses caused by, arising out of, or in connection with: (1) the generation, release, handling, storage, discharge, transportation, deposit or disposal in, on, under or about the Premises of Hazardous Substances by Tenant or any of Tenant's agents, employees, invitees or guests, during the Term or any extensions thereof or during Tenant's occupancy of the Premises prior to the Commencement Date; or (2) Tenant's failure to observe or comply with the provisions of this Section 22. Such damages, costs, liabilities, and expenses shall include those claimed by any regulating and/or administering agency, and/or any successor of the Landlord named herein. This indemnity shall include (a) claims of third parties, including governmental agencies, for damages, fines, penalties, response coats, monitoring costs, injunctive or other relief; (b) the costs, expenses or losses resulting from any injunctive relief, including preliminary or temporary injunctive relief; (c) the expenses, including fees of attorneys and experts, of reporting the existence of Hazardous Substances to an agency of the State of Oregon or of the United States as required by applicable Environmental Laws; (d) any and all expenses or obligations, including attorney's and paralegal fees, incurred at, before and after any trial or appeal therefrom or review thereof, or an administrative proceeding or appeal therefrom or review thereof, whether or not taxable as costs, including, without limitation, attorney's fees, paralegal fees, witness fees (expert and otherwise), deposition costs, photocopying and telephone charges and other expenses related to the foregoing, all of which shall be paid by Tenant to Landlord when such expenses are accrued. This indemnity shall survive the expiration or earlier termination of the term of this Lease or the termination of Tenant's right of possession and be fully enforceable thereafter.

23. APPROVAL CRITERIA.

Whenever a party's consent is required pursuant to the terms of this Lease, such consent shall not be unreasonably withheld, delayed or conditioned, except as specifically provided otherwise in this Lease.

24. LANDLORD DEFAULT AND TENANT REMEDIES.

Tenant shall give Landlord written notice of any breach by Landlord in the performance of any covenant or obligation to be kept or performed by Landlord hereunder. If the breach is not cured within thirty (30) days after receipt by Landlord of a written notice from Tenant specifying the breach, or such lesser period of time specified in Tenant's notice as is reasonable in the event of an emergency, Landlord shall be in default hereunder; provided, however, if performance reasonably requires more than the stated time and Landlord commences performance within the stated time and diligently pursues the matter to completion within a reasonable time, Landlord shall not be in default.

25. COVENANT OF QUIET ENJOYMENT.

Landlord warrants that it has good and marketable fee title to the Premises and covenants and agrees that Tenant, upon paying the rent and all other charges herein provided for and observing and keeping the covenants, agreements and conditions of this Lease on its part to be kept, shall lawfully and quietly hold, occupy and enjoy said Premises during the entire Term of this Lease, without hindrance or molestation.

26. MISCELLANEOUS PROVISIONS.

(a) **Time of Essence**. Time is of the essence of each provision of this Lease.

(b) **Successor**. This Lease shall be binding on and inure to the benefit of the Parties and their successors, subject to Section 14 above.

(c) **Attorney Fees**. In the event that any party to this Lease institutes a suit, action, arbitration, or other legal proceeding of any nature whatsoever, relating to this Lease or to the rights or obligations of the Parties with respect thereto, the prevailing party shall be entitled to recover from the losing party its reasonable attorney, paralegal, accountant, expert witness (whether or not called to testify at trial or other proceeding) and other professional fees and all other fees, costs, and expenses actually incurred and reasonably necessary in connection therewith, including but not limited to deposition transcript and court reporter costs, as determined by the judge or arbitrator at trial or other proceeding, and including such fees, costs and expenses incurred in any appellate or review proceeding, or in collecting any judgment or award, or in enforcing any decree rendered with respect thereto, in addition to all other amounts provided for by law. This cost and attorneys fee provision shall apply with respect to any litigation or other proceedings in bankruptcy court, including litigation or proceedings related to issues unique to bankruptcy law.

(d) **Interpretation**. This Lease shall be construed and interpreted in accordance with the laws of the State of Oregon without regard to any conflict-of-law principle that would result in the laws of any other jurisdiction governing this Lease. This Lease constitutes the entire agreement between the Parties with respect to the Premises, except for such modifications as may be executed in writing by the Parties from time to time. When required by the context of this Lease, the singular shall include the plural, and the masculine shall include the feminine and/or neuter. The enforceability, invalidity or illegality of any provision shall not render the other provisions unenforceable, invalid or illegal. No third party beneficiaries of this Lease are intended by the Parties.

(e) **Survival**. The release and indemnity covenants of Tenant, the right of Landlord to enforce its remedies hereunder, the attorneys fees provisions hereof, the provisions of Sections 21 and 22 hereof, as well as all other provisions of this Lease which contemplate performance after the expiration or termination hereof or the termination of Tenant's right to possession hereunder, and all environmental indemnities made by Tenant shall survive any such expiration or termination.

(f) **Limitation of Liability**.

(i) In the event of any act or omission by Landlord which would give Tenant the right to terminate this Lease or claim a partial or total eviction, or make any claim against Landlord for the payment of money, Tenant may not make such claim or exercise such right until Tenant has (i) given written notice of such act or omission to Landlord; and (ii) provided Landlord with at least thirty (30) days to commence curing such act or omission, and such additional time as necessary, so long as Landlord is thereafter diligently pursing such cure to completion. Nothing herein contained shall create any rights in Tenant not specifically granted in this Lease or under applicable provisions of law.

(ii) Tenant shall look solely to the proceeds of sale on execution of the interest of Landlord in the demised premises for the satisfaction of any judgment or decree requiring the payment of money by Landlord, based upon any default by Landlord, and no other property or asset of Landlord (except the Premises) or any partner, officer, director, shareholder, mortgagee or agent of Landlord shall be subject to levy, execution or other enforcement procedure for the satisfaction of any judgment or decree requiring the payment of money by Landlord, based upon any default by Landlord. This clause shall not be deemed to limit or deny any remedies that Tenant may have in the event of default by Landlord under this Lease, which does not involve the payment of money by Landlord.

(g) **Nonwaiver**. The failure of either party to insist, in any one or more instances, upon the strict performance of any one or more of the obligations of this Lease, or to exercise any election herein contained, shall not be construed as a waiver or relinquishment for the future of the performance of such one or more obligations of this Lease or of the right to exercise such election, but the Lease shall continue and remain in full force and effect with respect to any subsequent breach, act or omission. The receipt by Landlord of Rent with knowledge of breach by Tenant of any obligation of this Lease shall not be deemed a waiver of such breach.

The Parties have executed and entered into this Lease effective as of the Effective Date set forth in Section 1(a).

Tenant: **The Marylhurst School**

By:_____
Name:_____
Title:_____

By:_____
Name:_____
Title:_____

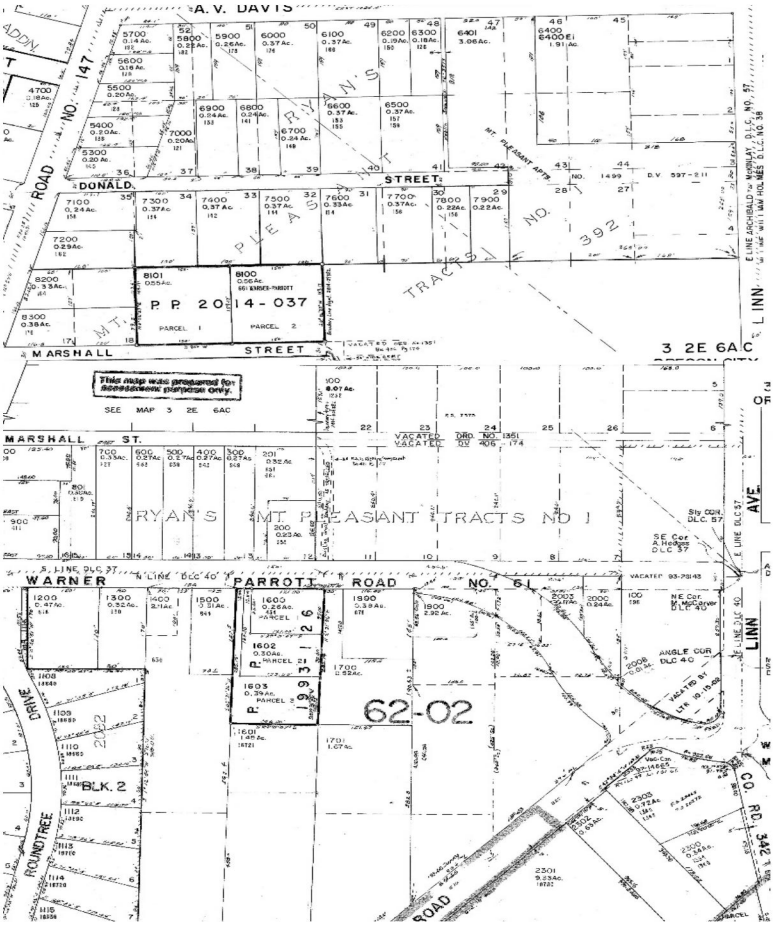
Landlord: **CITY OF OREGON CITY**

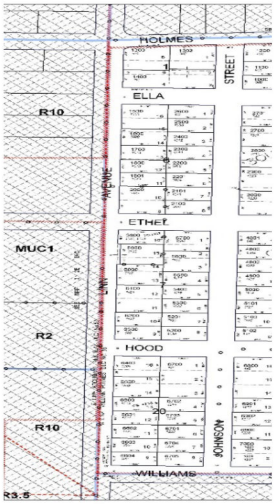
By:_____
Name:_____
Title:_____

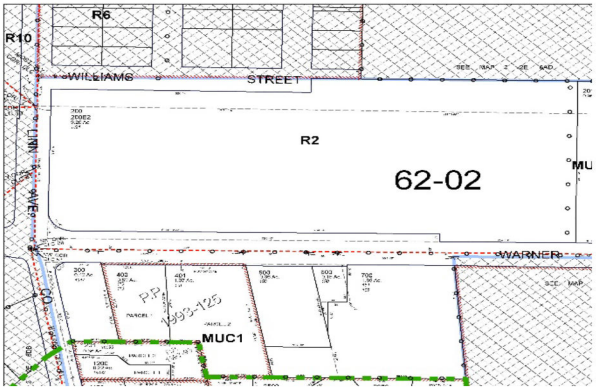
Landlord Attorney:

By:_____
Name:_____
Title:_____

GSB:5041979.1


A.V. DAVIS
RYAN'S
MT. PLEASANT TRACTS NO. 1
DONALD
STREET
MARSHALL
STREET
P.P. 2014-037
PARCEL 1
PARCEL 2
3 2E 6AC
This map was prepared for assessment purpose only.
SEE MAP 3 2E 6AC
MARSHALL ST.
VACATED
VACATED
RYANS MT PLEASANT TRACTS NO 1
WARNER
PARROTT ROAD NO. 61
62-02
BLK. 2
DRIVE
ROUNDTREE
ROAD
ANGLE CUR DLC 40
SE Cor A Holmes DLC 57
NE Cor W McCarver DLC 40
E LINE DLC 57
LINN
AVE


HOLMES
STREET
ELLA
AVENUE
ETHEL
HOOD
JOHNSON
WILLIAMS
R10
R2
MUC1
R3.5


R6
R10
WILLIAMS
STREET
R2
62-02
WARNER
P.P. 1993-125
PARCEL 2
MUC1
AVE

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Construction Costs for Site Plan and Design Review and Detailed Development Plans

The cost of Planning Division review for Site Plan and Design Review and Detailed Development Plans is based on the construction cost of the project. The construction costs is defined as all costs to complete the project, including soft costs. The estimate does exclude interior furniture or moving expenses.

Address: 1232 Linn Ave Oregon City, OR/698 Warner Parrott Road

Project Description: The project consists of improvements to the building at the above address. The scope of the improvements will include a canopy over the front door, removal of non-load bearing walls, space reconfiguration, façade improvements, landscaping, and minor site improvements.

Section I – Construction Costs

Design Work	$ 39,550.00
Site Prep	$ NA
Consultants	$ 38,160.00
Excavation	$ NA
Utilities	$ NA
Foundation	$ NA
Framing material/wall construction	$ 39,474.00
Interior finish (walls, doors, floor finish, cabinetry, light fixtures, etc.)	$ 117,170.00
Supplemental information (fire suppression, hvac, electrical, plumbing, etc.)	$ 233,113.00
Roofing	$ 55,147.00
Landscaping	$ 73,338.00
Paving	$ NA
Sign	$ 4,950.00
Trash Enclosures	$ NA
Other	$ 243,720.00
Total Section I	$ 844,622.00

Section II – Permits

Building	$ 5,165.00
Electrical	$ 368.00
Plumbing	$ 86.00
Mechanical	$ 287.00
Land Use	$ 5,244.00
Total Section II	$ 11,150.00

Section III - Total

Section I Total	$ 844,622.00
Section II Total	$ 11,150.00
Total Section III	$ 855,772.00

Office Use Only –
Building Official Verification: _____

Zillow

Market Overview: **Real Estate**

JULY 2017

Portland Metro

National Home Values

Current:	$200,700
Monthly Change:	0.2%
Quarterly Change:	1.3%
Annual Change:	6.8%
Negative Equity*:	10.4%

Portland Home Values

Current:	$368,900
Monthly Change:	0.6%
Quarterly Change:	2%
Annual Change:	8.7%
Negative Equity*:	4.2%

Home Values Forecast

(next 12 months)

National:	2.7%
Portland Metro:	3.9%

Major Cities - Home Values

Portland

Current:	$416,700
Monthly Change:	-0.1%
Annual Change:	5%

Vancouver

Current:	$285,200
Monthly Change:	0.6%
Annual Change:	7.5%

Beaverton

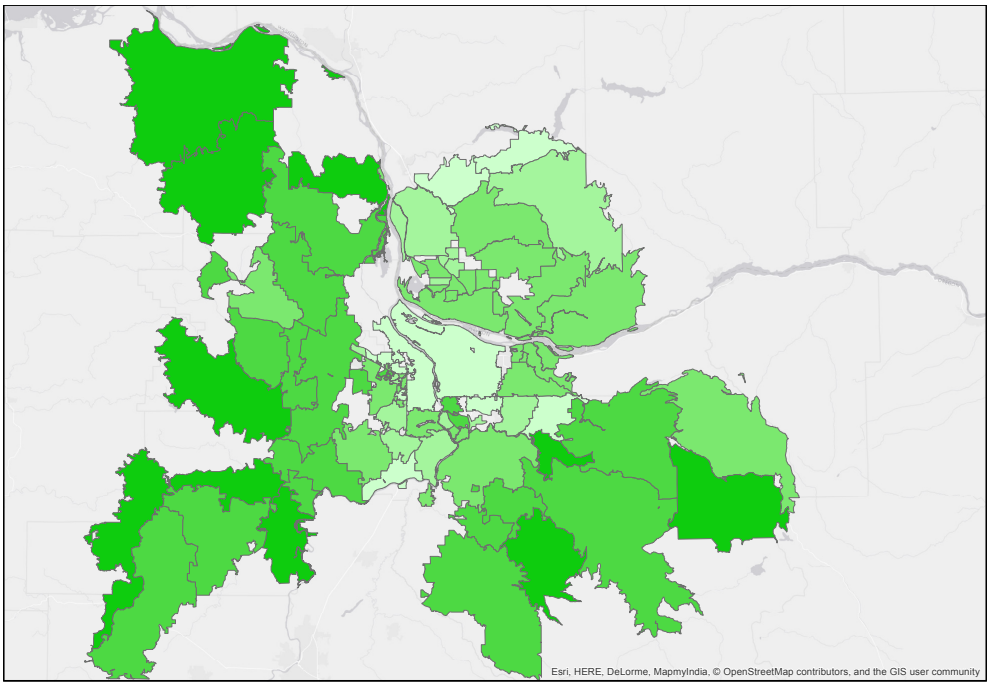
Current:	$363,400
Monthly Change:	0.3%
Annual Change:	9.3%

Hillsboro

Current:	$345,600
Monthly Change:	0.5%
Annual Change:	10%

Gresham

Current:	$311,100
Monthly Change:	0.5%
Annual Change:	8.5%



City ZHVI Year-over-Year

3.2% - 5.4% | 5.5% - 7.2% | 7.3% - 9.3% | 9.4% - 13.4% | 13.5% - 20.4%

Home Values (ZHVI)

Increasing Values:	90.3%
Decreasing Values:	5.2%
Fall From Peak:	0%
Peak ZHVI Date:	2017-07
Peak ZHVI:	$368,900

Rent

Zillow Rent Index:	$1,838
Monthly Change:	0.7%
Annual Change:	3.8%
Rent List Price:	$1,900
Rent List/Sq. Ft.:	$1.3

Sales

Median Sale Price:	$–
Monthly Change:	–%
Annual Change:	–%
Sale Price/Sq. Ft.:	$–
Sale-to-list Price Ratio:	–
Sold for a Loss/Gain:	1.3%/98.7%

Listings

Median List Price:	$409,900
Monthly Change:	–%
Annual Change:	–%
List Price/Sq. Ft.:	$225
Listings with Price Cut:	17.8%
Amount of Price Cut:	2.8%

Foreclosures

Homes Foreclosed:	2.45/10, 000
Monthly Change:	0
Annual Change:	-0.9
Foreclosure Resales:	3.4%
Monthly Change:	-0.2pp
Annual Change:	-1.1pp

How do we track home values? To track home values, we use the Zillow Home Value Index (ZHVI). The ZHVI is the mid-point of estimated home values for the area. Half the estimated home values are above this number and half are below.

* Negative equity data is from 2017Q1.

Largest Cities Covered by Zillow

	Home Values- ZHVI ($)	ZHVI MoM (%)	ZHVI QoQ (%)	ZHVI YoY (%)	ZHVI Peak ($)	Peak Month	Change from Peak (%)	Rents- ZRI ($)	ZRI MoM (%)	ZRI QoQ (%)	ZRI YoY (%)	Forecast ZHVI ($)	Forecast YoY (%)	Home Value Bottom	Negative Equity (%)
Aloha	331,000	0.6	1.9	10.9	331,000	2017-07	0.0	1,706	0.4	0.4	1.8	343,885.4	3.9	2012 Q1	
Battle Ground	365,200	0.8	3.1	7.6	365,200	2017-07	0.0	1,815	0.5	2.2	3.9	379,821.3	4	2012 Q1	3.2
Beaverton	363,400	0.3	1.3	9.3	363,400	2017-07	0.0	1,757	0.7	1	0.5	378,302.4	4.1	2012 Q1	5.2
Camas	443,200	0.4	2.5	7.8	443,200	2017-07	0.0					460,808.9	4	2011 Q2	4.2
Forest Grove	324,000	0.4	2.1	11.7	324,000	2017-07	0.0	1,690	0	-0.6	1.6	338,493.3	4.5	2012 Q1	3.8
Gresham	311,100	0.5	1.8	8.5	311,100	2017-07	0.0	1,794	0.6	2.3	6.7	323,878.9	4.1	2011 Q4	4.2
Happy Valley	485,900	0	0.9	5.4	485,900	2017-07	0.0	2,480	-0.4	0.2	0.9	502,141	3.3	2011 Q2	4.5
Hillsboro	345,600	0.5	1.6	10	345,600	2017-07	0.0	1,709	0.5	0.2	-0.9	360,450.3	4.3	2012 Q1	4.8
Lake Oswego	597,300	0.7	1.8	7.3	597,300	2017-07	0.0	2,629	0	1	3.2	619,707.4	3.8	2012 Q1	4
McMinnville	273,900	0.6	2.2	13.4	273,900	2017-07	0.0	1,528	0.4	2.3	6.3	288,033.4	5.2	2012 Q4	4.8
Newberg	305,500	0.4	1.8	11.2	305,500	2017-07	0.0	1,682	-0.1	-0.9	8	319,734.5	4.7	2011 Q3	4.6
Orchards	278,300	0.7	2.8	7.7	278,300	2017-07	0.0	1,615	0.2	0.4	4.3	288,617.5	3.7	2012 Q1	
Oregon City	371,200	0.8	2	7.4	371,200	2017-07	0.0	1,952	-0.3	-0.1	4.9	385,804	3.9	2012 Q1	3.6
Portland	416,700	-0.1	0.3	5	417,100	2017-06	-0.1	1,907	0.6	2.1	4.3	430,966.2	3.4	2011 Q2	3.7
Salmon Creek	336,300	0.5	2.9	8.2	336,300	2017-07	0.0	1,779	1	2.8	4.7	350,112.4	4.1	2012 Q1	3.7
Sherwood	414,700	0.2	1.1	7.7	414,700	2017-07	0.0	1,978	0.9	2.3	1.5	431,283.9	4	2012 Q1	3.8
Tigard	402,700	0.2	0.7	6.7	402,700	2017-07	0.0	1,973	0.9	1.9	4.8	419,457.3	4.2	2012 Q1	3.8
Tualatin	434,800	0.1	0.4	6.5	434,800	2017-07	0.0	2,106	1.7	4.1	2.5	452,147	4	2012 Q1	4
Vancouver	285,200	0.6	2.6	7.5	285,200	2017-07	0.0	1,620	0.2	0.5	4.8	295,946.6	3.8	2012 Q1	4.8
West Linn	500,200	0.2	1.1	6.3	500,200	2017-07	0.0	2,444	-0.3	0.5	-0.3	518,359.4	3.6	2011 Q2	4.1

Largest Counties Covered by Zillow

	Home Values- ZHVI ($)	ZHVI MoM (%)	ZHVI QoQ (%)	ZHVI YoY (%)	ZHVI Peak ($)	Peak Month	Change from Peak (%)	Rents- ZRI ($)	ZRI MoM (%)	ZRI QoQ (%)	ZRI YoY (%)	Forecast ZHVI ($)	Forecast YoY (%)	Home Value Bottom	Negative Equity (%)
Clackamas	392,400	0.7	2.1	7.5	392,400	2017-07	0	2,017	0	0.9	4.8	407,747.4	3.9	2012 Q1	3.9
Clark	319,100	0.6	2.7	7.7	319,100	2017-07	0	1,714	0.7	1.8	4.6	332,111.2	4.1	2012 Q1	4.4
Columbia	256,400	1	3	16.5	256,400	2017-07	0	1,502	-0.2	-0.6	6.3	271,468.6	5.9	2012 Q1	5.5
Multnomah	391,800	0.1	0.6	6.4	391,800	2017-07	0	1,880	0.6	2.3	4.9	406,337	3.7	2011 Q4	3.7
Skamania								1,540	0.5	1.2	4.4				6.7
Washington	383,500	0.4	1.4	8.4	383,500	2017-07	0	1,845	0.7	1.3	1.9	398,904.9	4	2011 Q3	4.4
Yamhill	278,900	0.8	2.3	13.3	278,900	2017-07	0	1,570	0.5	2.3	7.2	293,813.9	5.3	2012 Q3	4.8

*The top 20 largest cities and top 10 (or all) counties within the metro are listed. Additional counties, cities, neighborhoods and ZIP codes may be available online at www.zillow.com/research/data by emailing press@zillow.com

Zillow Research:

Zillow® is the leading real estate and rental marketplace dedicated to empowering consumers with data, inspiration and knowledge around the place they call home, and connecting them with the best local professionals who can help. In addition, Zillow operates an industry-leading economics and analytics bureau led by Zillow's Chief Economist Dr. Svenja Gudell. Dr. Gudell and her team of economists and data analysts produce extensive housing data and research covering more than 450 markets at Zillow Real Estate Research. Zillow also sponsors the quarterly Zillow Home Price Expectations Survey, which asks more than 100 leading economists, real estate experts and investment and market strategists to predict the path of the Zillow Home Value Index over the next five years. Zillow also sponsors the bi-annual Zillow Housing Confidence Index (ZHCI) which measures consumer confidence in local housing markets, both currently and over time. Launched in 2006, Zillow is owned and operated by Zillow Group (NASDAQ: Z), and headquartered in Seattle.

CITY OF OREGON CITY
COMMUNITY DEVELOPMENT DEPARTMENT TI

1298 LINN AVENUE
OREGON CITY, OREGON 97045



PROJECT NOTES

GENERAL REQUIREMENTS:

1. THESE CONTRACT DOCUMENTS ARE TO BE INTERPRETED ACCORDING TO THEIR FULL INTENT, MEANING , FUNCTION, AND SPIRIT, TO PROVIDE A COMPLETE FINISHED PROJECT.
2. THE DRAWINGS SHOW DIAGRAMMATICALLY THE WORK TO BE PERFORMED. THEY ARE NOT INTENDED TO SHOW EVERY CONNECTION IN DETAIL OR EACH AND EVERY INCIDENTAL PART, FITTING, AND MEMBERS REQUIRED FOR A COMPLETE PROJECT. THESE INCIDENTAL PARTS, FITTINGS, AND MEMBERS SHALL BE REQUIRED AS PART OF THE CONTRACT.
3. WHERE REFERENCES ARE MADE ON DRAWINGS OR IN SPECIFICATIONS TO REQUIRED CODES, THEY SHALL BE CONSIDERED AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AS REQUIRED STANDARDS, NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL BE CONSTRUED AS TO BE IN CONFLICT WITH ANY LAW, BY-LAW OR REGULATION OF THE MUNCIPAL, STATE, FEDERAL OR OTHER AUTHORITIES HAVING JURISDICTION.
4. ALL WORK SHALL BE IN COMPLIANCE WITH A.D.A.
5. ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS SHALL BE FIELD VERIFIED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD OF ANY SIGNIFICANT DISCREPANCIES FROM CONDITIONS SHOWN ON THE DRAWINGS.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS. RESPONSIBILITY SHALL INCLUDE BUT NOT LIMITED TO DEMOLITION AND CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCING, AND SAFETY REQUIRED TO COMPLETE CONSTRUCTION.
7. BEFORE STARTING A SECTION OF WORK THE CONTRACTOR SHALL CAREFULLY EXAMINE PREPARATORY WORK THAT HAS BEEN EXECUTED. ENSURE THAT WORK AND ADJACENT RELATED WORK WILL FINISH TO PROPER PLANES AND LEVELS.
8. GUARANTEE MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FOR GENERAL CONSTRUCTION AND OTHER SPECIFIC WARRANTIES AND GUARANTEES STATED IN THE CONTRACT DOCUMENTS FOR THE DATE ESTABLISHED ON THE EXECUTED CERTIFICATE OF SUBSTANTIAL COMPLETION, AIA DOCUMENT G704, MANUFACTURER GUARANTEE AND WARRANTIES SHALL BE CONCURRENT WITH THAT OF THE CONTRACTOR FROM THE DATE OF SUBSTANTIAL COMPLETION
9. WHERE INSTALLATION INCLUDES MANUFACTURED PRODUCTS, THE CONTRACTOR SHALL COMPLY WITH MANUFACTURER'S APPLICABLE INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION, TO WHATEVER EXTENT THESE ARE MORE STRINGENT THAN APPLICABLE REQUIREMENTS INDICATED IN CONTRACT DOCUMENTS.

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES.
2. INFORMATION RELATED TO EXISTING CONDITIONS GIVEN HEREIN WAS OBTAINED FROM OWNER SUPPLIED DOCUMENTATION AVAILABLE TO THE ARCHITECT AT THE TIME OF DESIGN. THE ACCURACY OF SUCH INFORMATION HAS NOT BEEN EXHAUSTIVELY VERIFIED. DRAWINGS AND SPECIFICATION ARE INTENDED FOR GUIDANCE AND ASSISTANCE BUT EXACT DIMENSIONS SHALL BE GOVERNED BY ACTUAL FIELD CONDITIONS AND SHALL BE CHECKED BY THE CONTRACTOR.
3. CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, AND DIMENSIONS FOR ACCURACY AND CONFIRMING THAT WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH THE CONSTRUCTION. IF THERE ARE ANY QUESTIONS, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING WITH THE WORK IN QUESTION OR RELATE WORK.
4. THE CONTRACTOR SHALL NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL ALWAYS GOVERN. CONTRACTOR REQUIRING DIMENSIONS NOT NOTED SHALL ALWAYS CONTACT THE PROJECT TEAM FOR SUCH INFORMATION PRIOR TO PRECEDING WITH WORK RELATED TO THOSE DIMENSIONS.
5. THE CONTRACTOR SHALL COORDINATE ALL PORTIONS OF THE WORK AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS INCLUDING WORK CONTRACTED SEPARATELY BY THE OWNER.
6. ALL DIMENSIONS GIVEN AS CLEAR ARE NOT ADJUSTABLE WITHOUT THE ARCHITECT/ENGINEER'S APPROVAL.
7. THE CONTRACTOR SHALL PROTECT, PATCH, AND REPAIR TO MATCH ANY WALLS, FLOORS, CEILINGS, AND/OR OTHER SURFACES WHICH MAY BE DISTURBED DURING THE INSTALLATION OF MECHANICAL, ELECTRICAL, PLUMBING OR OTHER OWNER WORK.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR PROPER INSTALLATION OF MATERIAL AND EQUIPMENT. PROVIDE DEMOLITION AND PATCH/REPAIR IN ALL AREAS (WHETHER SPECIFICALLY SHOWN OR NOT) TO ACCOMMODATE ALL WORK.
9. IF THE CONTRACTOR ENCOUNTERS A CONDITION NOT COVERED IN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL NOTIFY AND RESOLVE THE ISSUE WITH THE PROJECT TEAM BEFORE COMMENCING ANY WORK.
10. COORDINATE ALL DOOR KEYING REQUIREMENTS W/ OWNER PRIOR TO CONSTRUCTION.
11. ALL PERMITS ASSOCIATED WITH THE PROJECT SHALL BE PAID AND OBTAINED BY THE CONTRACTOR.
12. DO NOT LIMIT SERVICE TO OTHER PARTS OF THE BUILDING OUTSIDE OF CONTRACT LIMITS OF THIS PROJECT.
13. "TYPICAL" OR "TYP" MEANS THAT THE CONDITION IS REPRESENTATIVE FOR ALL SIMILAR CONDITIONS UNLESS OTHERWISE NOTED. "SIMILAR" OR "SIM" MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITIONS NOTED. VERIFY DIMENSIONS AND ORIENTATION ON PLANS AND ELEVATIONS "ALIGN" AS USED IN THESE DOCUMENTS MEANS TO ACCURATELY LOCATE FINISHES IN THE SAME PLANE.
14. "AS REQUIRED" MEANS AS REQUIRED BY REGULATORY REQUIREMENTS, BY REFERENCE STANDARDS, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICES OR BY THE CONTRACT DOCUMENTS.
15. DIMENSIONS ARE TO FACE OF FINISH UNLESS OTHERWISE NOTED.
16. CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING HANGERS OR OTHER SUPPORTS FOR ALL FIXTURES, EQUIPMENT, CABINETRY, FURNISHINGS, AND ALL OTHER ITEMS REQUIRING THE SAME.
17. ALL PIPE CONDUIT AND DUCT PENETRATIONS THROUGH FLOORS AND FIRE-RATED WALLS AND CEILINGS SHALL BE SEALED WITH A UL LISTED ASSEMBLY SUCH THAT FIRE RATINGS ARE MAINTAINED.
18. GENERAL CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR JOB CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF PERSONS AND PROPERTY AND COMPLIANCE WITH OSHA SAFETY STANDARDS.
19. WHEN PORTIONS OF THE WORK ARE PERFORMED BY THE CONTRACTOR ON A DEISGN-BUILD BASIS, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN OF SUCH SYSTEMS AND FOR THE SECURING OF ALL ASSOCIATED PERMITS,. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL DESIGN BUILD SUB CONTRACTORS .
20. CONTRACTOR SHALL AVOID INTERFERENCE WAND CONFLICT WITH THE BUILDING'S NORMAL OPERATION. CONTRACTOR TO COMPLY WITH THE BUILDING RULES AND REGULATIONS REGARDING SCHEDULING AND USE OF ELEVATORS AND LOADING DOCKS FOR DELIVERY AND HANDLING OF MATERIALS, EQUIPMENT, AND DEBRIS.

ABBREVIATIONS

ABBREVIATIONS

(E)	EXISTING
(N)	NEW
(R)	REMOVE
A.C.	ASPHALT CONCRETE
A.C.B.	ACOUSTICAL BOARD
A.C.P.	ACOUSTICAL PANEL
A.C.T.	ACOUSTICAL CEILING TILE
A.D.	AREA DRAIN
ADJ.	ADJUSTABLE
A.F.	ACCESS FLOORING
AGGR.	AGGREGATE
A..F.	ABOVE FINISHED FLOOR
BD.	BOARD
BITUM.	BITUMINOUS
BKP.	BACKING PLATE
BM.	BEAM
BOT./B.O.	BOTTOM/BOTTOM OF
C.B.	CATCH BASIN
CEM.	CEMENT
CER.	CERAMIC
C.G.	CORNER GUARD
C.I.	CAST IRON
C.J	CONTROL JOINT
CLG.	CEILING
CLKG.	CAULKING
CLO.	CLOSET
CLR.	CLEAR
C.M.A.	CONCRETE MASONRY UNIT
C.O.	CASED OPENING
CONN	CONNECTION
CORR.	CORRIDOR
CPT.	CARPET
CTSK.	COUNTERSUNK
C.T.	CERAMIC TILE
CTR.	CENTER
D.F.	DRINKING FOUNTAIN
DET.	DETAIL
DISP.	DISPENSER
DR.	DOOR
DWR.	DRAWER
D.S.	DOWNSPOUT
D.S.P.	DRY STANDPIPE
E.J.	EXPANSION JOINT
EL.	ELEVATION
EXPO.	EXPOSED
EXP.	EXPANSION
F.A.	FIRE ALARM
FB.	FLAT BAR
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
FE	FIRE EXTINGUISHER
F.A.	FLAT HEAD
F.O.C	FACE OF CONCRETE
F.O.F	FACE OF FINISH
F.O.S.	FACE OF STUDS
F.S.	FULL SIZE
FTG.	FOOTING
FUT.	FUTURE
G.A.	GAUGE
G.L.	GRID LINE
GLB.	GLULAM BEAM
G.B.	GRAB BAR
GND.	GROUND
GYP.	GYPSUM
G.W.B.	GYPSUM WALL BOARD
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
H.M.	HOLLOW METAL
J.B.	JUNCTION BOX
J.O.H.	JAMB OPENING HEIGHT
J.O.W.	JAMB WIDTH
JT.	JOINT
LAM.	LAMINATE
L.P.	LOW POINT
M.C.	MEDICINE CABINET
M.D.F.	MEDIUM DENSITY FIBERBOARD
M.D.O.	MEDIUM DENSITY OVERLAY
MEMB.	MEMBRANE
MH.	MANHOLE
MIR.	MIRROR
M.O.	MASONRY OPENING
M.P.	MIDPOINT
M.S.	MACHINE SCREW
MTD.	MOUNTED
MUL.	MULLION
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
OBS.	OBSCURE
O.C.	ON CENTER
O.C.D.	OVERHEAD COILING DOOR
O.C.G	OVERHEAD COILING GRILLE
O.D.	OUTSIDE DIAMETER
O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED
O.F.D.	OVERFLOW DRAIN
O.F.O.I.	OWNER FURNISHED OWNER INSTALLED
OH.	OPPOSITE HAND
PL.	PLATE
P.LAM.	PLASTIC LAMINATE
PLAS.	PLASTER
P.C.P.	PORTLAND CEMENT PLASTER
PR.	PAIR
PTN.	PARTITION
R.C.P.	REFLECTED CEILING PLAN
R.D.	ROOF DRAIN
RL.	RELOCATE
R.O.	ROUGH OPENING
RWD.	REDWOOD
R.W.L.	RAIN WALL LEADER
REV.	REVERSED
S.C.	SOLID CORE
S.C.D.	SEE CIVIL DRAWINGS
SHR.	SHOWER
S.J.	SCORE JOINT
S.L.D.	SEE LANDSCAPING DRAWINGS
S.M.	SHEET METAL
S.M.D	SEE MECHANICAL DRAWINGS
S.O.G.	SLAB ON GRADE
S.S.D.	SEE STRUCTURAL DRAWINGS
S.S.	STAINLESS STEEL
STR.	STRUCTURAL
S.T.S.	SELF TAPPING SCREW
SUSP.	SUSPENDED
TRD.	TREAD
T.B.	TOWEL BAR
T.C.	TOP OF CURB
T&G.	TONGUE AND GROOVE
THK.	THICK
T.P.	TOP OF PAVEMENT
T.W.	TOP OF WALL
V.I.F.	VERIFY IN FIELD
V.T.R.	VENT THROUGH ROOF
W.C.	WATER CLOSET
W.O.	WINDOW OPENING

PROJECT INFORMATION

PROJECT NARRATIVE:

THIS PROJECT IS A REMODEL AND SITE IMPROVEMENT OF AN EXISTING SCHOOL BUILDING INTO THE OREGON CITY DEVELOPMENT AND PLANNING FACILITY . THE PROJECT CONSISTS OF: SITE IMPROVEMENTS, NEW OFFICES AND OPEN OFFICE, CONFERENCE ROOMS, BREAK AREA, LOBBY, ENTRY, AND ANCILLARY SPACES. NEW WORK INCLUDES PARTITION WALLS, MECHANICAL DISTRIBUTION, POWER/DATA, LIGHTING, LANDSCAPE IMPROVEMENTS, EXTERIOR CLADDING, ROOFING, WINDOWS, AND ENTRANCE CANOPY.

BUILDING CODE SUMMARY:

APPLICABLE CODES

2014 OREGON STRUCTURAL SPECIALTY CODE
2014 OREGON FIRE CODE
2014 OREGON MECHANICAL SPECIALTY CODE
2014 OREGON PLUMBING CODE
2014 OREGON ELECTRICAL SPECIALTY CODE
ICC A117- ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

BUILDING INFORMATION

CITY OF OREGON CITY

YEAR BUILT:	1977
STORIES:	2 LEVELS
TOTAL BUILDING AREA	6,700 SF
TAX LOT:	000100 (NW1/4, SE1/4, SEC 6, T.3S., R.2.E.,W.M.)
TYPE OF CONSTRUCTION:	VB
ZONING	R-10
SPRINKLERS:	NON-SPRINKLER
FIRE ALARM:	PROVIDED

REMODEL PROJECT:

EXISTING OCCUPANCY:	E OCC.
PROPOSED OCCUPANCY:	B OCC.
AREA OF REMODEL:	4,280 SF

DEFERRED SUBMITTALS:
FIRE/LIFE SAFETY

PROJECT TEAM:

OWNER
LAURA TERWAY
CITY OF OREGON CITY COMMUNITY DEVELOPMENT DEPT.
221 MOLALLA AVE, STE 200
OREGON CITY, OR 97045

ARCHITECT
JOËLLE HARRIS
ZCS ENGINEERING, Inc.
900 KLAMATH AVE
KLAMATH FALLS, OR 97601
(541) 884-7421

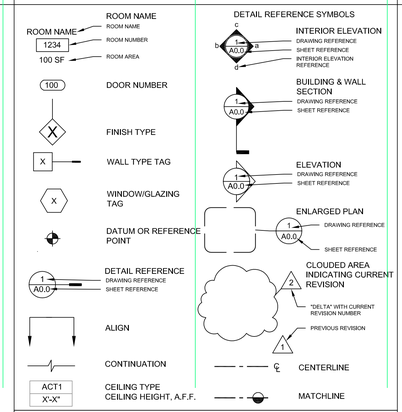
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ZCS ENGINEERING, Inc
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OREGON CITY, OR 97045
(503) 659-2205

CIVIL ENGINEER
JOSH MODIN
ZCS ENGINEERING, Inc.
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KLAMATH FALLS, OR 97601
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MEP ENGINEER
AARON SCHIESS
BHE GROUP
1001 SW 5TH AVE, STE 1100
PORTLAND, OR 97024
(503) 961-6440

TRANSPORTATION ENGINEER
ZACHARY HOROWITZ
KITTELSON & ASSOCIATES, Inc.
610 SW ALDER ST, STE 700
PORTLAND, OR 97205
(503) 535-7482

SYMBOLS



VICINITY MAP



SHEET LIST

SHEET INDEX

A0.0 COVER SHEET

A0.1 DEMOLITION PLAN
A0.2 DEMOLITION REFLECTED CEILING PLAN
A0.3 DEMOLITION ROOF PLAN
A0.4 DEMOLITION ELEVATIONS

A1.0 SITE PLAN
A1.1 FLOOR PLAN
A1.2 REFLECTED CEILING PLAN
A1.3 ROOF PLAN

A2.0 DOOR, WINDOW AND FINISH SCHEDULE
A2.1 FURNITURE & POWER PLAN
A2.2 FINISH PLAN

A5.1 INTERIOR ELEVATIONS - OFFICES
A5.2 EXTERIOR ELEVATIONS

L1.0 PLANTING PLAN
L1.1 PLANTING PLAN WITH IMAGES

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO.	REVISIONS	BY	DATE

CITY OF OREGON CITY
COMMUNITY DEVELOPMENT DEPT. TI
1232 LINN AVE OREGON CITY 97045

ZCS ENGINEERING
524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2205 fax (503) 659-2425

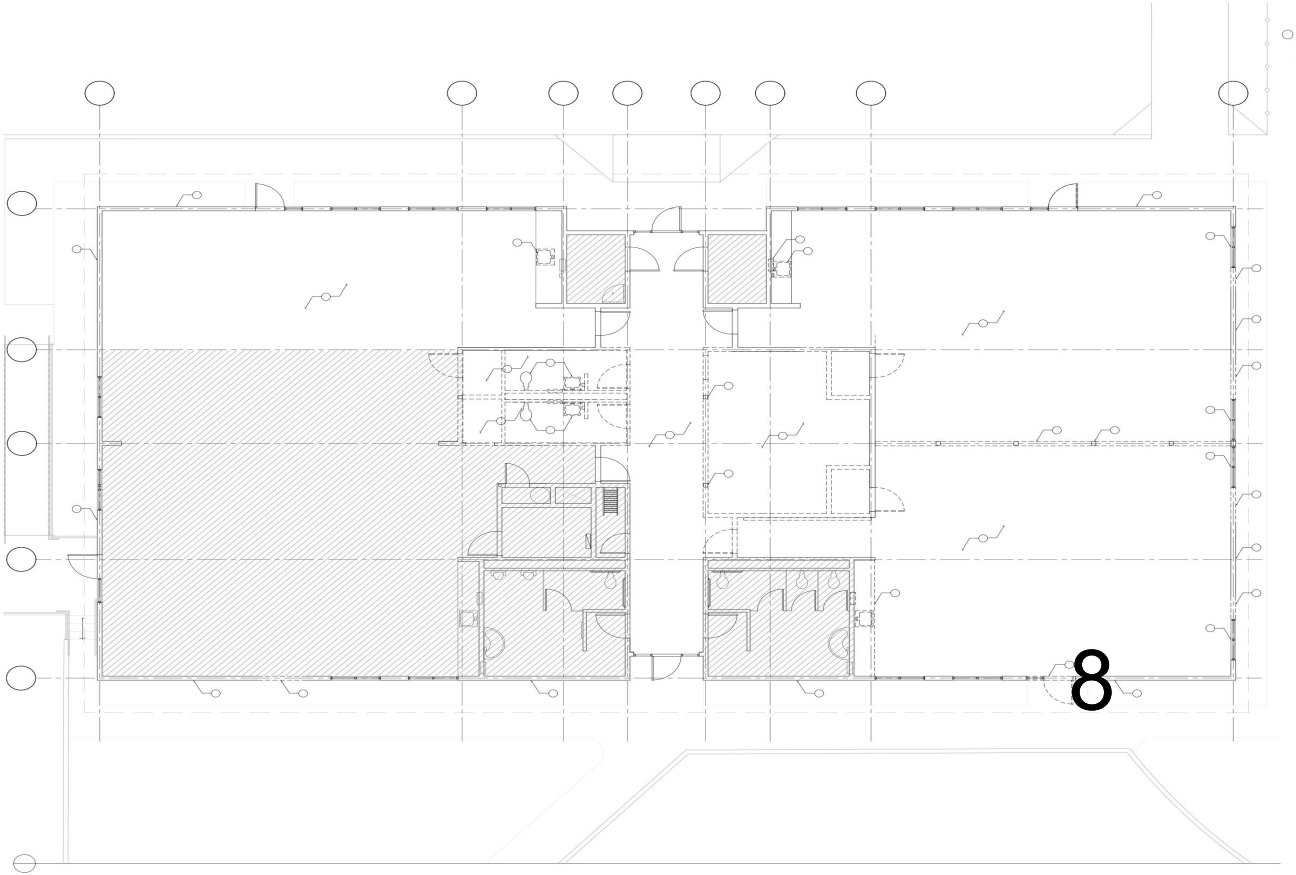
PROJECT NO: P-2195-17
DRAWN: MJC
CHECKED: JCH
DATE: 07-21-17

REGISTERED ARCHITECT
JOËLLE HARRIS
OREGON
FOR INFORMATION ONLY
EXPIRES: 12-31-17

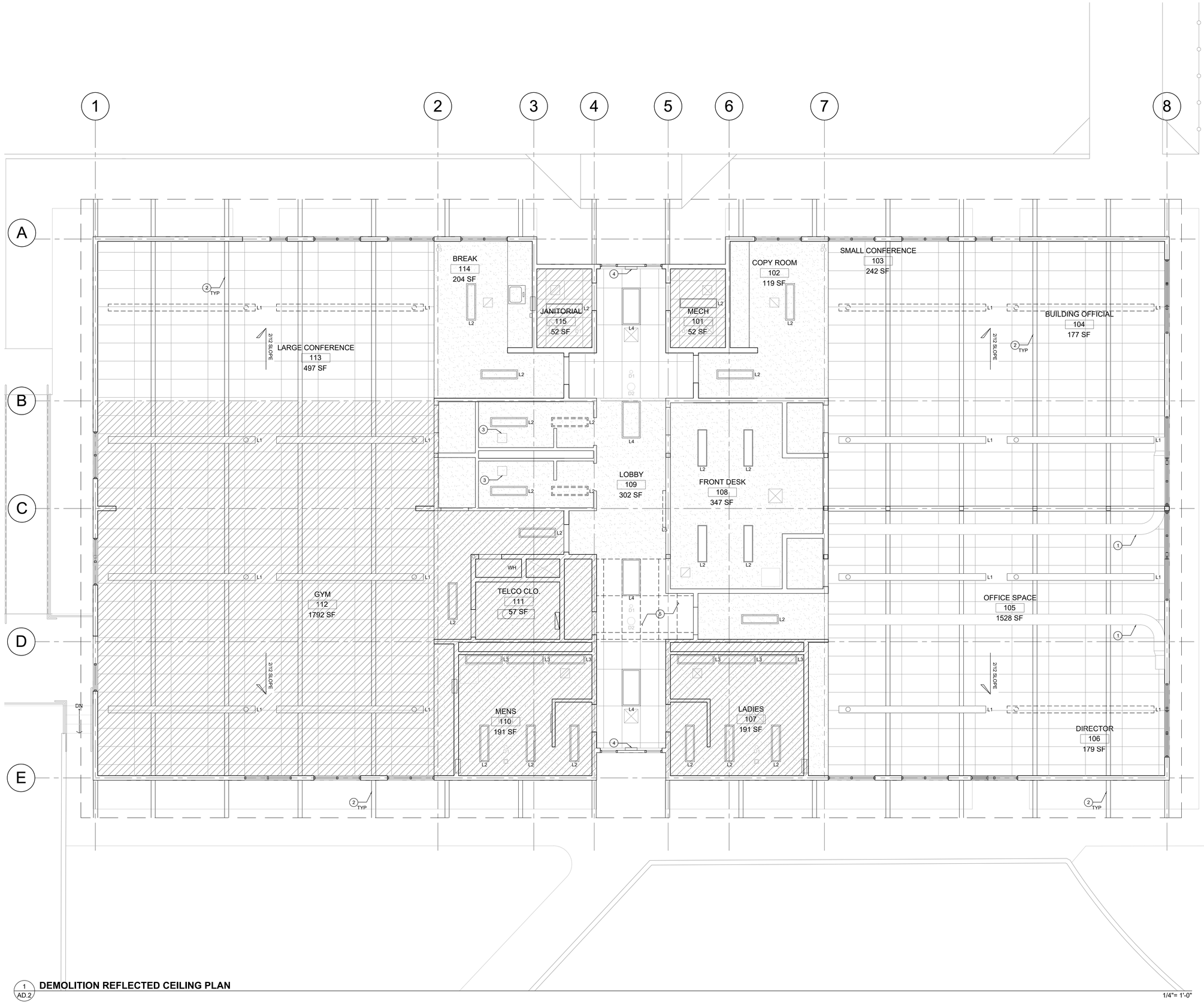
COVER SHEET

A0.0

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION



#	DEMOLITIO
1	DEMO AND L
2	REMO RELOC
3	REMO ACCE FIXTU
4	DEMO REMA
5	6X6 PO
6	REMO



1 AD.2 **DEMOLITION REFLECTED CEILING PLAN**

1/4"= 1'-0"

PLAN KEY NOTES

1. DEMOLISH EXPOSED DUCTWORK
2. EXPOSED CEILING BEAMS, 6X12 AT 8' O.C.
3. DEMOLISH BATHROOM EXHAUST FAN
4. EXIT SIGN TO REMAIN
5. DEMOLISH PORTION OF ACOUSTIC CEILING TILE TO BE REPLACED WITH GYPSUM

LEGEND

- NO WORK IN THIS AREA
- GYPSUM BOARD
- ACOUSTIC CEILING TILE 2X4
- LIGHT FIXTURES TO BE REMOVED

DIFFUSER SYMBOLS

- 24" X 24" SUPPLY
- 12" X 12" RETURN

GENERAL NOTES

1. ALL CEILING FIXTURES TO REMAIN UNLESS OTHERWISE NOTED
2. SALVAGE DEMOLISHED LIGHTING FOR REUSE

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

DATE | BY | REVISIONS | NO.

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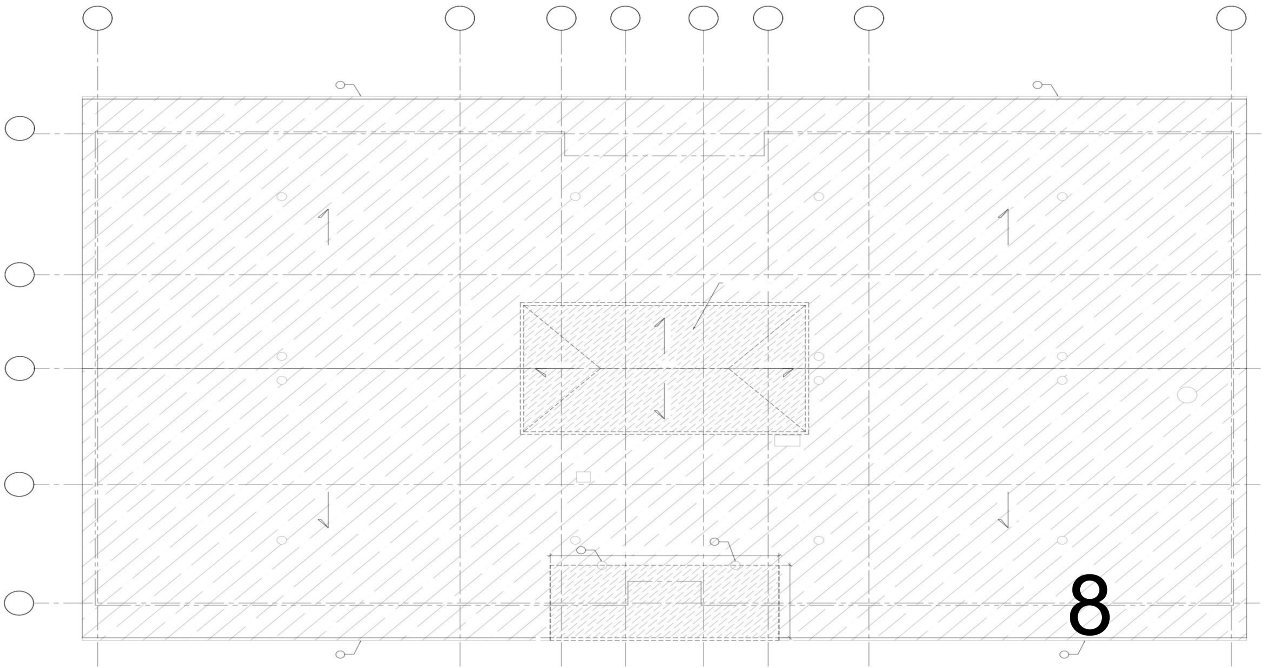
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DRAWN:	MJC
CHECKED:	JOH
DATE:	07-21-17

REGISTERED ARCHITECT
JOELLE HARRIS
OREGON
FOR INFORMATION ONLY
EXPIRES: 12-31-17

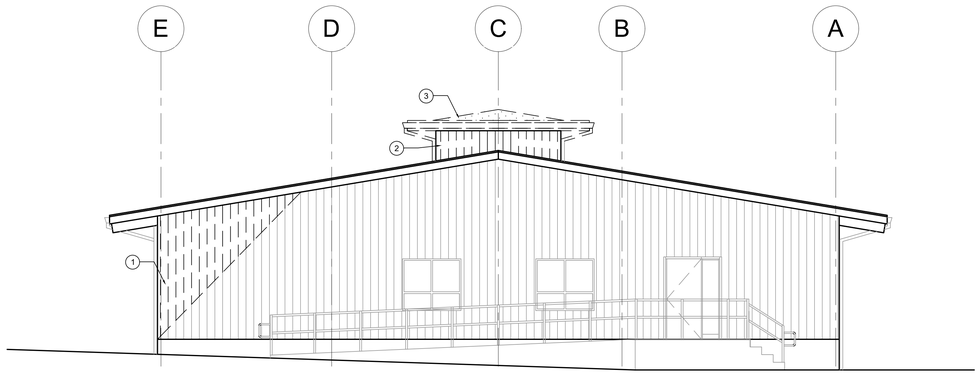
DEMOLITION REFLECTED CEILING PLAN

AD.2

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION

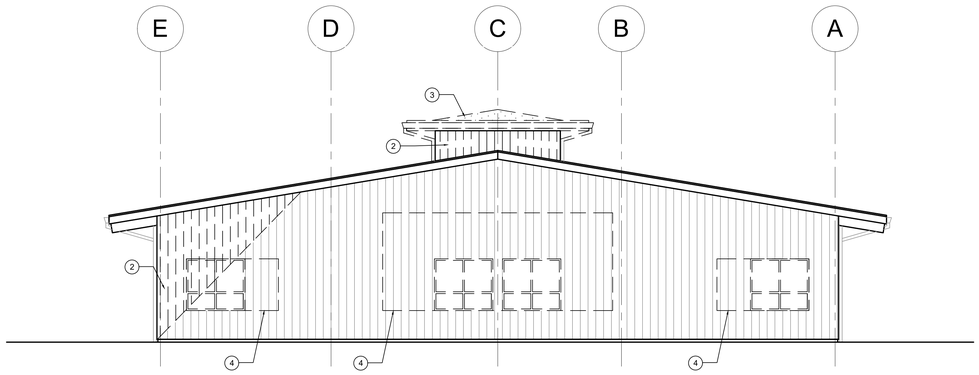


#	PLAN KEY
1	EXIST NECE
2	DEMO



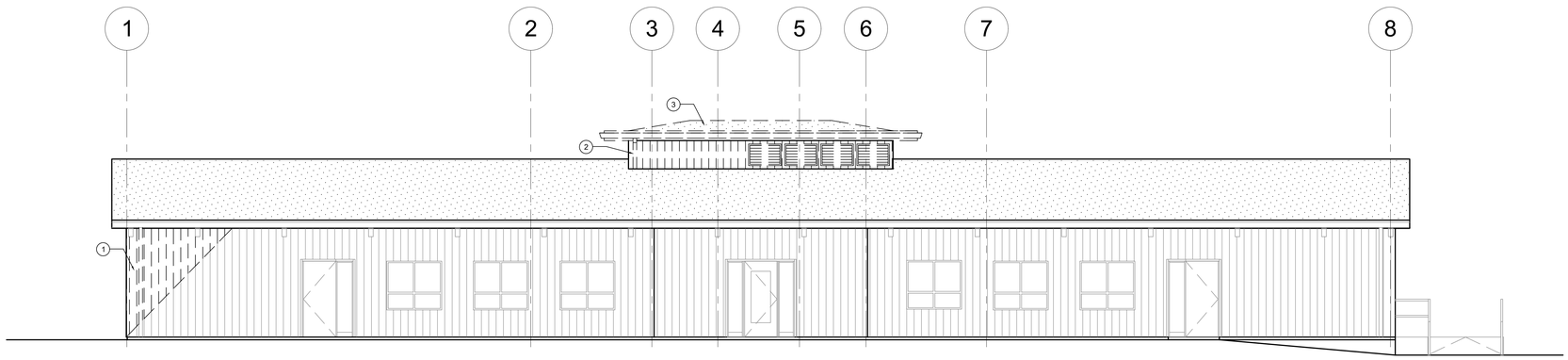
1 AD.4 **(E) WEST ELEVATION**

3/16"= 1'-0"



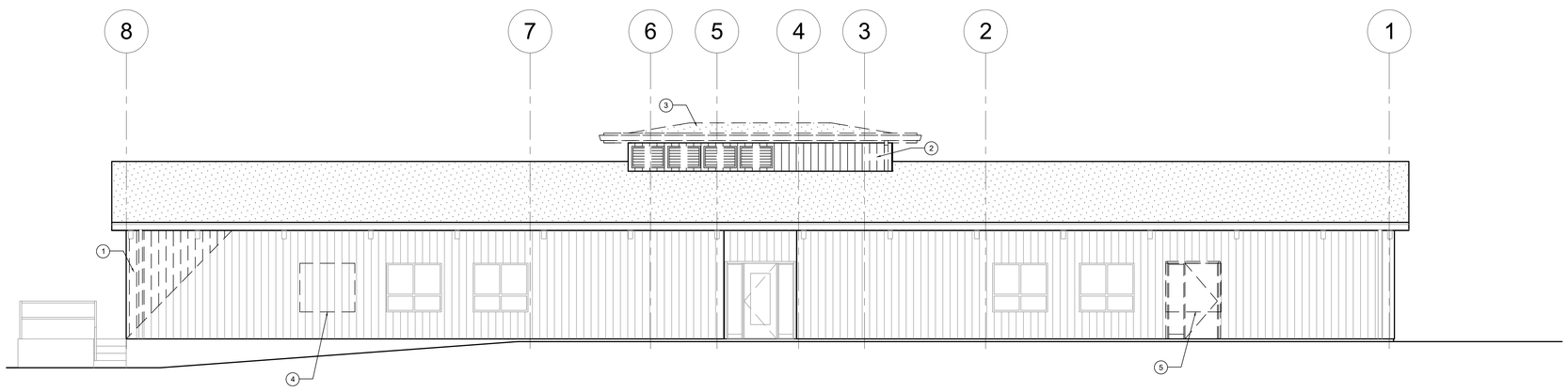
2 AD.4 **(E) EAST ELEVATION**

3/16"= 1'-0"



3 AD.4 **(E) NORTH ELEVATION**

3/16"= 1'-0"



4 AD.4 **(E) SOUTH ELEVATION**

3/16"= 1'-0"

 # PLAN KEY NOTES

1. DEMOLISH T1-11 SIDING DOWN TO SHEATHING
2. DEMOLISH T1-11SIDING AND SHEATHING DOWN TO STUD.
3. DEMOLISH MECHANICAL EQUIPMENT WELL ROOFING, SHEATHING AND ROOF STRUCTURE.
4. DEMOLISH WALL FRAMING FOR NEW WINDOW
5. DEMOLISH DOOR AND FRAMING FOR NEW WINDOW

LEGEND

- T1-11 SIDING TO BE DEMOLISHED
- ROOFING TO BE DEMOLISHED
- INDICATES ELEMENT TO BE DEMOLISHED

PLAN GENERAL NOTES

1. SALVAGE DEMOLISHED WINDOWS FOR RE-USE

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO.	REVISIONS	BY	DATE

CITY OF OREGON CITY

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(503) 650-0150

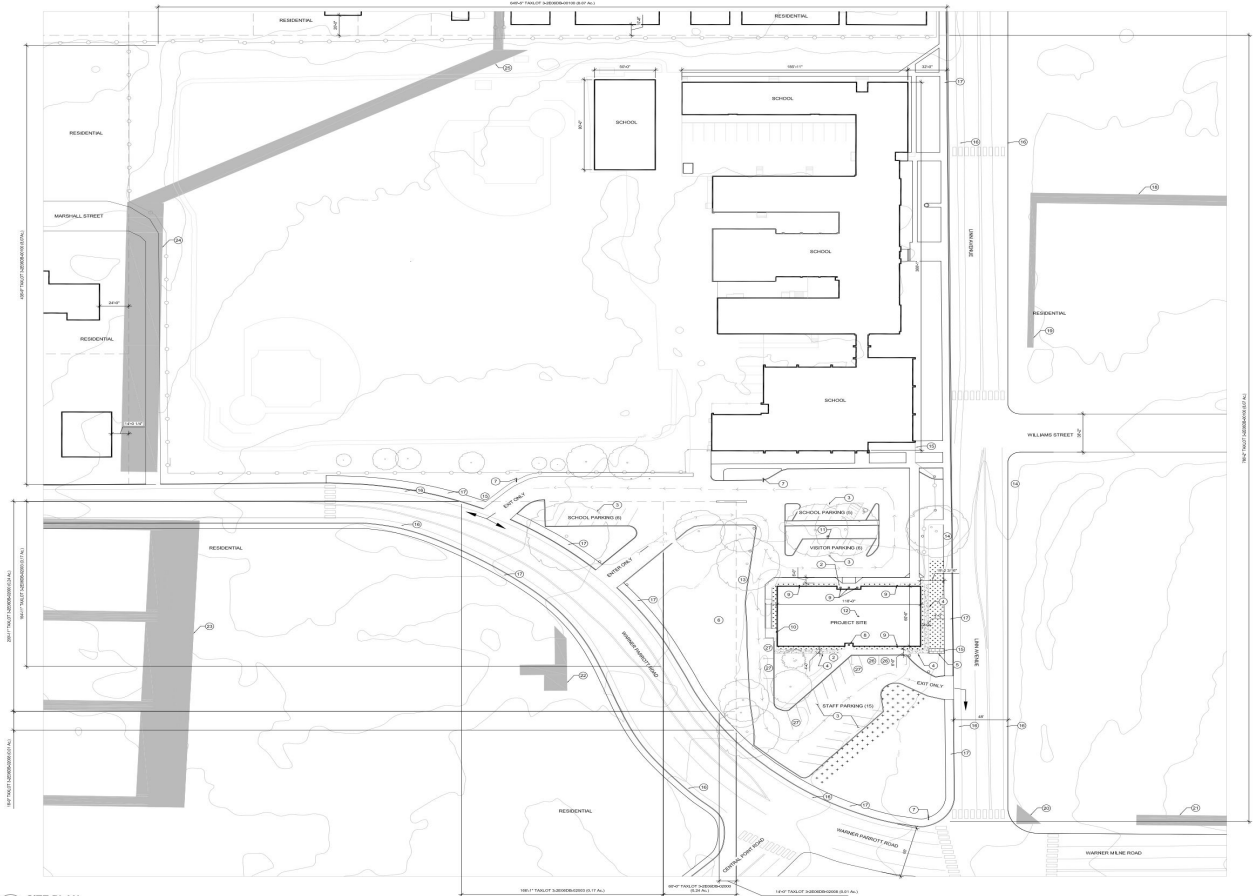
PROJECT NO:	P-2195-17
DRAWN:	MJC
CHECKED:	JCH
DATE:	07-21-17

REGISTERED ARCHITECT
JOELLE H. CHRIS
FOR INFORMATION ONLY
STATE OF OREGON
EXPIRES: 12-31-17

DEMOLITION ELEVATIONS

AD.4

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION



PLAN KEY NOTES

1.
2. NEW BICYCLE PARKING RACKS. BICYCLE FIXTURES OFCI
3. RE-STRIPING OF PARKING LOT
4. WIDEN SIDEWALK TO 16'-7"
5. NEW SIDEWALK WITH STAIRS CONNECTING TO STREET SIDEWALK
6. (N) TERRATEK) NEW FLAG POLE WITH UPWARD LIGHTING
7. (E) STREET LIGHT AFFIXED TO UTILITY POLE
8. (E) EXTERIOR LIGHT (12IN X 12IN X 20IN) AFFIXED TO SOFFIT
9. (E) EXTERIOR LIGHT (5IN X 12IN X 5IN) AFFIXED TO WALL ABOVE DOOR
10. (E) EXTERIOR LIGHT (12IN DIA. X 2IN) AFFIXED TO WALL ABOVE DOOR
11. (E) LIGHT POST
12. (E) EXTERIOR LIGHT MOUNTED ON 9FT POLE ON ROOF
13. NEW EMPLOYEE PARKING SIGN
14. LINN AND WILLAMAS TRANSIT STOP
15. PEDESTRIAN ACCESS TO SITE
16. BICYCLE LANE
17. PEDESTRIAN SIDEWALK, MIN 5' WIDE
18. EASEMENT/9-10450
19. EASEMENT/6-70-29660
20. EASEMENT/9-77-19810
21. EASEMENT/9-92-30565
22. EASEMENT/91-04282
23. EASEMENT/93-84317
24. EASEMENT PER BOOK, 401, PAGE 717, RECORDED MAY 25TH, 1961
25. EASEMENT PER VOL 567 PAGE 143, RECORDED DEC., 1961
26. PARKING SPACE TO BE REMOVED
27. NEW PARKING SPACE

LEGEND

- CHAIN LINK FENCING
- TRAFFIC CIRCULATION
- TAX LOT BOUNDARY
- SIDEWALK REPLACEMENT AREA
- NEW SIDEWALK AREA
- LANDSCAPE IMPROVEMENTS
- TRAFFIC BOLLARD
- EASEMENT
- 478 FT CONTOUR LINE, 2FT INTERVALS

PLAN GENERAL NOTES

1. ALL DIMENSIONS ARE APPROXIMATE.
2. LANDSCAPE IMPROVEMENTS TO BE VERIFIED WITH ARCHITECT.
3. SIDEWALK IMPROVEMENTS TO BE VERIFIED BY ARCHITECT.
5. BICYCLE RACKS WILL BE PROVIDED BY THE CLIENT
4. TRAFFIC CIRCULATION ARROWS ARE FOR DIAGRAMMATIC PURPOSES ONLY.

1 A1.0 **SITE PLAN**

1/32"=1'-0"

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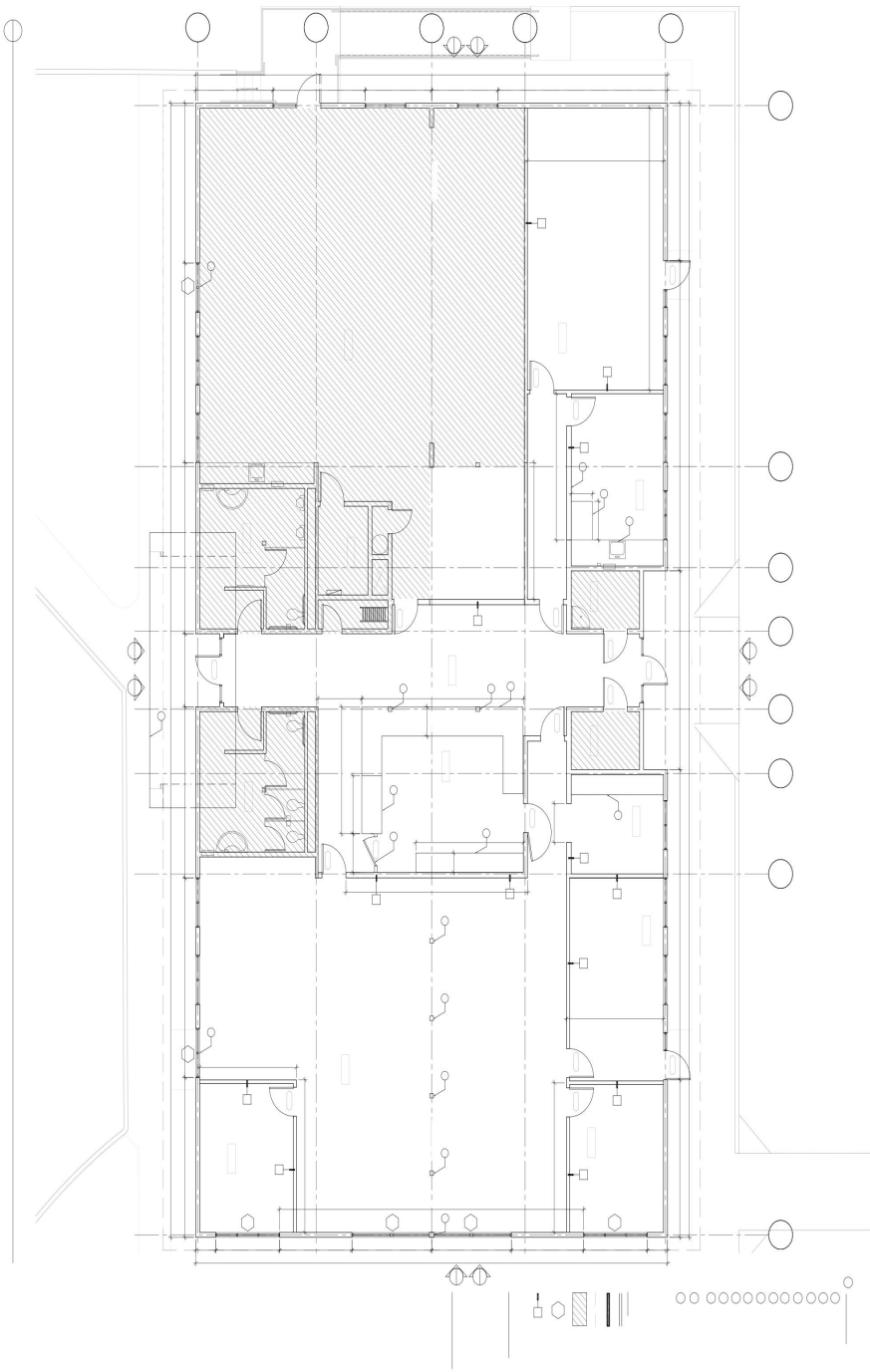
PROJECT NO: P-0150-1
DRAWN: MJ
CHECKED: JCC
DATE: 12/12/14

REGISTERED ARCHITECT
JOELLE CUCCIA
OREGON
EXPIRES: 12-31-15

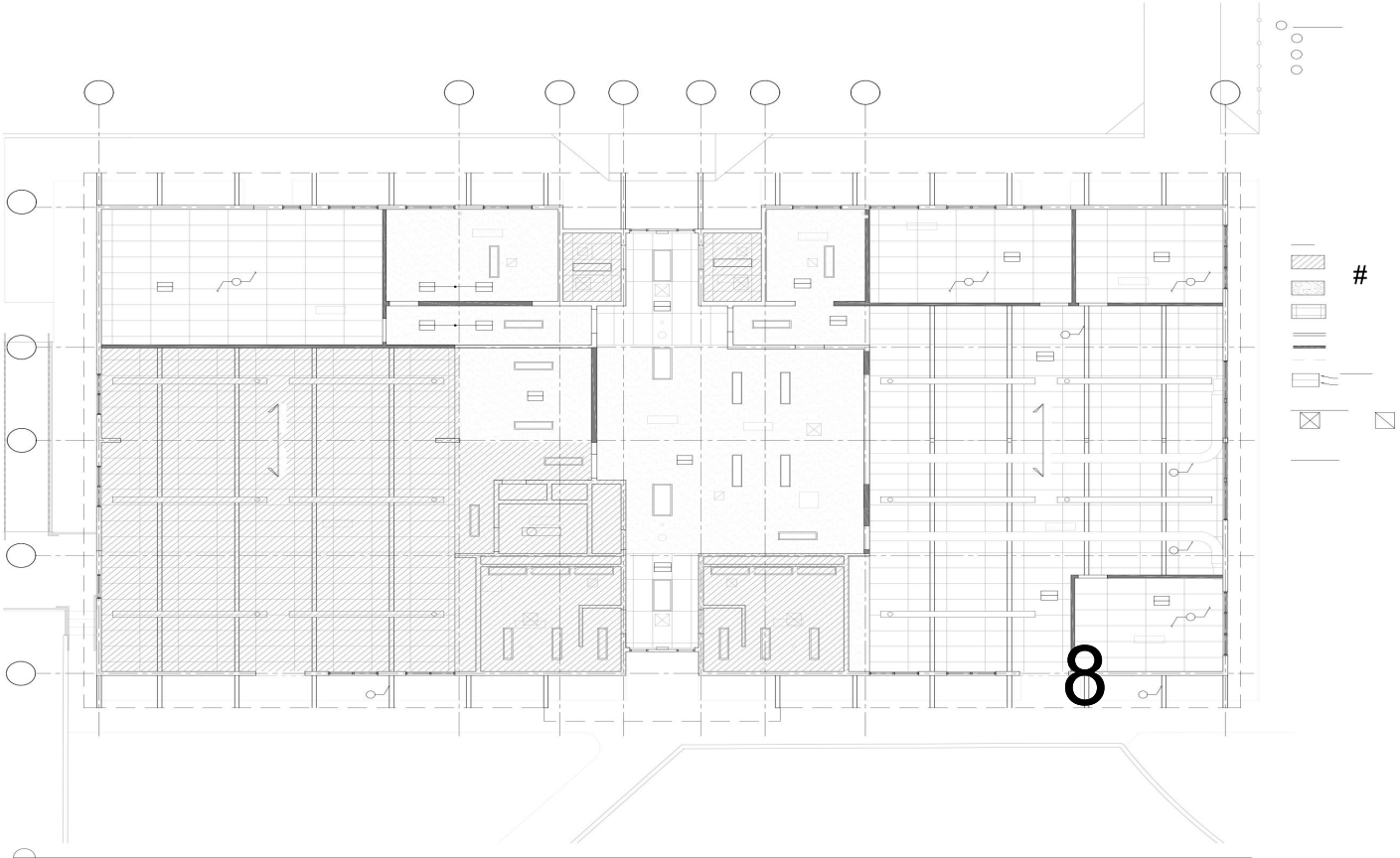
SITE PLAN

A1.0

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION



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505 Main Street • Suite 00, Oregon City, OR 97045



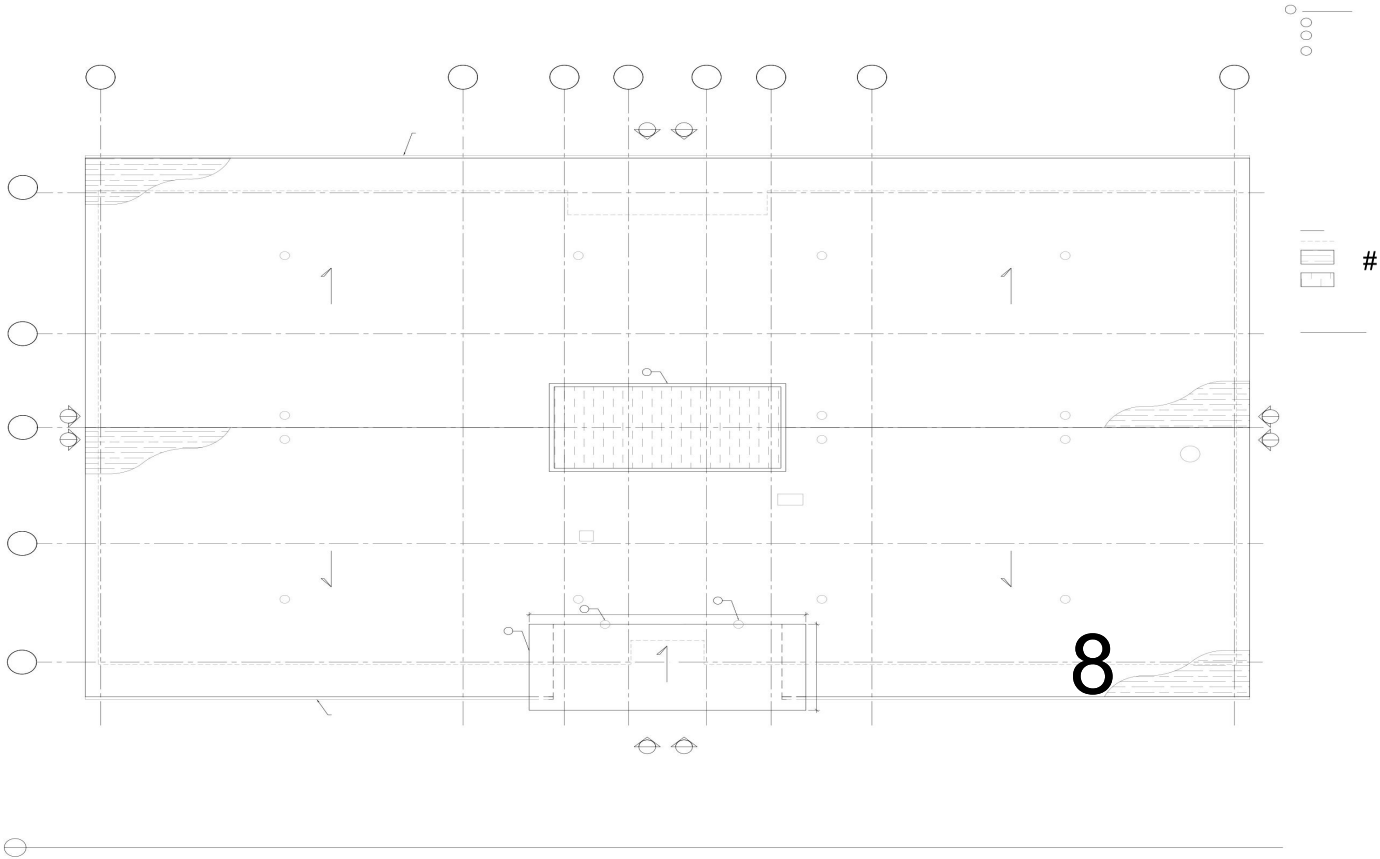
#

PLAN KEY

1 RETU

2 EXPO

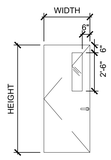
3 ACOU



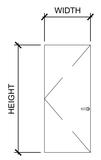
#	PLAN KEY
1	MECH LOUV
2	EXIST NECE
3	NEW

DOOR SCHEDULE

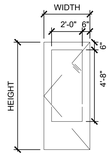
DOOR NO.	ROOM NAME	ROOM NO.	DOOR HEIGHT	DOOR WIDTH	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FIRE RATING	COMMENTS
101	MECH	101	EX	EX	EX	EX	EX	EX	-	-
103A	SMALL CONFERENCE	103	7'-0"	3'-0"	C	WD	CF	HM	-	-
103B	SMALL CONFERENCE	103	EX	EX	EX	EX	EX	EX	-	-
104	BUILDING OFFICIAL	104	7'-0"	3'-0"	C	WD	CF	HM	-	
105	OFFICE SPACE	105	EX	EX	EX	EX	EX	EX	-	-
106	DIRECTOR	106	7'-0"	3'-0"	C	WD	CF	HM	-	-
108A	FRONT DESK	108	EX	EX	AA	EX	EX	HM	-	RELOCATED EXISTING DOOR
108B	FRONT DESK	108	3'-6"	3'-0"	-	WD	CF	WD	-	NEW HALF DOOR
109A	LOBBY	109	EX	EX	EX	EX	EX	EX	-	-
109B	LOBBY	109	EX	EX	EX	EX	EX	EX	-	-
109C	LOBBY	109	EX	EX	EX	EX	EX	EX		-
109D	LOBBY	109	EX	EX	EX	EX	EX	EX		-
109E	LOBBY	109	EX	EX	EX	EX	EX	EX	-	-
113A	LARGE CONFERENCE	113	EX	EX	A	EX	EX	HM	-	RELOCATED EXISTING DOOR
113B	LARGE CONFERENCE	113	EX	EX	EX	EX	EX	EX	-	-
114	BREAK	114	EX	EX	A	EX	EX	HM	-	-
115	JANITORIAL	115	EX	EX	EX	EX	EX	EX	-	-



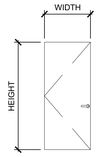
A
(E) WOOD DOOR WITH GLAZED PANEL



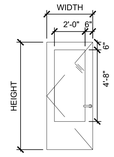
AA
(E) WOOD DOOR



B
(E) METAL DOOR WITH GLAZED PANEL



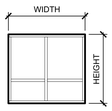
BB
(E) METAL DOOR



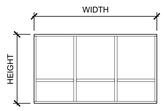
C
WOOD DOOR WITH GLAZED PANEL

WINDOW SCHEDULE

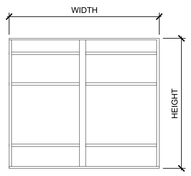
WNDW NO.	ROOM NAME	ROOM NO.	WNDW HEIGHT	WNDW WIDTH	WNDW TYPE	WNDW MATERIAL	OPERABLE	FRAME MATERIAL	FIRE RATING	COMMENTS
A	GYM	112	EX	EX	A	EX	EX	EX	-	RELOCATED EXISTING WINDOW, SEE DD NARATIVE DIV. 8-1
A	OFFICE SPACE	105	EX	EX	A	EX	EX	EX	-	RELOCATED EXISTING WINDOW, SEE DD NARATIVE DIV. 8-1
B	OFFICE SPACE	105	4'-6"	8'-0"	B	STRFT	YES	HM	-	-



A
(E) WINDOW



B
ALUMINUM WINDOW



C
ALUMINUM WINDOW

FLOORING FINISHES

FLOORING

FINISH CODE	MATERIAL	LOCATION	MANUFACTURER	STYLE/COLOR	SIZE/TUFTED WEIGHT/BACKING	INSTALLATION NOTES
CPT1	CARPET TILE	OFFICES, OPEN OFFICE, CONFERENCE ROOMS, LOBBY, FRONT DESK, CORRIDORS	MILIKEN	ARCADIA COLLECTION	25CM X 1M PLANKS, CUSHION BACK	SEE DD NARRATIVE DIV. 9-3
CPT2	RUBBER TILE	BREAK ROOM, COPY ROOM	MANNINGTON	TELES COLLECTION	17.5IN X 17.5IN, RUBBER BASE	SEE DD NARRATIVE DIV. 9-4-A

WALL BASE FINISHES

WALL BASE

FINISH CODE	MATERIAL	LOCATION	MANUFACTURER	STYLE/COLOR	SIZE/THICKNESS	INSTALLATION NOTES
RB1	RUBBER BASE	THROUGHOUT	ROPPE	-	4" X 1/8"	SEE DD NARRATIVE DIV. 9-4-B

WALL FINISHES

PAINT

FINISH CODE	MATERIAL	LOCATION	MANUFACTURER	COLOR	FINISH	INSTALLATION NOTES
-	PAINT	INTERIOR WALLS, CEMENT SIDING, CEILING BEAMS AND TILES, DOOR FRAMES	-	-	-	SEE DD NARRATIVE DIV. 9-5-A,B,C,D,E

CASEWORK/MILLWORK FINISHES

LAMINATE

FINISH CODE	MATERIAL	LOCATION	MANUFACTURER	COLOR	INSTALLATION NOTES
PL1	PLASTIC LAMINATE	COPY ROOM	–	–	SEE DD NARRATIVE DIV. 6-3-A
PL2	PLASTIC LAMINATE	BREAK ROOM	–	–	SEE DD NARRATIVE DIV. 6-3-B
PL3	PLASTIC LAMINATE	FRONT DESK	–	–	SEE DD NARRATIVE DIV. 6-3-C

CEILING FINISHES

ACOUSTICAL CEILING TILE

FINISH CODE	MATERIAL	LOCATION	MANUFACTURER	STYLE	SIZE/NRC RATING	INSTALLATION NOTES
ACT1	ACOUSTIC CEILING TILE	LARGE CONFERENCE	ARMSTRONG	BEVELED TEGULAR #1996 WHITE	24X48X3/4	SEE DD NARRATIVE DIV. 9-2-A
ACT2	ACOUSTIC CEILING TILE	SMALL CONFERENCE, OFFICES 104 AND 106	ARMSTRONG	CORTEGA BEVELED TEGULAR #2195	24X48X5/8	SEE DD NARRATIVE DIV. 9-2-B
ACT3	ACOUSTIC CEILING TILE	OPEN OFFICE	EX	EX	EX	EXISTING ACT, SEE DD NARRATIVE DIV 9-2-C
ACT4	ACOUSTIC CEILING TILE	LOBBY	ARMSTRONG	CORTEGA SECOND LOOK ANGLED REGULAR	24X48X15/16	SEE DD NARRATIVE DIV. 9-2-D

GYPSUM CEILINGS

FINISH CODE	MATERIAL	LOCATION	FINISH	INSTALLATION NOTES
GYP1	GYPSUM BOARD	BREAK ROOM, CORRIDOR	PAINT	SEE NARRATIVE DIV. 9-1-C

FINISH NOTES

1. DEFER TO DESIGN DEVELOPMENT (DD) NARRATIVE FOR ALL FINISHES AND WINDOW TREATEMENTS.

ABBREVIATIONS

EX	EXISTING
AL	ALUMINUM
STL	STEEL
CAA	CLEAR ANODIZED ALUMINUM
BRZ	DARK BRONZE ANONDIZED ALUMINUM
CF	CLEAR FINISHED WOOD
HM	HOLLOW METAL
PT	PAINTED FINISH
PG	PAINT GRADE WOOD
TG	TEMPERED GLASS
SC	SOLID CORE
STRFT	ALUMINUM STOREFRONT
WNDW	WINDOW

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

DATE | BY | REVISIONS | NO.

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ENGINEERING
524 Main Street - Suite 102 - Oregon City, OR 97045
(503) 657-0188 (503) 657-5779

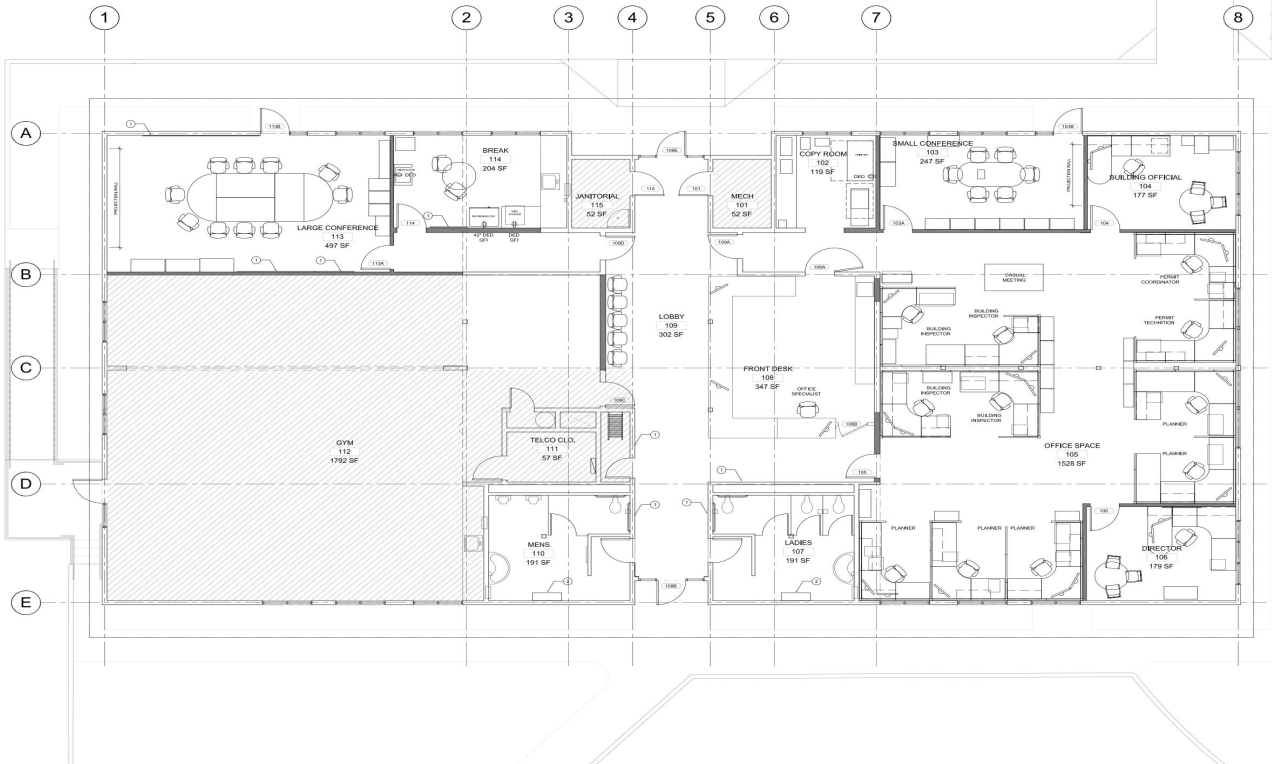
PROJECT NO:	P-2195-17
DRAWN:	MJC
CHECKED:	JCH
DATE:	07-21-17

REGISTERED ARCHITECT
JOELLE C. HARRIS
OREGON
STATE OF OREGON
EXPIRES: 12–31–17

DOOR, WINDOW, FINISH SCHEDULE

A2.0

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION



1 A1.1 **FURNITURE/POWER PLAN**

1/4"= 1'-0"

PLAN KEY NOTES

1. PROVIDE BLOCKING FOR ATTACHING WALL MOUNTED BULLETIN BOARDS
2. NEW LOCKERS, THREE WIDE, THREE TIERED, 36" W X 12" D 78" H

LEGEND

- EXISTING WALL/PARTITIONS TO REMAIN
- NEW PARTITION
- ROOF OVERHANG
- HO WORK IN THIS AREA

PLAN GENERAL NOTES

1. WORK STATION PARTITION WALLS TO TO HAVE POWER FEED

POWER/COMM LEGEND

- WALL MOUNTED DUPLEX OUTLET; DED OR HATCH = DEDICATED 20A = 20 AMP CIRCUIT T = 12 HOUR TIMER
- WALL MOUNTED DUPLEX OUTLET;
- WALL MOUNTED VOICE/DATA PORT - (2) VOICE/(2) DATA IN SINGLE GANG BOX, UON
- FLOOR MOUNTED OUTLET, UON: FLUSH DUPLEX RECEPTACLE OUTLET AND SINGLE DATA/VOICE OUTLET IN SINGLE GANG BOX, UON
- FLOOR, CEILING OR WALL MOUNTED FLOOR, 2 CONDUIT MINIMUM POWER POLE, UON: POWER, DATA & VOICE SYSTEM = POWER, DATA & VOICE

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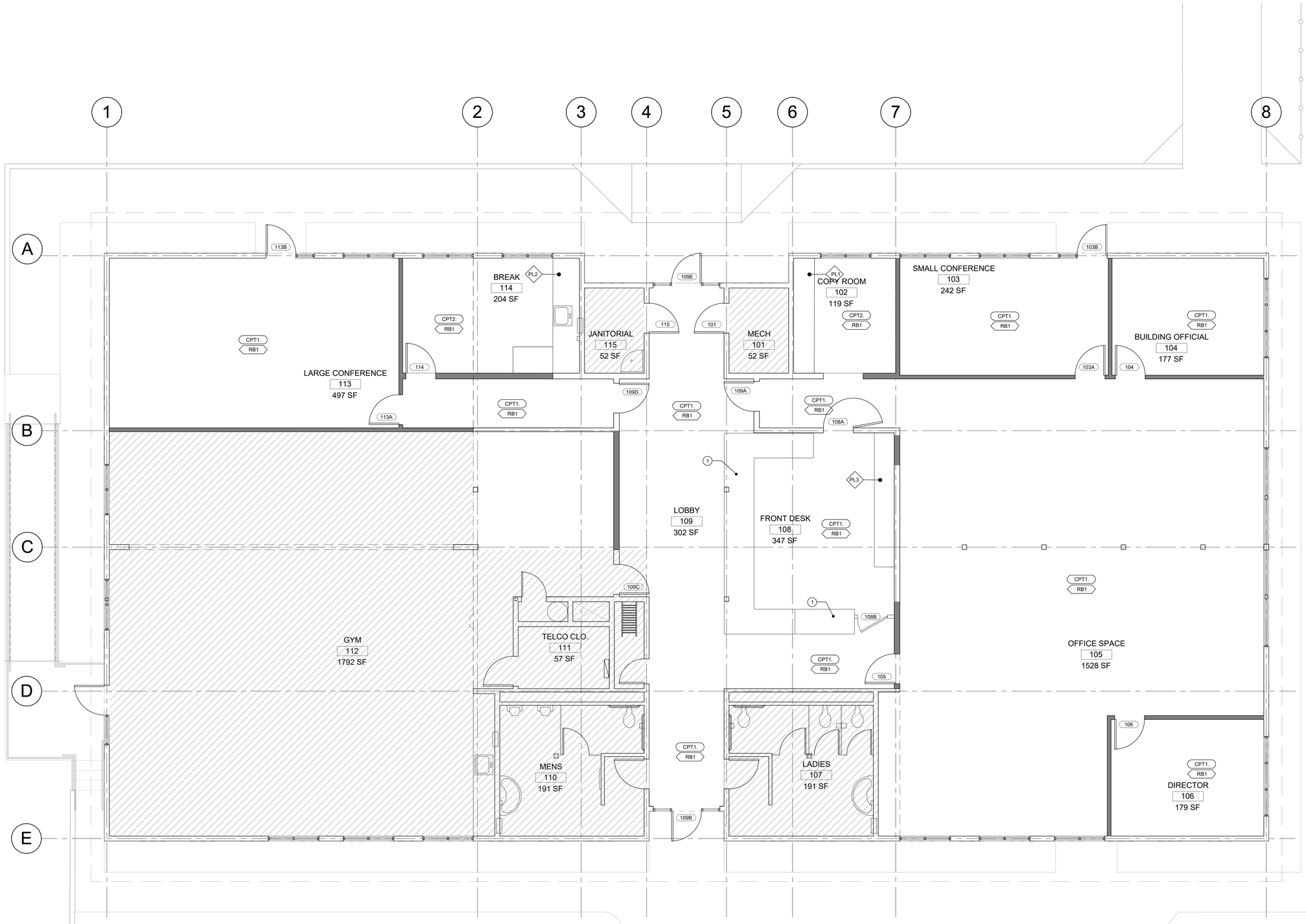
PROJECT NO: P4159-01
DRAWN: MJ
CHECKED: JCC
DATE: 12/12/22

REGISTERED ARCHITECT
JOELLE CORCOS
OREGON
EXPIRES: 12-31-23

FURNITURE/POWER PLAN

A2.1

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION



1 A2.2 **FINISH PLAN**

1/4"= 1'-0"

PLAN KEY NOTES

(1) OWNER FURNISHED WOOD SLAB, SEE DD NARRATIVE DIV. 6-2-A

LEGEND

- EXISTING WALLS/PARTITIONS TO REMAIN
- NEW PARTITION
- ROOF OVERHANG
- NO WORK IN THIS AREA

FINISH LEGEND

ROOM TAG
NAME
XXX — ROOM NAME, ROOM NUMBER
XXX — FLOOR FINISH
XXX — WALL BASE

DIRECTION OF CARPET PATTERN

XXX — WALL FINISH

PLAN GENERAL NOTES

1. ALL INTERIOR WALL SURFACES WITHIN AREA OF WORK TO RECEIVE PAINT
2. ASSUME 2-3 WALL COLORS (BASE AND ACCENT)
3. EXISTING CEILING BEAMS AND ACT TO BE PAINTED IN OPEN OFFICE SPACE AND VISIBLE AREAS OF LARGE CONFERENCE ROOM
4. ALL DOOR FRAMES WITHIN AREAS OF WORK TO RECEIVE PAINT
5. EXTERIOR CEMENT SIDING TO BE PAINTED (ONE COLOR)
6. SEE DD NARRATIVE FOR ADDITIONAL INFORMATION

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

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(503) 657-0188 www.zcsengineering.com

PROJECT NO:	P-2195-17
DRAWN:	MJC
CHECKED:	JOH
DATE:	07-21-17

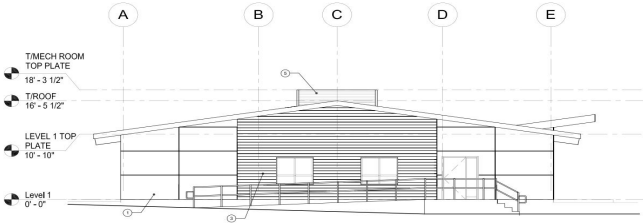
REGISTERED ARCHITECT
JOELLE H. MORRIS
KNIGHT #7927
STATE OF OREGON
EXPIRES: 12-31-17

FOR INFORMATION ONLY

FINISH PLAN

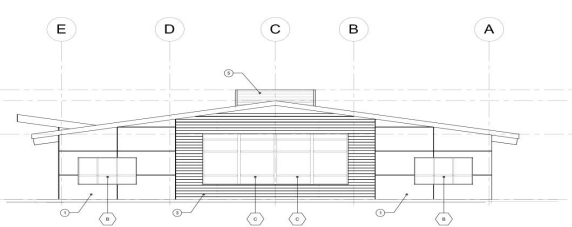
A2.2

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION



1 A5.1 **WEST ELEVATION**

3/16"= 1'-0"



2 A5.1 **EAST ELEVATION**

3/16"= 1'-0"

PLAN KEY NOTES

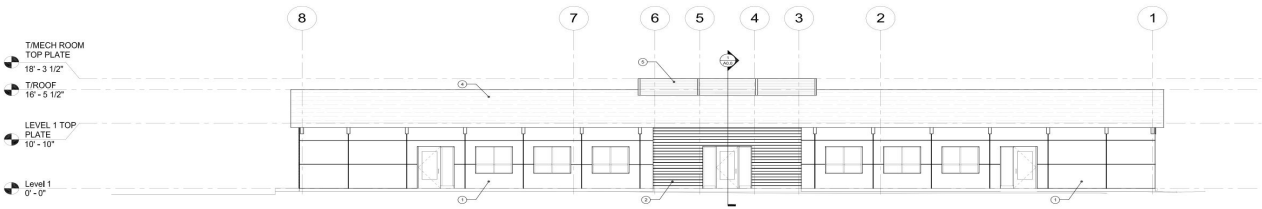
1. CEMENT BOARD RAINSCREEN CLADDING, REFER TO DD NARRATIVE DIV. 7-A,A
2. WOOD CLADDING, REFER TO DD NARRATIVE DIV. 7-1+AB
3. CEMENT BOARD RAINSCREEN CLADDING, REFER TO DD NARRATIVE DIV. 7-HB
4. PITCHED ROOF ASPHALT SHINGLES, REFER TO DD NARRATIVE DIV. 7-A,B
5. EXTERIOR METAL LOUVERS, REFER TO DD NARRATIVE DIV. 5-A,A
6.
7.
8.
9.
10.

LEGEND

NEW ASPHALT SHINGLE ROOF

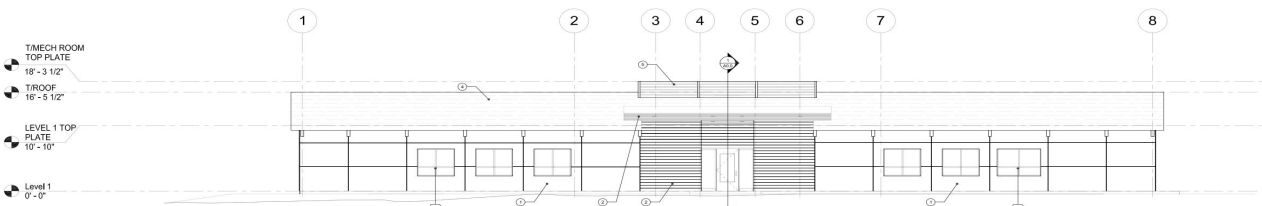
PLAN GENERAL NOTES

1.



3 A5.1 **SOUTH ELEVATION**

3/16"= 1'-0"



4 A5.1 **NORTH ELEVATION**

3/16"= 1'-0"

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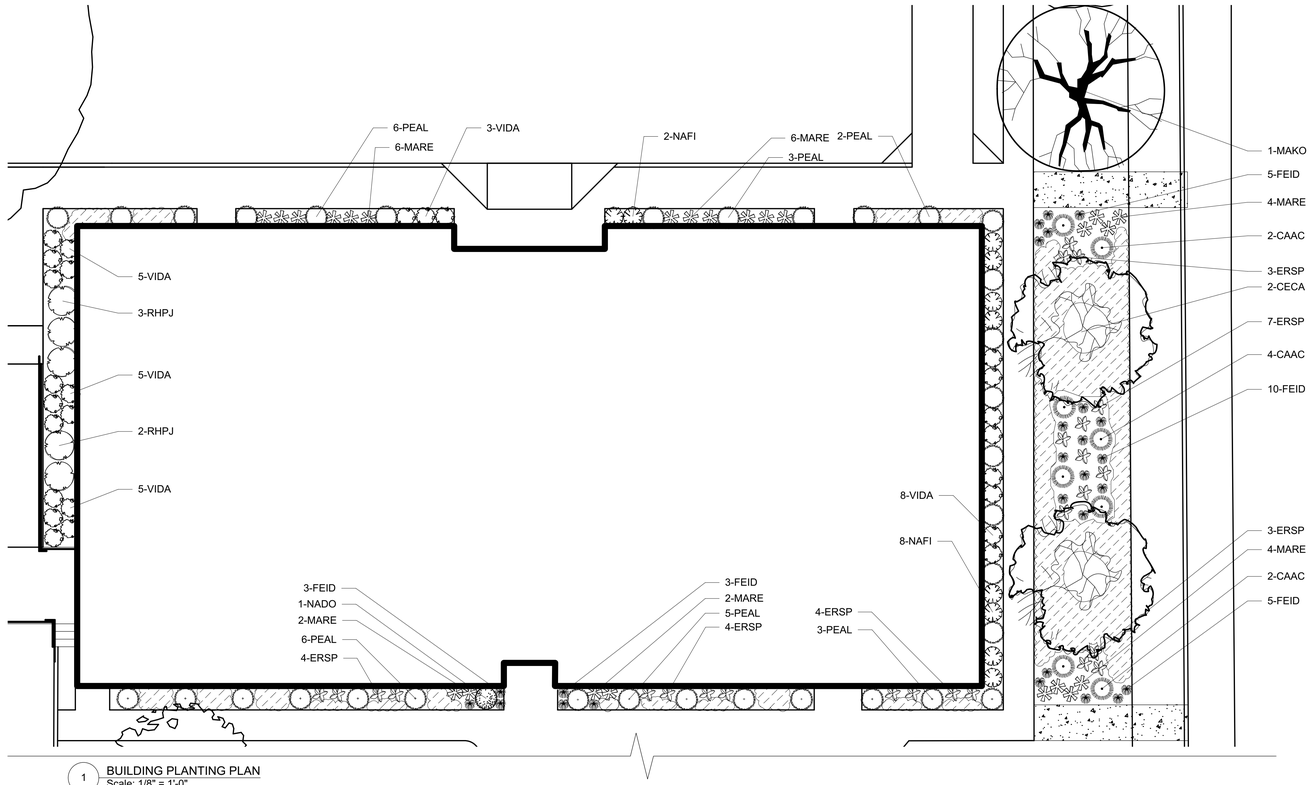
PROJECT NO: P-0150-01
DRAWN: MH
CHECKED: JCC
DATE: 12-12-22

REGISTERED ARCHITECT
JOELLE CUNDIFF
OREGON
EXPIRES: 12/31/23

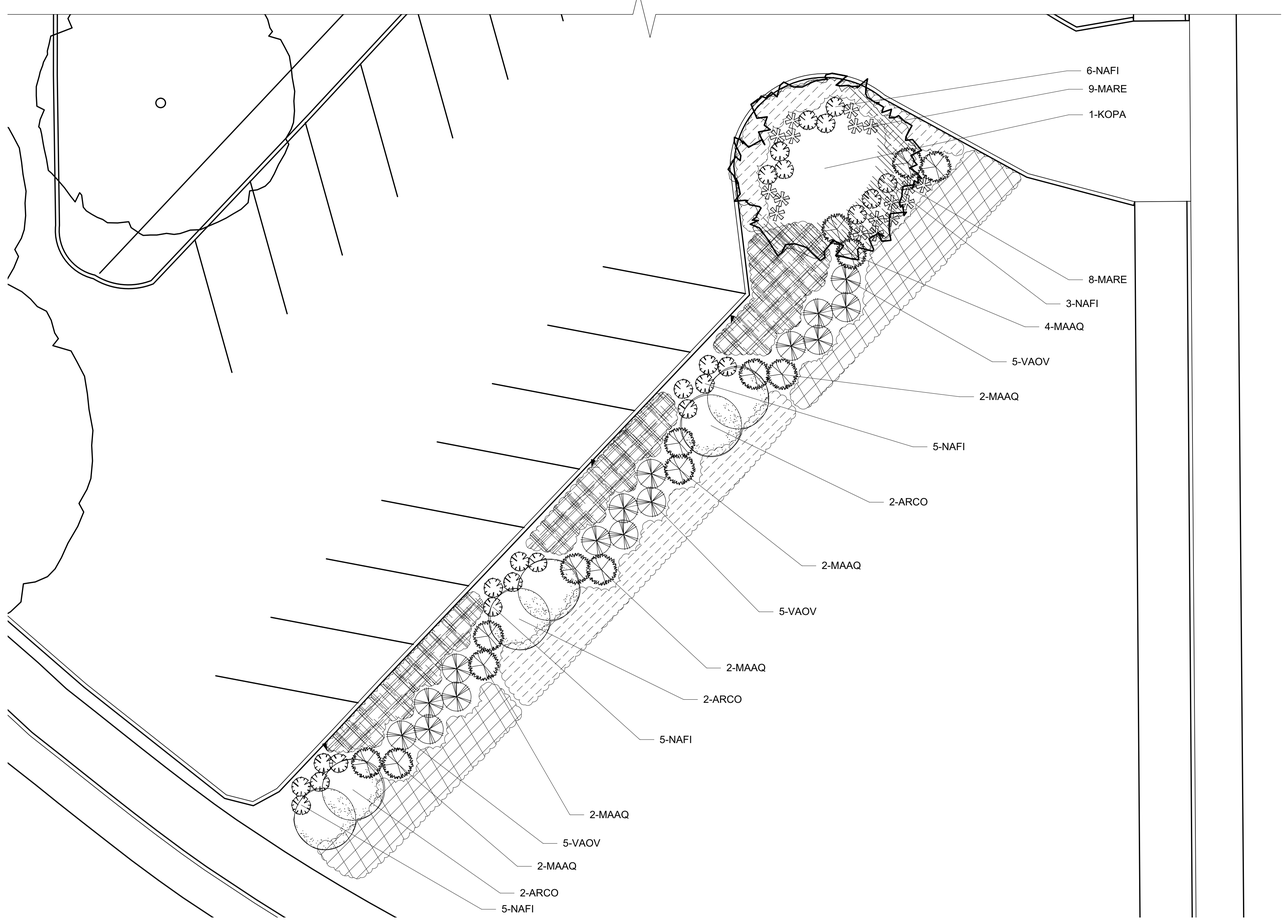
(E) ELEVATIONS

A5.1

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION



1 BUILDING PLANTING PLAN
Scale: 1/8" = 1'-0"



2 PARKING LOT PLANTING PLAN
Scale: 1/8" = 1'-0"

Plant List - Types

	ID	Qty	Common Name	Botanical Name	Scheduled Size	Comments
Groundcover						
	ARUU	159	**Kinnikinick**	Arctostaphylos uva-ursi 'Emerald Carpet'	4" POT	PLANT 36" O.C.
	GELY	40	**Lydia Woadwaxen**	Genista lydia	4" POT	PLANT 36" O.C.
	ERRG	102	**Ruby Glow Winter Heath**	Erica carnea 'Ruby Glow'	4" POT	PLANT 24" O.C.
Ornamental Grass						
	PEAL	33	**Dwarf Fountain Grass**	Pennisetum alopecuroides 'Hameln'	1 GAL.	
	CAAC	8	**Foerster`s Feather Reed Grass**	Calamagrostis x acutiflora `Karl Foerster`	1 GAL.	
	FEID	26	**Idaho Fescue 'Siskiyou Blue'**	Festuca idahoensis 'siskiyou blue'	1 GAL.	
Perennials						
	ERSP	25	**Showy Fleabane**	Erigeron speciosus	1 GAL.	
Shrubs						
	MARE	41	**Creeping Mahonia**	Mahonia repens	1 GAL.	
	VIDA	26	**David Viburnum**	Viburnum davidii	1 GAL.	
	VAOV	15	**Evergreen Huckleberry**	Vaccinium ovatum	5 GAL.	
	NAFI	34	**Firepower Heavenly Bamboo**	Nandina domestica 'Firepower'	1 GAL	
	ARCO	6	**Hairy Manzanita**	Arctostaphylos columbiana	5 GAL.	
	MAAQ	14	**Oregon Grape**	Mahonia aquifolium	5 GAL.	
	RHPJ	5	**PJM Rhododendron**	Rhododendron 'PJM'	5 GAL.	
	NADO	1	**Plum Passion Heavenly Bamboo (TM)**	Nandina domestica 'Plum Passion' (TM)	5 GAL.	
Trees						
	CECA	2	**Eastern Redbud**	Cercis canadensis	2" CALIPER	
	KOPA	1	**Golden Rain Tree**	Koelreuteria paniculata	2" CALIPER	
	MAKO	1	**Kobus Magnolia**	Magnolia kobus	2" CALIPER	

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

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97045

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534 Main Street - Suite D2 Oregon City, OR 97045
(503) 656-2205 phone (503) 656-2435 fax

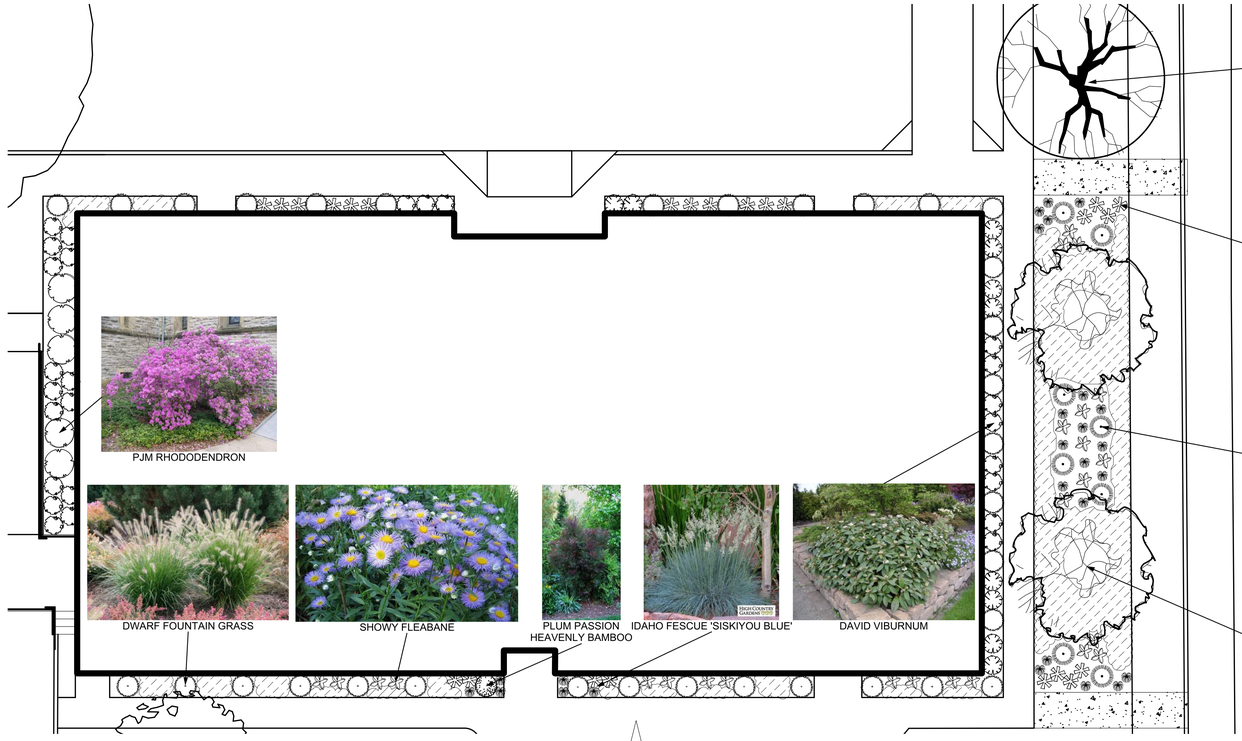
PROJECT NO:	P-2195-17
DRAWN:	JML
CHECKED:	GTC
DATE:	08-08-17

REGISTERED LANDSCAPE ARCHITECT
OREGON
JOHN
12/29/92

PLANTING PLAN

L1.0

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION



1 BUILDING PLANTING PLAN
Scale: 1/8" = 1'-0"


KOBUS MAGNOLIA


CREEPING MAHONIA


FOERSTER´S FEATHER REED GRASS


EASTERN REDBUD


KINNIKINICK

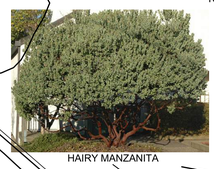

GOLDEN RAIN TREE

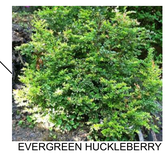

LYDIA WOADWAXEN


OREGON GRAPE


NANDINA FIREPOWER


RUBY GLOW WINTER HEATH


HAIRY MANZANITA


EVERGREEN HUCKLEBERRY

2 PARKING LOT PLANTING PLAN
Scale: 1/8" = 1'-0"

Plant List - Types

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	CAAC	8	**Foerster´s Feather Reed Grass**	Calamagrostis x acutiflora ´Karl Foerster´	1 GAL.	
	FEID	26	**Idaho Fescue 'Siskiyou Blue'**	Festuca idahoensis 'siskiyou blue'	1 GAL.	
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	VIDA	26	**David Viburnum**	Viburnum davidii	1 GAL.	
	VAOV	15	**Evergreen Huckleberry**	Vaccinium ovatum	5 GAL.	
	NAFI	34	**Firepower Heavenly Bamboo**	Nandina domestica 'Firepower'	1 GAL	
	ARCO	6	**Hairy Manzanita**	Arctostaphylos columbiana	5 GAL.	
	MAAQ	14	**Oregon Grape**	Mahonia aquifolium	5 GAL.	
	RHPJ	5	**PJM Rhododendron**	Rhododendron 'PJM'	5 GAL.	
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REVISIONS		

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374 Main Street - Suite 02 - Oregon City, OR 97045
(503) 659-2295 (503) 659-2433

PROJECT NO:	P-2195-17
DRAWN:	JML
CHECKED:	GTC
DATE:	08-08-17

REGISTERED LANDSCAPE ARCHITECT OREGON 12/29/92

PLANTING PLAN W/ IMAGES

L1.1

100% DESIGN DRAWINGS NOT FOR CONSTRUCTION







West Facade





ZCS ENGINEERING
524 Main Street • Suite 102, Oregon City, OR 97045
(503) 657-0188 • www.zcsengineering.com

OREGON CITY





Restroom

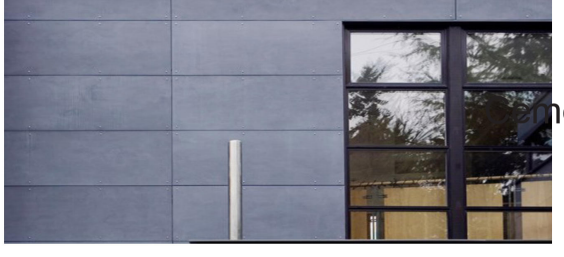




Main Corridor



ainted

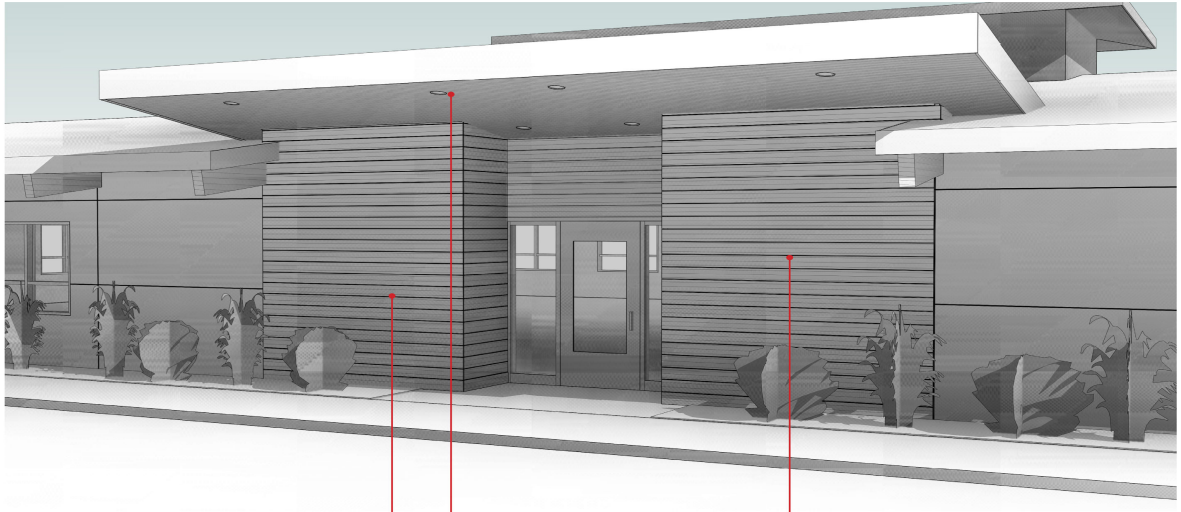


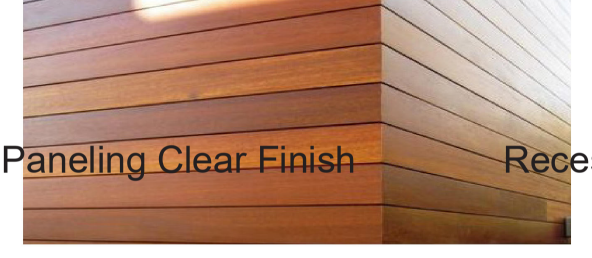
ment Panel Lap Siding Painted



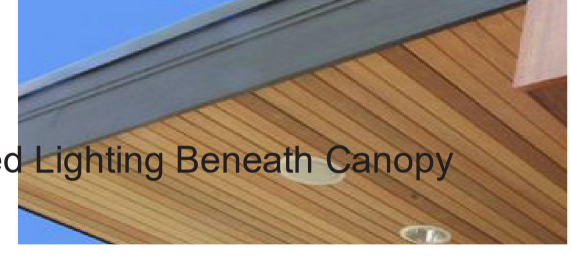


Dark Bronze Aluminum Windows





Wood Paneling Clear Finish



Recessed Lighting Beneath Canopy



Raised Bronze Aluminum Signage (Not Shown)

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

September 12, 2017

Ms. Christina Robertson-Gardiner
City of Oregon City
PO Box 3040
Oregon City, OR 97045

SUBJECT: REVIEW OF TRANSPORTATION ANALYSIS LETTER – MT. PLEASANT SCHOOL PLAN AMENDMENT, REZONE, SITE PLAN REVIEW – PZ17-01, ZC17-04 & SP17-114

Dear Ms. Robertson-Gardiner:

In response to your request, I have reviewed the materials submitted in support of the proposed plan amendment and rezoning of the entire Mt. Pleasant School campus and the redevelopment of the Annex for use as government offices. The relevant materials included the project narrative, site plan and the Transportation Analysis Letter (TAL). The TAL is dated September 11, 2017 and was prepared under the direction of Chris Brehmer PE of Kittelson & Associates, Inc.

The applicant is seeking approval for a Zone Change from "R-10" Single-Family Dwelling District and "R-3.5" Dwelling District to "I" Institutional District and from "MR" Medium Density Residential Comprehensive Plan Designation to "QP" Public/Quasi-Public as well as minor exterior alterations with a Minor Site Plan and Design Review to allow for Oregon City Community Development offices to relocate to the Mt. Pleasant Annex. The Annex building is approximately 6,850 square feet. The main building, approximately 39,000 square feet, is currently leased to and is being used by a private school, Marylhurst School.

The site is located in the northwest quadrant of the intersection of Warner Parrott Road and Linn Avenue. The total site is approximately 8.49 acres. Approximately 0.42 acres is designated MR in the Comprehensive Plan and zoned R 3.5. The remainder of the site is designated QP and zoned R-10. The applicant proposes the entire site be rezoned Institutional. A key element of the proposal is the establishment of a trip cap based upon the trip generation of the former Mt. Pleasant Elementary School, the previous, long-term use of the site.

The former Mt. Pleasant Elementary School totaled approximately 45,850 square feet and accommodated approximately 400 students. The TAL provides estimates of the trip generation of the school using data from Institute of Transportation Engineers' *Trip Generation Manual*. Calculations were performed using both the building size and the number of students. Based on building size, the elementary school's trip generation was

calculated to produce 238 AM peak hour trips and 143 PM peak hour trips. These values are proposed as the basis for a trip cap.

The TAL provides a basis upon which the proposal can be evaluated for transportation impacts.

Comments

1. ***Trip Cap.*** The trip cap is an important feature of the proposal because it allows the applicant to show compliance with the Transportation Planning Rule while allowing redevelopment of the site without extensive analysis and documentation. Without a trip cap, the applicant would need to analyze a "reasonable worst case" development scenario. Such a scenario could produce much higher traffic volumes that might require mitigation and amendments to the Transportation System Plan. The trip cap, which limits the development on the rezoned property to 238 AM peak hour trips and 143 PM peak hour trips allows the city to conclude that the transportation impacts of the rezoning are minimal. I find that the calculations for the proposed trip cap are appropriate and that the city can make findings that, with the trip cap, the Transportation Planning Rule criteria are met.

2. ***Trip Generation.*** The TAL presents information on trip generation from the operation of Marylhurst School, which is expected to operate at the site until June 2019, and the proposed redevelopment of the Annex building as government offices. According to the TAL, using data from Institute of Transportation Engineers' *Trip Generation Manual*, the private K-8 school is calculated to produce 176 AM peak hour trips and 117 PM peak hour trips. A 6,850 square foot government office is calculated to produce 40 AM peak hour trips and 8 PM peak hour trips. Thus, the total site is calculated to produce 216 AM peak hour trips and 125 PM peak hour trips. This is below the proposed trip cap and the calculated trip generation for the prior Mt. Pleasant Elementary School of 238 AM peak hour trips and 143 PM peak hour trips. Due to the overall decrease in trips in comparison to the prior use, the traffic impacts of the proposed rezoning and redevelopment of the Annex can be considered to be of no significance.

3. ***Access Locations.*** According to the TAL, the applicant does not intend to alter the existing site access. The access to Linn Avenue is an exit only driveway. The accesses on Warner Parrott Road are divided for inbound and outbound. As noted in the TAL, the "School Entrance" signing does not adequately convey the driveway's intended function. The engineer also suggests the deteriorated signing at the driveway for Linn Avenue should be replaced. The applicant should also be aware that changes in access may be required in connection with implementation of projects specified in the Transportation System Plan, namely a planned roundabout that is the identified solution for the intersection of Warner Parrott Road/Warner Milne Road/Leland Road/Linn Avenue.

4. ***Driveway Width.*** According to the OCMC, non-residential driveway accesses are required to be a minimum of 15 feet and maximum of 40 feet in width. According to the TAL, both exits onto Warner Parrott and Linn Avenue satisfy this standard, with widths of 24 feet and 28 feet, respectively. The existing entrance on Warner Parrott Road is only 12 feet wide. The engineer recommends that this driveway be widened to at least 15 feet to satisfy the Code standards. Since the planned roundabout project at Warner Parrott/Warner-Milne/Leland/Linn could alter this driveway's location, I do not recommend reconstruction of the driveway in connection with this development application. The applicant should be aware, however, that modification may be required if safety issues susceptible to correction by driveway widening develop at this location.

5. ***Intersection Spacing.*** The proposal does not alter or create any new intersections. The engineer evaluates the site access for compliance with city spacing requirements. He notes that the access to Linn Avenue is less than 175 feet from the intersection of Warner Parrott Road/Linn Avenue. He suggests the possibility of altering this exit to a right-turn only exit. While I do not support this suggestion at this time, the applicant should be made aware that the city may require that it be designated for right-turns only if safety issues develop at this location that could be mitigated by such a restriction.

6. ***Sight Distance.*** The engineer measured sight distance at the site driveways. He noted that adequate sight distance is available, but identified tree branches of trees on the property that, if not maintained, could limit sight distance. Maintaining vegetation on the site is recommended.

7. ***Safety Issues.*** The TAL provides crash information for the most recent three-year period for four locations. Two crashes were reported at one of the site driveways; 26 crashes were reported at Warner Parrott/Warner Milne/Leland/Linn. More than half the reported crashes involved property damage only. The crash rate is modest and crashes are typical of those at signalized, urban intersections. There is little reason to expect that the safety issues would be altered by the proposed development. The engineer concludes that there are no inherent safety issues associated with the design and location of the site access driveways. I concur.

8. ***Consistency with the Transportation System Plan (TSP).*** The TAL notes that the site frontage is largely complete today, including a striped bicycle lane and sidewalks commensurate with the Minor Arterial designation. The most significant deficiency is the missing section of sidewalk along the west portion of the Warner Parrott Road frontage. This sidewalk should be installed in connection with either this land use action or a more substantial development in the future. The TAL also notes the inclusion in the TSP of Project D34, a roundabout at the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road.

9. ***Transportation Planning Rule (TPR) Analysis.*** As noted above, the proposal involves rezoning from R3.5 and R-10 to Institutional. The engineer concludes that, due to the proposed trip cap, the rezoning will not will "significantly affect" the transportation system. I concur. It should be noted that should any proposal be brought forward that would result in this trip cap being exceeded, additional analysis and justification would be required to comply with the TPR.

10. ***Conclusions and Recommendations.*** The engineer recommends a trip cap for the entire site that limits the trips generated to 238 AM peak hour trips and 143 PM peak hour trips. With this trip cap, the engineer concludes that there are "no new trip impacts associated with the proposed rezone." In addition, the engineer makes the following recommendations:

    - Existing site driveway signage should be removed or replaced in conjunction with the proposed site re-development, particularly the "SCHOOL ENTRANCE" sign on Warner Parrot Road as well as the "STOP" sign and "DO NOT ENTER" sign at the Linn Avenue exit driveway.
    - Sidewalk should be completed along the Warner Parrott Road site frontage in conjunction with standard frontage improvements. Should the City choose to retain the existing north-south mid-block crosswalk of Warner Parrott Road along the site frontage, consideration should be given to providing ADA-compliant ramps for the crosswalk.
    - The City should consider replacing the current pedestrian signals at the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road with countdown timers and constructing ADA-compliant curb ramps on the frontage side of the intersection.
    - The City could consider reconstructing the sidewalk and curb ramp on the southeast corner of the Linn Avenue/Williams Street intersection.
    - The City could choose to make the Linn Avenue exit at right turn only exit. A "RIGHT TURN ONLY" sign could be added, and additionally the driveway could be altered in a way to discourage left turns.
    - On-site landscaping along Warner Parrott Road should be continued to be maintained in order to maintain sight distance at the exit.

I concur with most of these recommendations, but do not recommend all of them be made conditions of approval for this land use action. My recommendations for conditions of approval are presented below.

Conclusion and Recommendations

I find that the TAL provides an adequate basis upon which to assess the impacts of the proposed comprehensive plan amendment, rezoning and redevelopment of the Annex

building. I agree that with the trip cap, traffic impacts are of no significance and the action complies with the Transportation Planning Rule.

As conditions of approval for the proposed land use action, I recommend the following:

1. A trip cap be established for the entire site based on 238 AM peak hour trips and 143 PM peak hour trips.

2. Any subsequent development of the site must be compared with the established trip cap. Should this value be exceeded by any development proposal additional analysis and justification will be required to show compliance with the Transportation Planning Rule.

3. Existing site driveway signage should be removed or replaced in conjunction with the proposed site re-development, particularly the “SCHOOL ENTRANCE” sign on Warner Parrot Road as well as the “STOP” sign and “DO NOT ENTER” sign at the Linn Avenue exit driveway.

4. On-site landscaping along Warner Parrott Road should be continued to be maintained in order to maintain sight distance at the exit.

For more extensive redevelopment of the site, the applicant should be aware that the following conditions of approval are likely to be recommended:

5. The sidewalk should be completed along the Warner Parrott Road site frontage in conjunction with standard frontage improvements.

If safety issues develop at site access points, the applicant should be aware that the following actions may be required:

6. The city may need to make the Linn Avenue exit at right turn only exit. A “RIGHT TURN ONLY” sign could be added, and additionally the driveway could be altered in a way to discourage left turns.

7. The entrance driveway at Warner Parrott Road, which is currently 12 feet wide, may need to be widened to the code minimum of 15 feet width.

Additional pedestrian and ADA compliance issues were identified in the TAL. These issues should be considered by the city in connection with city-wide priorities for improving pedestrian safety and accessibility. Making these issues conditions of approval for rezoning or development of the Annex, however, does not appear appropriate. The pedestrian safety and accessibility issues include:

8. Should the City choose to retain the existing north-south mid-block crosswalk of Warner Parrott Road near the west end of the site frontage, consideration should be given to providing ADA-compliant ramps for the crosswalk.

9. The city should consider replacing the current pedestrian signals at the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road with countdown timers and constructing ADA-compliant curb ramps on the frontage side of the intersection.

10. The city could consider reconstructing the sidewalk and curb ramp on the southeast corner of the Linn Avenue/Williams Street intersection.

If you have any questions or need any further information concerning this review, please contact me at replinger-associates@comcast.net.

Sincerely,



John Replinger, PE
Principal

Oregon City\2017\PZ17-01

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Staff Report

File Number: PC 17-115

Agenda Date: 10/9/2017

Status: Agenda Ready

To: Planning Commission

Agenda #: 3c.

From: Assistant Planner Diliana Vassileva

File Type: Land Use Item

SUBJECT:
Request for Continuance: Planning Files CP 17-0003: General Development (Concept Master) Plan Amendment, and DP 17-0001: Detailed Development Plan for A Safe Place modular building

RECOMMENDED ACTION (Motion): Staff recommends that the Planning Commission open the public hearing, take testimony from any member of the public present who wishes to testify, then continue the Public Hearing for Planning Files CP 17-0003 and DP 17-0001 to the date certain of November 13, 2017, with the record open.

BACKGROUND: The applicant requests approval of a Master Plan Amendment and Detailed Development Plan to allow temporary structures at the Clackamas County Red Soils Campus, and to obtain adjustments from the Oregon City Municipal Code to allow for the proposed development. The proposed development is located at 256 Warner Milne Road, Oregon City.

The applicant has requested a continuance to November 13, 2017, and has extended the 120-day period by 35 days.

Staff will provide a Staff Report with recommended findings for Planning Files CP 17-0003 and DP 17-0001 one week prior to the November 13, 2017 Public Hearing.

BUDGET IMPACT:
Amount:
FY(s):
Funding Source: