City of Oregon City

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

Meeting Agenda

Planning Commission

Monday, November 27, 2017 | **7:00 PM** | **Commission Chambers**

1. Call to Order

2. Public Comments

3. Public Hearings

3a. SP 17-127, CU 17-03, and VR 17-10, VR 17-12, and VR 17-13: Conditional Use, Site Plan Design Review, and Variance to allow a modular classroom building at 180 Ethel Street (Gardiner Middle School)

Sponsors: Planner Kelly Reid

Attachments: Commission Report

Staff report and recommendation

Exhibit 1: Vicinity Map

Exhibit 2: Complete Application

Exhibit 3: Comments from John Replinger of Replinger and Associates

3b. AN 17-01, ZC 17-03, and TP 17-07: Annexation of a 6.33 acre property into the city limits of Oregon City, Zone Change from Clackamas County Future Urban 10-Acre (FU-10) to “R-6” Single-Family Dwelling District, and a Subdivision of 28 lots.

Sponsors: Christina Robertson-Gardiner

Attachments: Commission Report

AN 17-03 Staff Report

TP 17-07 ZC 17-03 Staff Report

Exhibit 1: Vicinity Map

Exhibit 2a: Applicant’s Annexation Narrative and Plans

Exhibit 2b: Applicant’s Zone Change and Subdivision Narrative and Plans

Exhibit 3: Clackamas River Water (CRW) Comments

Exhibit 4: Clackamas County Comments

Exhibit 5:Tri City Service District (TCSD) Comments

Exhibit 5a: Tri City Service District (TCSD) Annexation Packet

Exhibit 6: Replinger and Associates Comments

Exhibit 7: November 13, 2017 Letter from Monty Hurley

Exhibit 8: Jamin Moore Public Comments

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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625 Center Street
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Staff Report

File Number: PC 17-142

Agenda Date: 11/27/2017

Status: Draft

To: Planning Commission

Agenda #: 3a.

From: Planner Kelly Reid

File Type: Land Use Item

SUBJECT:
SP 17-127, CU 17-03, and VR 17-10, VR 17-12, and VR 17-13: Conditional Use, Site Plan Design Review, and Variance to allow a modular classroom building at 180 Ethel Street (Gardiner Middle School)

RECOMMENDED ACTION (Motion):
Staff recommends the Planning Commission approve Planning files SP 17-0127, CU 17-0003, and VR 17-0010 with the conditions of approval outlined in the staff report.

BACKGROUND:
This application requests a conditional use permit approval to allow the placement of a modular building containing two classrooms on the Gardiner Middle School campus. The application also requests site plan and design review and variance approvals for the project. The school serves grades 6 through 8. Due to increases in enrollment for the 2017-18 school year, there is a need for additional classroom space. The proposed modular classroom will meet this need.

The proposed single-story classroom building measures approximately 1800 square feet, and has a total height of approximately 11 feet at the ridge of the roof. There will be two classrooms in the building. The building would be placed approximately 8' from the existing school building. It would include a covered walkway and access ramp, additional landscaping and fencing, and relocated ADA parking. Several existing parking spaces will be removed to retain adequate drive aisle width.

The variance requests include:

- A variance to 17.62.055.C.5 which requires that, 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.
  The applicant states that this is impracticable on the subject property due to the nature of the street frontage (road termini) and because of existing building placement on the property.
  It should be noted that a variance to this standard was granted for the 2012 modular classroom building. The applicant requests that this variance apply to any future construction on the school site.

- A variance to 17.62.055.G - I. which require variation in building massing, articulation, and transparency that the applicant contends is not practicable with modular construction.

- A variance to 17.58.040 which requires upgrades to nonconforming elements of the site. The applicant contends this a variance is warranted due to the temporary nature of the project.

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

STAFF REPORT AND REOCMMENDATION
CU 17-03 / SP 17-127 / VR 17-10 / VR 17-12 / VR 17-13
November 20, 2017

FILE NO.:	CU 17-03: Conditional Use SP 17-127: Site Plan and Design Review VR 17-10, 12, 13: Variance
HEARING DATE / LOCATION:	November 27, 2017 Oregon City City Hall – Chambers 625 Center Street Oregon City, Oregon 97045
APPLICANT/ PROPERTY OWNER:	Oregon City Public Schools Wes Rogers 1417 12th Street Oregon City, Oregon 97045
REPRESENTATIVE:	Rick Givens
REQUEST:	Conditional Use, Site Plan and Design Review and Variance Application for new Modular 2-Classroom Building At Gardiner Middle School.
LOCATION:	180 Ethel Street, Oregon City, OR 97045 Clackamas County Map: 3-2E-06AD-07800
REVIEWER:	Kelly Reid, Planner, AICP, (503) 496-1540
RECOMMEDNATION:	Staff recommends approval with conditions.

PROCESS: Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards, yet are not required to be heard by the city commission, except upon appeal. Applications evaluated through this process include conditional use permits, preliminary planned unit development plans, variances, code interpretations, similar use determinations and those rezonings upon annexation under Section 17.06.050 for which discretion is provided. In the event that any decision is not classified, it shall be treated as a Type III decision. The process for these land use decisions is controlled by ORS 197.763. Notice of the application and the planning commission or the historic review board hearing is published and mailed to the applicant, recognized neighborhood association and property owners within three hundred feet. Notice must be issued at least twenty days pre-hearing, and the staff report must be available at least seven days pre-hearing. At the evidentiary hearing held before the planning commission or the historic review board, all issues are addressed. The decision of the planning commission or historic review board is appealable to the city commission, on the record. A city-recognized neighborhood association requesting an appeal fee waiver pursuant to 17.50.290(c) must officially approve the request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal. The city commission decision on appeal from the historic review board or the planning commission is the city's final decision and is appealable to LUBA within twenty-one days of when it becomes final.

Recommended Conditions of Approval
CU 17-03: Conditional Use
SP 17-127: Site Plan and Design Review
VR 17-10/12/13: Variance

1. Prior to issuance of building permits, the applicant shall submit sufficient documentation regarding the covered pedestrian walkway to demonstrate the width of the walking is at least five feet. *(P)*

2. The applicant shall demonstrate that all new public and private utilities will be placed underground.

3. Prior to occupancy the Planning Division will inspect the screening and landscaping to assure that all mechanical equipment is adequately screened. *(P)*

4. Prior to issuance of permits, the applicant shall demonstrate that the lighting on the pedestrian walkway will meet the standards in table 17.62.065.

5. The applicant shall propose a sheltering element on the entrances to the classrooms such as an awning, arcade or portico in order to provide shelter from the summer sun and winter weather. *(P)*

6. In order to delineate the space for pedestrians and indicate that is it not a parking space, the applicant shall utilize paint or a physical between the westernmost portion of the development and the nearest parking stall. (P)

7. Approval of the Variance request shall be limited to the proposed development. The request to also apply the variance for setbacks to future development on site is not approved. *(P)*

8. The request for a variance to nonconforming upgrades is not approved. The applicant shall choose either timing Option 1, which requires immediate upgrades limited to 10 percent of exterior project costs, or timing Option 2, which requires full upgrades to the list of items in 17.58.040 within 5 years of the issuance of the decision. The applicant shall submit documentation in accordance with OCMC 17.58.040 prior to issuance of permits including an itemize list of improvements, with a cost estimates and a site plan. Improvements shall be completed and documentation recorded as identified prior to issuance of a certificate of occupancy. *(P)*

(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.

I. BACKGROUND:

This application requests a conditional use permit approval to allow the placement of a modular building containing two classrooms on the Gardiner Middle School campus.

The school serves grades 6 through 8. Due to anticipated increases in enrollment for the 2017-18 school year, there is a need for additional classroom space. According to the applicant the proposed modular classroom will meet this need.

History and Prior Land Use Approvals
The original school was built in 1954, and there have been numerous upgrades and additions to the building over the years. A fire destroyed the east wing in 1989, and subsequently the east wing was built along with other renovations thereafter.

The building received a remodel in 2004 and 2005. The most recent new structure on the site is a modular building added in 2013 with 8 classrooms, shown below, and approved through CU 12-01, SP 12-19 and VR 12-05.

Figure 1. 8-classroom modular approved in 2013.

Conditional Use Process
The original building was constructed prior to the requirement for Conditional Use approval for schools in residential zones. Since that time the subject site received approval of a Conditional Use in 2012, with file CU 12-01, which allowed the construction of a modular onsite. The approval did not authorize future development, such as the proposed modular building and thus the applicant submitted this request to modify the existing Conditional Use. Code *OCMC 17.56.010 - Permit—Authorization—Standards—Conditions.*

D. allows review of expansions to existing uses subsequently designated as conditional uses to be expanded through a conditional use review process.

Project Information
The proposed single-story classroom building measures approximately 1800 square feet, and has a total height of approximately 11 feet at the ridge of the roof. There will be two classrooms in the building.

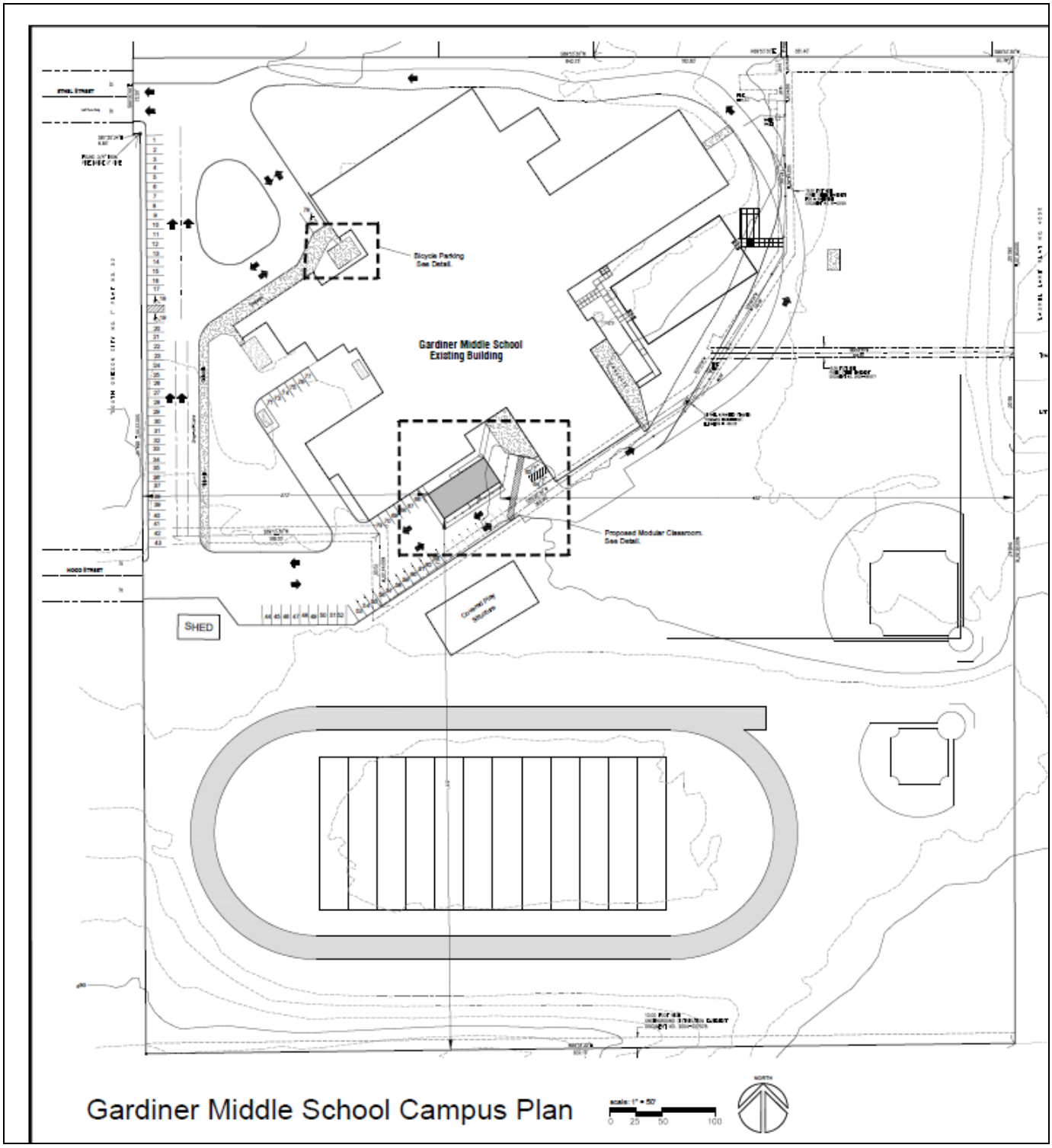


Figure 2. Overall Site Plan

The building would be placed approximately 8’ from the existing school building. It would include a covered walkway and access ramp, additional landscaping and fencing, and relocated ADA parking. Several existing parking spaces will be removed to retain adequate drive aisle width.

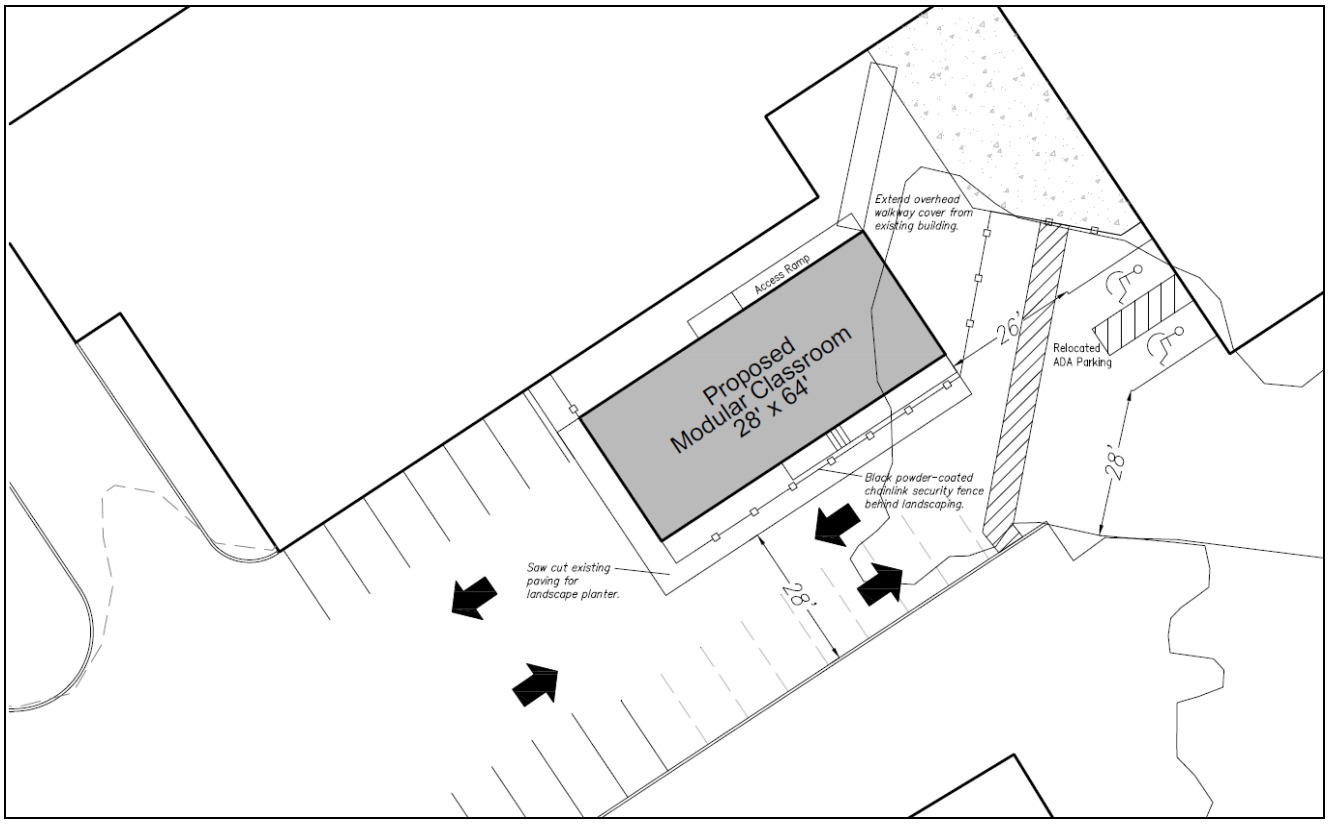


Figure 3. Site Plan Detail

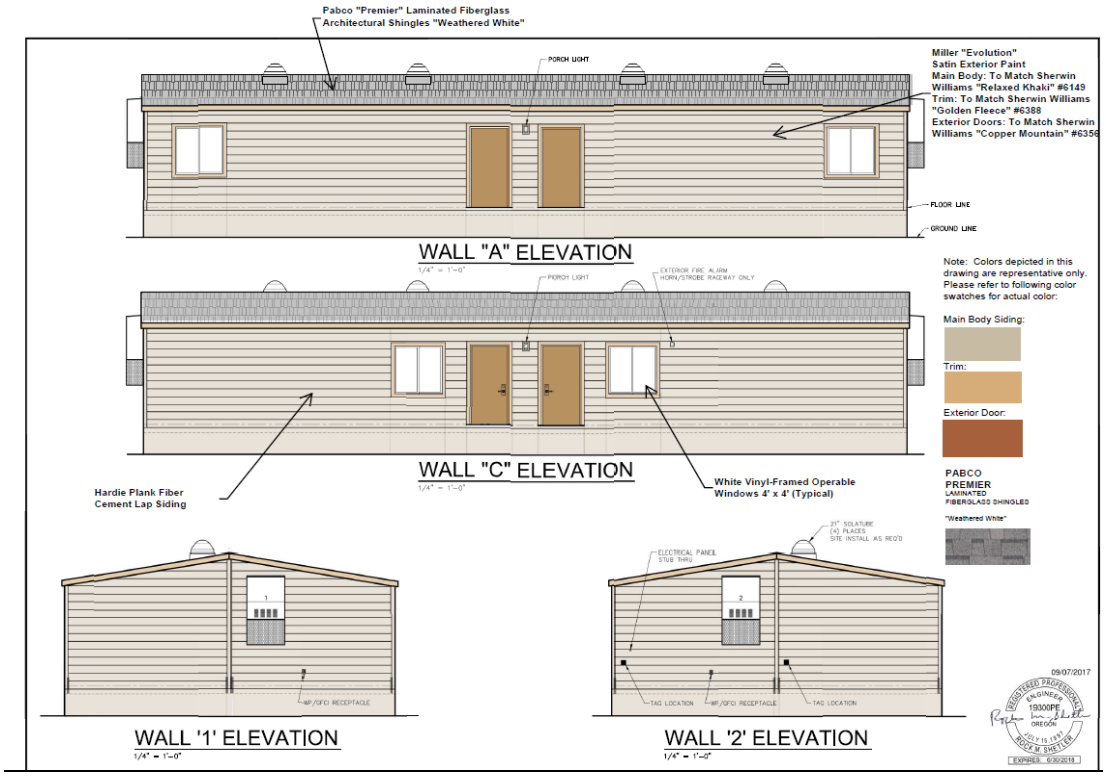


Figure 4. Building Elevations

The variance requests include:

- A variance to 17.62.055.C.5 which requires that, 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.
  The applicant states that this is impracticable on the subject property due to the nature of the street frontage (road termini) and because of existing building placement on the property.
  It should be noted that a variance to this standard was granted for the 2012 modular classroom building. The applicant requests that this variance apply to any future construction on the school site.

- A variance to 17.62.055.G - I. which require variation in building massing, articulation, and transparency that the applicant contends is not practicable with modular construction.

- A variance to 17.58.040 which requires upgrades to nonconforming elements of the site.

Existing Conditions
The proposed development site is to the rear of Gardiner Middle School in a parking lot area. The site, a total of 18.26 acres, has a slope to the southeast at about 4%. An existing paved loop road approximately 20' wide circles the eastern end of the building.

Figure 5. Proposed location of new building

Public Notice and Comment
In accordance with OCMC *17.50.090 - Public notices.* Public notice of the public hearing was mailed to all property owners within 300' of the property (Exhibit 3). Notice was also published in the Clackamas Review / Oregon City News on November 8, 2017. The site was posted with a "Notice of Proposed Land Use Action" sign on November 8, 2017.

As of the date of this staff report, staff has received no written comments from the public about this application.

II. DECISION-MAKING CRITERIA:

The following Oregon City Municipal Code criteria apply to this project. The City Code Book is available on-line at www.orcity.org

- 12.04 – Streets, Sidewalks, and Public Places;
- 12.08 – Public and Street Trees;
- 13.12 – Stormwater Management;
- 17.12 – R-6 Single Family Dwelling District;
- 17.50 – Administration and Procedures;
- 17.52 – Off Street Parking and Loading;
- 17.54 – Supplemental Zoning Regulations and Exceptions
- 17.56 – Conditional Uses;
- 17.58 – Nonconforming Uses, Structures, and Lots
- 17.60 – Variances;
- 17.62 - Site Plan and Design Review

CHAPTER 17.56 CONDITIONAL USES

A Conditional Use is proposed to allow the site to expand to accommodate an additional 1,800 square foot modular containing two (2) classrooms.

***17.56.010.A.1**. The use is listed as a conditional use in the underlying district;*

Finding: Complies as Proposed. Private and/or public educational or training facilities are listed as a conditional use in OCMC 17.12.030.G. This is a public middle school serving 6th through 8th grade students.

***17.56.010.A.2** The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements and natural features;*

Finding: Complies as Proposed. The applicant indicates that the subject property measures 795,217 (18.26 acres). The site is rectangular in shape and is level in topography. It is presently developed with school facilities that serve the seventh and eighth grade students enrolled there. The proposed modular addition fits readily on the site, as demonstrated by the site plan, and conforms to lot coverage standards. There are no physical limitations to the use of the property and its characteristics are suited to the proposed use.

***17.56.010.A.3**. The site and proposed development are timely, considering the adequacy of transportation systems, public facilities and services existing or planned for the area affected by the use;*

Finding: Complies as Proposed. Sewer, water and storm drainage utilities are present and adequate to service the proposed uses, as indicated on the site plan. The attached Transportation Analysis Letter prepared by Lancaster Engineering demonstrates that the transportation system is adequate to serve the proposed expanded school enrollment. The city's transportation consultant concurs with the applicant's TAL. For these reasons, the proposed use is timely.

***17.56.010.A.4**. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs or precludes the use of surrounding properties for the primary uses listed in the underlying district;*

Finding: Complies as Proposed. The proposed modular building is located to the rear of the existing school building and will not have significant visual impact upon surrounding properties. The campus is adequately sized such that the new modular building will not be located in close proximity to adjacent residential properties. The Transportation Analysis prepared by Lancaster Engineering demonstrates that the transportation system is adequate to serve the increased school size. For these reasons, the proposed uses will not limit or impair the use of surrounding properties.

***17.56.010.A.5**. The proposal satisfies the goals and policies of the city comprehensive plan which apply to the proposed use.*

Finding: Complies as Proposed. The applicable Comprehensive Plan policies are as follows:

> *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.*

Finding: Complies as Proposed. These school facilities enhance the diversity of land uses within the surrounding community, helping to provide a sense of place and uniqueness to this neighborhood.

> *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 conditional use process allows for school uses to be authorized in a residential neighborhood, consistent with this policy. Providing schools within residential areas provides for

connection between the school and the surrounding community and allows for convenient community use of school facilities.

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 Gardiner campus is centrally located within the service area of Oregon City Public Schools. Tri-Met bus service is located in close proximity to the property, with Route 33 providing service on Linn Avenue approximately 700 feet west of the school property. School bus service is provided directly to the school site. The existing sidewalk and crosswalks within and adjacent to the school provide opportunities to walk to school safely.

Policy 11.1.6
Enhance efficient use of existing public facilities and services by encouraging development at maximum levels permitted in the Comprehensive Plan, implementing minimum residential densities, and adopting an Accessory Dwelling Unit Ordinance to infill vacant land.

Finding: Complies as Proposed. The subject properties are located within a single-family residentially zoned area. The proposed expansion of the public educational use of this site is consistent with this policy.

Goal 11.8 Health and Education
Work with healthcare and education providers to optimize the siting and use of provider facilities.

Finding: Complies as Proposed. The subject properties are owned by Oregon City Public Schools. Allowing the use of these properties as proposed through the conditional use permit process would optimize their use for educational purposes, consistent with this policy.

Policy 11.8.3
Coordinate with the Oregon City School District to ensure that elementary and middle school sites are located centrally within the neighborhoods they serve, to the extent possible.

Finding: Complies as Proposed. The Gardiner campus is centrally located within Oregon City Public School District's service area. Approval of the conditional use permit is consistent with this policy.

17.56.010.B*. Permits for conditional uses shall stipulate restrictions or conditions which may include, but are not limited to, a definite time limit to meet such conditions, provisions for a front, side or rear yard greater than the minimum dimensional standards of the zoning ordinance, suitable landscaping, off-street parking, and any other reasonable restriction, condition or safeguard that would uphold the spirit and intent of the zoning ordinance, and mitigate adverse effect upon the neighborhood properties by reason of the use, extension, construction or alteration allowed as set forth in the findings of the planning commission.*

Finding: Complies as Proposed. Staff has recommended reasonable conditions of approval to ensure that the spirit and intent of the zoning code is upheld. The applicant recognizes the authority of the city to impose reasonable conditions of approval pursuant to this section. The proposed location of the new building is more than 270 feet to the closest property line – greatly exceeding the required twenty foot rear yard setback. The applicant has the right to comment upon such conditions as may be proposed by staff or the Planning Commission through the public hearing process.

17.56.010.C*. Any conditional use shall meet the dimensional standards of the zone in which it is to be located pursuant to subsection B of this section unless otherwise indicated, as well as the minimum conditions listed below.*

Finding: Complies as Proposed/See Variance. OCMC 17.62.055 - Institutional and commercial building standards. (D), requires that new buildings be placed no farther than five feet from the front property line. The applicant has therefore requested a variance to this standard in accordance with OCMC Chapter 17.60 - VARIANCES . Otherwise, the dimensions of the R-6 zone district have been met.

17.56.010.D*. In the case of a use existing prior to the effective date of the ordinance codified in this title and classified in this title as a conditional use, any change of use, expansion of lot area or expansion of structure shall conform with the requirements for conditional use.*

Finding: Complies as Proposed. Gardiner Middle School was established prior to the effective date of the ordinance requiring conditional use review for schools in residential zones. The proposed application is an expansion of the square footage onsite and the applicant has submitted the Conditional Use application in accordance with this requirement. Please refer to the analysis in Chapter 17.60 of this report.

17.56.010.E*. The planning commission may specifically permit, upon approval of a conditional use, further expansion to a specified maximum designated by the planning commission without the need to return for additional review.*

Finding: Not Applicable. The applicant has not requested the Planning Commission approve a future expansion to the Conditional Use.

17.56.040.A. *Building Openings. The city may limit or prohibit building openings within fifty feet of residential property in a residential zone if the openings will cause glare, excessive noise or excessive traffic which would adversely affect adjacent residential property as set forth in the findings of the planning commission.*

Finding: Not Applicable. No portion of the proposed building is located within 50 feet of a residential property.

17.56.040.B *Additional Street Right-of-Way. The dedication of additional right-of-way may be required where the city plan indicates need for increased width and where the street is inadequate for its use; or where the nature of the proposed development warrants increased street width.*

Finding: Not Applicable. The subject property is served with access from the ends of Ethel Street and Hood Street. Both of these streets have 60 feet of right-of-way. The local street standard is 54 feet of right-of-way. No additional right-of-way is required.

17.56.040.C *Public Utility or Communication Facility. Such facilities as a utility substation, water storage tank, radio or television transmitter, tower, tank, power transformer, pumping station and similar structures shall be located, designed and installed with suitable regard for aesthetic values. The base of these facilities shall not be located closer to the property line than a distance equal to the height of the structure. Hydroelectric generation facilities shall not exceed ninety megawatts of generation capacity.*

Finding: Not Applicable. No such facilities are proposed with this development application.

17.56.040.D *Schools. The site must be located to best serve the intended area, must be in conformance with the city plan, must have adequate access, and must be in accordance with appropriate State standards.*

Finding: Complies as Proposed. The subject property is centrally located within its service area. The proposed conditional use would allow the expansion of the current Gardiner Middle School campus so as to make fuller use of this public facility. The site has been recognized by Oregon City as suitable for school use since its construction in the mid-1950s. The site has adequate access, as demonstrated by the attached Transportation Impact Analysis. The existing facility conforms to all applicable State standards and the proposed modular building expansion when constructed will meet all applicable State, local and regional requirements.

17.56.040.E *Helipad Landing Facility. In evaluating a conditional use application for a helipad, the planning commission shall consider such matters as the following:*

Finding: Not Applicable. A helicopter landing facility is not proposed with this development.

17.56.040.F *Residential Care Facilities.*

Finding: Not Applicable. A residential care facility is not proposed with this development.

17.56.040.G *Bed and Breakfast Inns.*

Finding: Not Applicable. A bed and breakfast is not proposed with this development.

17.56.060 *Revocation of conditional use permits.*
Finding: Not Applicable. No previous conditional use permit is being revoked with this application.

17.56.070 *Periodic review of conditional use permits.*
Finding: Not Applicable. The site has not been identified as needing a periodic review by staff.

CHAPTER 17.62 SITE PLAN AND DESIGN REVIEW

17.62.050.A.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.*
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).
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.
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.
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. The total landscaped area is approximately 74 percent of the site. No removal of landscaping is proposed. A landscape plan for the area in the vicinity of the new modular building is included with this application. The landscaping plan was prepared by a registered Landscape Architect, and includes a mix of vertical and horizontal elements. Included on the preliminary landscape plan are trees, shrubs, and groundcover plants with specifications for plant spacing that will meet the coverage requirements of this section.
The subject property is not located within a Natural Resource Overlay District, nor is it within the Downtown Design District, so provisions of this section that address such areas are not applicable.

e. Landscaping shall be visible from public thoroughfares to the extent practicable.
Finding: Not applicable. The project area is not visible from a public thoroughfare.

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: Not applicable. It is not necessary for the applicant to count parking lot landscaping in order for the site to meet the minimum landscaping requirements.

17.62.050.A.2 ***Vehicular Access and Connectivity.***
a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.
b. Ingress and egress locations on public thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.
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.

d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director.
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 public 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.
f. Development shall be required to provide existing or future connections to adjacent sites through the use of a vehicular and pedestrian access easements where applicable.
g. Parking garage entries (both individual, private and shared parking garages) 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.
h. 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. The existing ingress (Hood Street) and egress (Ethel Street) for the site are not proposed to change with this proposal. The parking lot that serves the existing school will provide ample parking to provide for the added classroom space. The existing circulation system provides for traffic to flow through the site from Hood Street to Ethel Street. Please see discussion in Chapter 17.52.

17.62.050.A.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 with Conditions. The applicant has provided elevations for the modular classrooms and breezeway and exterior building materials and colors which will be complimentary to the surrounding area. The site is not within a historic district or design district. With conditions, the application will comply with the standards in the Oregon City Municipal Code. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.62.050.A.4 *Grading shall be in accordance with the requirements of Chapter 15.48 and the public works stormwater and grading design standards.*

Finding: Not Applicable. No grading is proposed.

17.62.050.A.5 *Development subject to the requirements of the Geologic Hazard overlay district shall comply with the requirements of that district.*

Finding: Not Applicable. The subject site is not located in a Geologic Hazard area.

17.62.050.A.6 *Drainage shall be provided in accordance with city's drainage master plan, Chapter 13.12, and the public works stormwater and grading design standards.*

Finding: Not Applicable. No new impervious area is proposed. The existing storm drainage system for the parking lot will accommodate the new structure.

17.62.050.A.7 *Parking, including carpool, vanpool and bicycle parking, shall comply with city off-street parking standards, Chapter 17.52.*
Finding: Please refer to the analysis in Chapter 17.52 of this report.

17.62.050.A.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. No public sidewalks and curbs are affected with this proposal, since the loop drive is not located on public right-of-way.

17.62.050.A.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.
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.
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.
d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site.
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.
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 with Condition. The area where the modular building will be placed is paved with asphalt. A ramp will connect the classroom entrances to the existing pavement and a covered walkway striped with paint from the classrooms to the school entrance is proposed. No other changes to pedestrian circulation are proposed. The applicant did not show the width of the walkway. Prior to issuance of building permits, the applicant shall submit sufficient documentation regarding the covered pedestrian walkway to demonstrate the width of the walking is at least five feet.

The westernmost edge of the development consists of a space between the nearest parking stall and a gate which is used to access the building. In order to delineate the space for pedestrians and indicate that is it not a parking space, the applicant shall utilize paint or a physical between the westernmost portion of the development and the nearest parking stall. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.62.050.A.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. All facilities on the site are owned and maintained by Oregon City Public Schools.

17.62.050.A.11 *Site planning shall conform to the requirements of OCMC Chapter 17.41 Tree Protection.*
Finding: Not Applicable. No tree removal is proposed.

17.62.050.A.12 *Development shall be planned, designed, constructed and maintained to protect water resources and habitat conservation areas in accordance with the requirements of the city's Natural Resources Overlay District, Chapter 17.49, as applicable.*
Finding: Not Applicable. The subject site is not within the Natural Resource Overlay District.

17.62.050.A.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 indicated that proposed uses are educational in nature, that they will not have any significant impacts upon the environment, and that neither the existing school facility nor the proposed modular classroom generate or have any significant impact upon air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference.

17.62.050.A.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. A 12-inch city water line passes through the site, as shown on plans submitted with this application. A 10-inch city sewer line located at the end of Ethel Street provides service to the school site. The proposed modular building contains only classroom space. Students will make use of restroom facilities in the existing school building. No new public utilities are proposed.

17.62.050.A.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.*
When approving land use actions, Oregon City requires all relevant intersections to be maintained at the minimum acceptable level of service (LOS) upon full build-out of the proposed land use action. The minimum acceptable LOS standards are as follows:
a. For signalized intersection areas of the city that are located outside the Regional Center boundaries a LOS of "D" or better 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 critical movements.

b. For signalized intersections within the Regional Center boundaries a LOS "D" can be exceeded during the peak hour; however, during the second peak hour, LOS "D" or better will be required as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0.
c. For unsignalized intersection throughout the city a LOS "E" or better for the poorest approach and with no movement serving more than twenty peak hour vehicles operating at worse than LOS "F" will be tolerated for minor movements during a peak hour.
Finding: Complies as Proposed. The applicant submitted a Traffic Analysis Letter). The TAL was prepared under the direction of Michael Ard of Lancaster Engineering. The TAL concluded that:

"The traffic impact on surrounding public intersections resulting from traffic generated by the proposed modular classroom is projected to be negligible. No operational mitigations are necessary or recommended.
All site access driveways meet the applicable Oregon City Private Access Driveway Width Standards and Access Spacing Standards.
Based on the analysis, adequate intersection sight distance is available for safe egress from the school campus.
Based on the review of crash data, no significant existing crash hazards are evident in the site vicinity. No specific safety mitigations are necessary or recommended in conjunction with the proposed development."

Upon review of the applicant's TAL, John Replinger, the City's transportation consultant, concluded,

"I find that the TIS provides an adequate basis upon which to assess the impacts of the proposed school expansion. I find no need for mitigation to address traffic impacts from the proposed expansion."

See Exhibit 2 for the full traffic review.

17.62.050.A.16*. This standard requires the proposed development to be reviewed by Tri-Met to determine whether transit service is or reasonably can be made available to serve the site.*
Finding: Complies as Proposed. TriMet did not comment on this application. Route 33 runs up Linn Avenue to the west of the site with a stop at Ethel and Linn approximately 620 feet to the west of the school, and thus adequate service is provided to the site.

17.62.050.A.17*. This standard requires that all utilities shall be placed underground.*
Finding: Complies with Condition. The applicant has not proposed and is not required to provide changes to the public utility system. The applicant did not indicate how private utilities such as power would be provided to the new building. The applicant shall demonstrate that all public and private utilities will meet this standard. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.62.050.A.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. ADA compliance for access to the building is required as part of building permit review by the building division.

17.62.050.A.19*. This standard requires minimum densities for residential developments.*
Finding: Not Applicable. This project is not a residential development.

17.62.050.A.20 *Screening of Mechanical Equipment:*
Finding: Conditionally Complies. The applicant indicates that the proposed modular building will make use of wall-mounted heat pumps on the sides of the building that will be screened by landscaping. Prior to occupancy the Planning Division will inspect the screening and landscaping to assure that all mechanical

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

17.62.050.A.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 5 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 sheltered from extreme weather by roof overhangs or other methods.

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 10 percent of the building façade
   iii. Corrugated fiberglass.
   iv. Chain link fencing (except for temporary purposes such as a construction site or as a
   v. gate for a refuse enclosure).
   vi. Crushed colored rock/crushed tumbled glass.
   vii. Non-corrugated and highly reflective sheet metal.

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 façade 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 3 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 troweled 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. Exterior building materials consist of Hardie Plank Lap siding. Narrow horizontal lap siding is included in the list of preferred building materials. The applicant does propose a chain link fence, but the area of the site in which it is proposed is not in a visible location. The fence is proposed on the perimeter of the modular structure, which is located behind the existing school building and not visible from any public right-of-way due to the distance from the right-of-way as well as the adjacent landscaping. The fence is also proposed to be screened with landscaping. Thus, the material may be used. No materials listed as special materials are proposed to be used.

17.62.050.A.22 *Conditions of Approval. The review authority may impose such conditions as it deems necessary to ensure compliance with these standards and other applicable review criteria, including standards set out in city overlay districts, the city's master plans, and city public works design standards. Such conditions shall apply as described in Sections 17.50.310, 17.50.320 and 17.50.330. The review authority may require a property owner to sign a waiver of remonstrance against the formation of and participation in a local improvement district where it deems such a waiver necessary to provide needed improvements reasonably related to the impacts created by the proposed development. To ensure*

compliance with this chapter, the review authority may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the city attorney.

Finding: Complies as Proposed. The applicant has already signed a Non-Remonstrance Agreement as part of a previous land use decision.

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.

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. The proposed school use is an institutional use, which is not listed as a type of development for which an exterior lighting plan is required. As a practical matter, the existing school facility has pre-existing exterior lighting for the building, parking and walkway areas.

The proposed outdoor lighting is limited to the porch lights that will be mounted at the building entrances. The building will generally not be used at night, but the porch lights do aid in security and safety for the occasional times that it will be used.

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 as Proposed. The angle of the front façade at the proposed building site will result in the light emitted by the porch lights being screened by the corner of the building to the closest property line at Hood St. The property lines to the east and south are more than 500 feet from the proposed lights. Cut sheet information provided for the lighting fixture indicates a maximum light output of 329 candela for the porch lights (measured at 90 degrees to the fixture). Using the standard formula for conversion of candela to foot candles: (Foot-candles = candela / distance in feet * distance in feet) yields a maximum light measurement at the property line of less than one .001 foot candle at that distance.

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: Not Applicable. The maximum light emitted by the fixtures is 204 lumens.

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. No lighting poles are proposed.

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*	*.05*	

Finding: Complies with Condition. For building entrances, Table 1-17.62.065 requires a minimum of 3 Foot-candles. The proposed lights emit 3 foot candles when measured at 8 feet from the door. The applicant did not provide the measurements for the pedestrian walkway. Prior to issuance of permits, the applicant shall demonstrate that the lighting on the pedestrian walkway will meet the standards in table 17.62.065. **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 unobstrusively 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 use of compact fluorescent lighting in the wall sconce designs at the building entrance meets the intent of this standard. The proposed project does not include additional 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 as proposed. The porch lights at the main school doors plus the porch lights on the building will serve to light the short distance to the modular entrance.

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: Not applicable. The proposal does not include any pedestrian accessways.

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: Not Applicable. No canopy lighting is proposed.

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 lights are a standard porch light design that is typical for modular buildings.

11. In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site.

Finding: Complies as proposed. The lighting will not add more than one foot-candle to illumination levels at any point off-site according to the submitted lighting plan.

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 lighting that will remain on during non-operating hours is necessary 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: Not applicable. None of these light fixtures are proposed.

14. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roofline.
Finding: Not applicable. None of these light fixtures are proposed.

15. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.
Finding: Not applicable. None of these light fixtures 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. None of these light fixtures are proposed.

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. None of these light fixtures are proposed.

17.62.055 - INSTITUTIONAL AND COMMERCIAL BUILDING STANDARDS.

17.62.055.B *Applicability. In addition to Section 17.62.050 requirements, institutional and commercial buildings shall comply with design standards contained in this section.*
Finding: Schools are an institutional use and the proposed modular classroom addition is subject to the provisions of this section.

17.62.055.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 scale of the proposed building and the materials used are commonly used in residential construction in the R-6 district.

2. A standardized prototype or franchise design shall be modified if necessary to meet the provisions of this section.
Finding: Not applicable. The applicant has not proposed a standardized prototype or franchise design.

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. As a modular unit, it is not practical to employ the same architectural elements of the larger existing school facility in the proposed classroom building. The proposed modular classroom has been placed to the rear of the existing school building so that it has minimal impact upon the general appearance of the school as viewed from public entrances, and it has been designed with similar materials and colors of the 8-classroom modular building built in 2013. The single-story design, scale and placement of the building serve to achieve the objectives of this standard.

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.

Finding: Not applicable. With the exception building front setback requirements, from which the applicant has requested a variance, there are no conflicts between the underlying zone district requirements and the standards of this section.

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: The applicant requests a variance to this requirement. The subject property abuts the termini of Hood Street and Ethel Street for a combined distance of 100 feet. These streets constitute the only access into the subject property. The placement of the modular building within five feet of these street frontages would not be practical as it would block access to the school. Further, the modular building must be functionally tied to the existing school facility, which is separated from the street frontages by the existing parking and access drives. A variance is requested to this standard. Please see discussion of requested variance below.

17.62.055.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: The applicant requests a variance to this requirement. Response: As discussed in the previous section, it is not practicable to comply with the five foot setback standard. It is also not feasible to achieve compliance through the installation of the elements listed in this section. The existing school building has a front setback of approximately 88 feet. The area between the building and the front lot line is developed with parking and vehicular accessways so there is no room for the types of improvements discussed above. It is not practicable to place the new building within five feet of the front property line because it needs to connect to the existing school facility. For these reasons, a variance to the setback standard is requested. Please see variance discussion below.

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 with Condition. The building façade is not visible from the street and staff suggests that this portion of the standard be covered under the variance requested to 17.62.055.D. The primary building entrance does not appear to be clearly defined and framed. The applicant shall propose a sheltering element on the entrances to the classrooms such as an awning, arcade or portico in order to provide shelter from the summer sun and winter weather for approval by the Community Development Director prior to issuance of a building permit. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

3. Entryways. The primary entranceway for each commercial or retail establishment shall face the major street.
Finding: Not Applicable. The proposed development does not include commercial or retail uses.

17.62.055.E *Corner Lots.*
Finding: Not Applicable. The property is not a corner lot.

17.62.055.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.
Finding: Not Applicable. The proposed building is not for commercial use and is not within a mixed use or neighborhood commercial zone district.

17.62.055.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.
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.
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: the applicant requests a variance to this standard. The proposed modular building is 64 feet long and is approximately 13.5 feet high. Because of height restrictions on modular buildings that are moved on highways, it is not practicable to meet the one-to-three ratio. A variance to this provision is requested. Please see variance discussion pursuant to Chapter 17.60 below.

17.62.055.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 modular building will be located at the south side of the existing school building. It does not directly face onto a street, but will be somewhat visible from the terminus of Hood Street. The building façade that will be oriented towards this street measures 28 in length and conforms to this standard. The building façade that faces the pedestrian walkway is 64 feet in length and the façade is broken up by windows and the change in color of the walls versus the doors.

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 proposed building is only 64 feet in length.

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: Not applicable. The proposed building does not face a public street.

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.
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.
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: The applicant requests a variance to these standards. Please refer to variance discussion below.

17.62.055.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: The applicant requests a variance to this standard: The front elevation of the new modular classroom is 64 feet in length and provides 8' of window glazing (12.5%). It is not practicable in a modular building to increase the percentage of window glazing. A variance to this standard is requested. Please refer to the variance discussion, below.

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: Not applicable. No false windows or door openings are proposed.

17.62.055.J *Roof Treatments.*
Finding: Complies as Proposed. The proposed design for the roof is sloping with overhangs.

17.62.055.K *Drive-through facilities shall:*
Finding: Not Applicable. The applicant has not proposed a drive through.

CHAPTER 17.52 OFF-STREET PARKING AND LOADING

17.52.020.*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 gross leasable area unless otherwise stated.*

LAND USE	*PARKING REQUIREMENTS*	
	MINIMUM	*MAXIMUM*
Elementary/Middle School	1 per classroom	1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium

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.
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.
3. Where calculation in accordance with the following 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.
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 trucks used in conducting the business or use.
5. A Change in use within an existing building located in the MUD Design District is exempt from additional parking requirements. Additions to an existing building or new construction in the district are required to meet the minimum parking requirements in Table 17.52.020.

Finding: Complies as Proposed. Table 17.52.020 sets the parking requirements for elementary and middle schools as minimum of one space per classroom and a maximum of 1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium. The existing parking lot provides for a total of 90 vehicles. Several spaces would be removed to allow for placement of the modular building. Two of these spaces will be relocated, as shown on the site plan. The number of parking spaces remaining after completion of this project will be 78. The existing school has a total of 28 classrooms. With the addition of the two classrooms in the modular unit, the total increases to 30. The minimum number of parking spaces that would be required by this section would be 30, which is satisfied by the existing parking. The existing parking lot predates the adoption of the maximum parking standards and no expansion of parking is proposed. Therefore, it is not necessary to address compliance with the maximum standard in this application.

17.52.020*.B**.*** *Reduction of the Number of Automobile Spaces Required.*

Finding: Not applicable. The applicant has not requested to reduce the number of parking spaces.

17.52.030.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: Not Applicable. No changes to driveway access points are proposed or required.

17.52.030*.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 stormwater 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 lot and access aisle are paved and provide for stormwater runoff.

17.52.030.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. The existing parking lot has provisions to accommodate storm water runoff. No changes to the existing parking lot are proposed.

17.52.030.D. *Dimensional Requirements.*

Finding: Not Applicable. The existing parking lot will continue to be used in its current configuration. No parking improvements are required.

17.52.030.E *Carpool and Vanpool Parking. New office and industrial developments with seventy-five or more parking spaces, and new hospitals, government offices, 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 handicapped parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only."

Finding: Not Applicable. No expansion of the existing parking facilities are proposed or required for this project so compliance with carpool or vanpool parking improvements does not apply.

17.52.040.A. *Bicycle parking standards.*

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. This standard was reviewed by both the applicant's engineer and the city's transportation consultant. Bicycle parking standards are applicable.

17.52.040.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.*

Finding: Complies as Proposed. Table A in this section requires that Junior High schools provide a minimum of 2 bicycle parking spaces per classroom and that 50 percent of the spaces be covered. With the addition of the two new classrooms, the total number of classrooms at Gardiner Middle School will be 30, thus requiring bicycle racks capable of accommodating a minimum of 60 bicycles. At least 30 of these spaces would be required to be covered. The school has existing covered bicycle parking near the front entrance to the school, as shown on the site plan. Two 8-foot double-sided bicycle racks capable of accommodating 16 bicycles each, and two 10-foot bicycle racks capable of accommodating 20 bicycles each are provided, for a total capacity of 72 bicycles. All of these racks are under cover, as shown in the photograph below. The requirements of this section are met by the existing bicycle racks.

17.52.040.C.1. ***Location of Bicycle Parking***

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 public right-of-way. 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. For safety and security reasons, the applicant prefers to keep all bicycle parking near the main entrance, as shown on the submitted plans. The location of the existing bike racks provides for safety and security as it is in an area that is within view of adjacent classroom windows and in close proximity to the main entrance of the school. There is a direct pedestrian connection from the bicycle parking area to the main entrance of the building. The bicycle parking area does not interfere with pedestrian or vehicular movement as it is located adjacent to, but does not obstruct the pedestrian walkway near the existing school's main entrance. No changes are proposed.

17.52.040.C.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. No changes to existing bicycle parking location are proposed.

17.52.040.C.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 public sidewalk where this does not conflict with pedestrian accessibility.
Finding: Complies as Proposed. No changes to existing bicycle parking location are proposed.

17.52.040.C.4.
Accessibility.
a. Outdoor bicycle areas shall be connected to main building entrances by pedestrian accessible walks.
b. Outdoor bicycle parking areas shall have direct access to a public right-of-way.
Finding: Complies as Proposed. The applicant indicates that the existing area for bicycle parking is directly adjacent to existing walkways that connect to the main entrance, which has direct access to the public right-of-way.

17.52.040.D. *Bicycle parking facilities shall offer security in the form of either a lockable enclosure in which the bicycle can be stored 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.*
Finding: Complies as Proposed. The existing bicycle parking meets this standard and is not proposed to change.

17.52.060 *- Parking lot landscaping.*
Finding: Complies with Condition. The existing parking lot is landscaped, however the applicant has proposed to install a modular within the parking lot, leaving a space between the westernmost portion of the modular and the adjacent parking stall. In order to delineate the space for pedestrians and indicate that is it not a parking space, the applicant shall utilize paint or a physical between the westernmost portion of the development and the nearest parking stall. . **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.52.070 *- Alternative landscaping plan.*
Finding: Not Applicable. The applicant has not proposed an alternative landscaping plan.

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 owner would be responsible for maintenance of the site.

CHAPTER 12.04 – STREETS, SIDEWALKS AND PUBLIC PLACES

Finding: Not Applicable. The street system in the area of the subject property is a well-established grid system. No new streets are proposed or required for the temporary modular. No additional findings for compliance with Chapter 12.04 are necessary.

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.
Finding: Not applicable. The existing street configuration does not provide any street frontage with adequate planting area. No new street trees are proposed or required for the temporary modular. No additional findings for compliance with Chapter 12.08 are necessary.

CHAPTER 17.12 R-6 SINGLE-FAMILY DWELLING DISTRICT:

Finding: Complies as Proposed. Oregon City Municipal Code chapter 17.12.030G allows the establishment of "private and/or public educational or training facilities" through a conditional use process, as is proposed in this application.

17.12.040.A. *Minimum lot areas, six thousand square feet;*
Finding: Not Applicable. The applicant has not proposed to alter the lot size with this development.

17.12.040.B. *Minimum lot width, fifty feet;*
Finding: Not Applicable. The applicant has not proposed to alter the lot size with this development.

17.12.040.C. *Minimum lot depth, seventy feet;*
Finding: Not Applicable. The applicant has not proposed to alter the lot size with this development.

17.12.040.D. *Maximum building height, two and one-half stories, not to exceed thirty-five feet;*
Finding: Complies as Proposed. Both the existing building and the proposed building are less than 35 feet or 2.5 stories in height.

17.12.040.E.1. *Front yard, ten feet minimum depth,*
17.12.040.E.2*. Attached and detached garage, twenty feet minimum depth from the public right-of-way where access is taken, except for alleys. Garages on an alley shall be setback a minimum of five feet in residential areas.*
17.12.040.E.3*. Interior side yard, nine feet minimum width for at least one side yard; five feet minimum width for the other side yard,*
17.12.040.E.4. *Corner side yard, fifteen feet minimum width,*
17.12.040.E.5*. Rear yard, twenty feet minimum depth,*
Finding: Complies as Proposed. The existing school building complies with setback standards as follows: Front – 87.9', Side – 29.8', Rear – 272.6'. The modular classroom is located on the south side of the existing school and is 270 feet from the front (west) property line and 516 feet from the south property line. It is within the setback envelope of the current facility. The overall setbacks will not change and will continue to exceed the minimum standards of the R-6 zone.

17.12.040.F. *Garage Standards: See Section 17.20 – Residential Design Standards.*
Finding: Not Applicable. This is not a residential building and no garages are proposed.

17.12.040.G. *Maximum Building Coverage: See Section 17.20 – Residential Design Standards.*
Finding: Complies as Proposed. The existing school building has a foot print of 108,251 square feet. With the addition of the new modular classroom measures approximately 64 feet by 28 square feet, or 1,792 sq. ft. The total lot coverage would come to 110,043 sq. ft. This would equal 13.8% coverage for the 795,217 sq. ft. site, which is well under the 40 percent maximum allowable coverage.

CHAPTER 17.54 – SUPPLEMENTAL ZONING REGULATIONS AND EXCEPTIONS

A. Generally. Fence, hedge, or wall.
1. Fences and walls – Fences and walls over 42 inches shall not be located in front of the front faced or within 40 feet of the public right-of-way, whichever is less. All other fences (including fences along the side and rear of a property) shall not exceed 6 feet in total height unless as permitted in 17.54.100, Section (B).
2. Hedges shall not be more than 42-inches in the underlying front yard setback
3. Property owners shall ensure compliance with the Traffic Sight Obstruction requirements in Chapter 10.32 of the Oregon City Municipal Code.

4. *It is unlawful for any person to erect any electric fence or any fence constructed in whole or in part of barbed wire or to use barbed wire, except as erected in connection with security installations at a minimum height of six feet, providing further that prior written approval has been granted by the City Manager.*

Finding: Complies as Proposed. As shown on the landscape plan submitted with this application, a six foot high fence is proposed to be constructed around the perimeter of the proposed modular classroom in order to provide for security of students moving to and from the new building. The fence will ensure that students do not wander into the parking lot area and will help to prevent outsiders from entering the school environment. This fence is not located in the "front yard" of the property, in front of the structure, and is not visible from the public right of way. The proposed landscape screening in front of the fencing will help to soften the impact of the fencing.

B. *Exception. Fence, hedge, wall, or other obstructing vegetation on retaining wall. When a fence, hedge, wall, or other obstructing vegetation is built on a retaining wall or an artificial berm that is not adjacent to or abutting a public right-of-way, the following standards shall apply:*
   1. *When the retaining wall or artificial berm is 30 inches or less in height from the finished grade, the maximum fence or wall height on top of the retaining wall shall be six feet.*
   2. *When the retaining wall or earth berm is greater than 30 inches in height, the combined height of the retaining wall and fence or, wall from finished grade shall not exceed 8 ½ feet.*
   3. *Fences, hedges or walls located on top of retaining walls or earth berms in excess of 8 ½ feet in height shall be setback a minimum of 2 feet from the edge of the retaining wall or earth berm below and shall not exceed a combined height of 8 ½ feet.*
   4. *An alternative height or location requirement may be approved within a land use process for all non-single-family and two-family residential properties. The fence, hedge or wall shall be compatible with the adjacent neighborhood and achieve the same intent of the zoning designation and applicable Site Plan and Design Review process. In no case may the fence, hedge or wall exceed 8 feet in height without approval of a variance.*

Finding: Not Applicable. The fence will not be placed on a wall or berm, and the applicant has not requested a fence taller than 6 feet.

CHAPTER 17.58 – 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: Applicable: The original school building was constructed prior to the requirement for Conditional Use approval for schools in residential zones. *OCMC 17.56.010 - Permit—Authorization—Standards—Conditions. D.* allows review of expansions to existing uses subsequently designated as conditional uses to be expanded through a conditional use review process. Therefore, subsequent expansion of the school with a modular classroom wing was approved in 2013 as a modification to a pre-existing conditional use. (CU 12-01). The existing use, therefore, is legally established.

In 2008, the City adopted new standards for institutional uses that contain design provisions that the existing school does not conform to. These include standards such as setbacks, landscaping, parking spaces, façade transparency, and pedestrian circulation. As a result, the proposed expansion through the placement of a modular classroom on the school site is subject to the provisions of Chapter 17.58.

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:
Accidental Destruction. When a nonconforming structure is damaged by fire or other causes, the structure may be rebuilt using the same structure footprint.

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.
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.

Finding: Applicable. This application would expand the existing, lawfully established, nonconforming school structure by adding a modular unit.

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.
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 $75,000. The following alterations and improvements shall not be included in the threshold calculation:
Proposed alterations to meet approved fire and life safety agreements;
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;
Alterations required to meet Seismic Design Requirements; and
Improvements to on-site stormwater management facilities in conformance with Oregon City Stormwater Design Standards.

Finding: Applicable. The value of the proposed modular addition is approximately $300,000. This cost does not relate to any of the exempt alterations or modifications, therefore the project meets the threshold of this section.

b. Standards that shall be met. Developments not complying with the development standards listed below shall be brought into conformance.
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 17.52 Off-Street Parking and Loading;
Screening; and
Paving of surface parking and exterior storage and display areas.

Finding: The applicant has requested a variance to this standard. See findings in Chapter 17.60.

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: Applicable. The entire site is subject to this standard.

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 10% 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 $75,000. 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: The applicant has requested a variance to this standard. See findings in Chapter 17.60. According to Table 17.58-1, the compliance period for this site of 794,000 square feet would be five years.

CHAPTER 17.65 MASTER PLANS

17.65.030 - Applicability of the Master Plan Regulations.

A. Submission. A master plan shall be submitted for any institutional development on a site over ten acres in size. If the boundaries of an institutional development exceed ten acres in size, the proposed development shall be master planned using the regulations of this chapter. No permit under this title shall by issued for any institutional development in excess of ten acres in total acreage unless it is accompanied by or preceded by a master plan approval under this chapter.

The provisions of this chapter do not apply to modifications to existing institutional developments unless the modification results in a cumulative square footage increase of over ten thousand total building square feet in an existing institutional development over ten acres.

Finding: Not Applicable. The subject site is an institutional use; however, the modification to the existing development is not greater than 10,00 square feet of new buildings.

CHAPTER 17.50 ADMINISTRATION AND PROCEDURES

17.50.030 Summary of the City's Decision-Making Processes.

Finding: Complies as Proposed. The proposed applications are being reviewed pursuant to the Type III process. Notice was posted onsite, online, mailed to property owners within 300 feet of the proposed development site and posted in a general circulation newspaper.

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. The applicant held a pre-application conference (file PA 17-24) on June 6, 2017. The applicant submitted a land use application on September 11, 2017, within six months after the date of the pre-application conference. The application was deemed incomplete on October 2, 2017, and after submittal of additional items was deemed complete on October 30, 2017.

17.50.055 Neighborhood Association Meeting

Finding: Complies as Proposed. The applicant attended a Rivercrest Neighborhood Association meeting on June 15, 2017. The applicant submitted a copy of the meeting flyer, a sign-in sheet of the meeting attendees, and a summary of the issues discussed.

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. The applicant submitted a land use application on September 11, 2017, within six months after the date of the pre-application conference. The application was deemed incomplete on October 2, 2017, and after submittal of additional items was deemed complete on October 30, 2017. The 120-day deadline is February 27, 2018.

17.50.080 Complete Application--Required Information.

Finding: Complies as Proposed. The applicant submitted a land use application on September 11, 2017, within six months after the date of the pre-application conference. The application was deemed incomplete on October 2, 2017, and after submittal of additional items was deemed complete on October 30, 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 17.60 VARIANCES

17.60.010 - Authority.

According to procedures set forth in Section 17.60.030, the planning commission or the community development director may authorize variances from the requirements of this title. In granting a variance, the planning commission or community development director may attach conditions to protect the best interests of the surrounding property or neighborhood and otherwise achieve the purposes of this title. No variances shall be granted to allow the use of property for a purpose not authorized within the zone in which the proposed use would be located.
Finding: Complies as Proposed. The applicant has requested several variances in conjunction with this project that require Planning Commission consideration. The variances are described and analyzed separately below. Variances may be allowed subject to the criteria listed in section 17.60.030.

7.60.020 - Variances—Procedures.

A. A request for a variance shall be initiated by a property owner or authorized agent by filing an application with the city recorder. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development. When relevant to the request, building plans may also be required. The application shall note the zoning requirement and the extent of the variance requested. Procedures shall thereafter be held under Chapter 17.50. In addition, the procedures set forth in subsection D. of this section shall apply when applicable.
B. A nonrefundable filing fee, as listed in Section 17.50.[0]80, shall accompany the application for a variance to defray the costs.
C. Before the planning commission may act on a variance, it shall hold a public hearing thereon following procedures as established in Chapter 17.50. A Variance shall address the criteria identified in Section 17.60.030, Variances — Grounds.
D. Minor variances, as defined in subsection E. of this section, shall be processed as a Type II decision, shall be reviewed pursuant to the requirements in Section 17.50.030B., and shall address the criteria identified in Section 17.60.030, Variance — Grounds.
E. For the purposes of this section, minor variances shall be defined as follows:
1. Variances to setback and yard requirements to allow additions to existing buildings so that the additions follow existing building lines;
2. Variances to width, depth and frontage requirements of up to twenty percent;
3. Variances to residential yard/setback requirements of up to twenty-five percent;
4. Variances to nonresidential yard/setback requirements of up to ten percent;
5. Variances to lot area requirements of up to five;
6. Variance to lot coverage requirements of up to twenty-five percent;
7. Variances to the minimum required parking stalls of up to five percent; and
8. Variances to the floor area requirements and minimum required building height in the mixed-use districts.
Finding: Complies as Proposed. The owner, Oregon City School District, initiated the Type III variance requests in accordance with the procedures in this section and with OCMC 17.50. No minor variances are requested. The approval criteria are addressed below.

17.60.030 - Variance—Grounds.

A variance may be granted only in the event that all of the following conditions exist:

A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;
B. That the request is the minimum variance that would alleviate the hardship;
C. Granting the variance will equal or exceed the purpose of the regulation to be modified.
D. Any impacts resulting from the adjustment are mitigated;
E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance; and
F. The variance conforms to the comprehensive plan and the intent of the ordinance being varied.

The applicant's variance requests for this project and their justification subject to the review criteria are listed below, followed by Staff's findings.

The variance requests include:

- A variance to 17.62.055.C.5 which requires that, 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.
  The applicant states that this is impracticable on the subject property due to the nature of the street frontage (road termini) and because of existing building placement on the property.
  It should be noted that a variance to this standard was granted for the 2012 modular classroom building. The applicant requests that this variance apply to any future construction on the school site.
- A variance to 17.62.055.G - I. which require variation in building massing, articulation, and transparency that the applicant contends is not practicable with modular construction.
- A variance to 17.58.040 which requires upgrades to nonconforming elements of the site.

Staff suggests the Planning Commission approve Variances to 17.62.055.D.2, which is related to the variance to 17.62.055.D.1.

1. Variance from OCMC 17.62.055.C.5 & 17.62.055.D.1. - Variance of maximum allowed 5' setback from the street for an institutional building.
The provisions of Section 17.62.055.C.5 require that, 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.

The applicant states that this is impracticable on the subject property due to the nature of the street frontage (road termini) and because of existing building placement on the property.

It should be noted that a variance to this standard was granted for the 2012 modular classroom building. The applicant requests that this variance apply to any future construction on the school site.

Applicant's Response to Variance Criteria (A-F):

A. The requested variance will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities. The existing school is located more than 80 feet back from the ends of Hood Street and Ethel Street. This location is necessary in order to allow for the parking lot as well as site circulation from Hood Street to Ethel Street. The proposed modular would be located more than 270 feet from the closest property line and, therefore, cannot impact light, air or other desirable qualities on abutting properties.
B. The variance requested is the minimum variance feasible. Placing the building at the specified 5' setback distance would interfere with access from the ends of Hood Street and Ethel Street. The proposed location at the rear of the existing school building is the only feasible spot on the property

that will allow for the new modular classroom to be tied into the functions of the existing school building. Short walkways to existing building access points will allow students to move to and from the classrooms in the modular building as necessary for other school activities that take place in the main building. Placing the building closer to either Ethel Street or Hood Street would not allow for the school to function in a unified manner that effectively serves the students.

C. The purpose of the five foot maximum setback for institutional buildings is, presumably, to ensure that building placement supports convenient pedestrian access from public streets. In the case of Gardiner Middle School, students are typically bussed to the campus or dropped off by parents. The availability of these forms of access ensures that the purpose of the standard will be met by alternative means.
D. The availability of bussing and parent drop-off areas serve to mitigate for the building being set back farther from the public street.
E. The proposed location is the only area on the school property that has open space for a new building and which can be tied into the existing school building via short connecting walkways.
F. There are no comprehensive plan policies that require a 5-foot maximum setback. The intent of the ordinance, while not specifically stated, is presumably to ensure convenient pedestrian access to institutional buildings. The school provides walkways and areas for bus and parents to conveniently drop-off students. These measures achieve the same purpose as the ordinance standard.

Finding: Complies with Condition.

Staff concurs with the applicant's response and finds that the criteria for granting a variance to OCMC 17.62.055.C. are met.

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 requested adjustments will allow for a temporary development of an underdeveloped site, and allow for the A Safe Place services to remain on a single site, providing optimal service to the public.

The following goals and policies of the Comprehensive Plan are applicable to this variance request:

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 2.4.5
Ensure a process is developed to prevent barriers in the development of neighborhood schools, senior and child care facilities, parks, and other uses that serve the needs of the immediate area and the residents of Oregon City.

Goal 11.1: Provision of Public Facilities
Serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.
Policy 11.1.4 Support development on underdeveloped or vacant buildable land within the City where urban 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.
Policy 11.1.5 Design the extension or improvement of any major urban facility and service to an area to complement other urban facilities and services at uniform levels.

Policy 11.1.6 Enhance efficient use of existing urban facilities and services by encouraging development at maximum levels permitted in the comprehensive plan, implementing minimum residential densities, and adopting an Accessory Dwelling Unit Ordinance to infill vacant land.

The Gardiner Middle School campus is an institutional development. The proposed variance to allow a new structure for would increase neighborhood livability and efficiency of public facilities by allowing the Oregon City School District to accommodate additional students, thus allowing Clackamas County to function efficiently and improving their service to Oregon City and surrounding communities.

Staff does not recommend granting the request to apply this variance to future development on the site. If a brand new school building is proposed to replace the current building, which the applicant has indicated is likely in the near future, staff's opinion is that no variances for that new building be pre-approved. Should the planning commission wish to apply the request to only new secondary buildings added to the existing campus (i.e. additional modular buildings or ancillary structures), staff would support that decision. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

2. Variance from OCMC 17.62.055.G – I.. - Variance of requirement for variation in building massing, wall articulation, and façade transparency:.

G. Building 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.

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.

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.

H. Minimum Wall Articulation

4. Building facades must include a repeating pattern,

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.

6.Facades shall have at least one of elements subsections H.4. or H.5. of this section repeat horizontally.

I. Transparency

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.

The applicant states that the provisions of Section 17.62.055.G - I. require a variation in building massing, articulation, and transparency that is not practicable with modular construction.

Applicant's Response to Variance Criteria (A-F):

A. The requested variance will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities. The requested variance relates only to the appearance of the proposed modular classroom. The location of the proposed building in only visible from a limited number of off-site properties that are well-removed from the building location. Proposed landscaping and screening as shown on the landscape plan will mitigate for the requested variances impact upon the appearance of this building.
B. The variance requested to eliminate compliance with these standards is the minimum variance feasible. Complying with standards relating to articulation, height to width ratios, and 60 percent glazing standards is simply not compatible with the design requirements for a modular classroom building that must be transported to the site over highways. Lane widths create limitations in the ability to articulate the structure. Heights must be kept low due to overpass height restrictions.

C. The purpose of these standards is to create a visually interesting building design. It must be realized that the modular building is only one element of the overall campus building design. Many of these design requirements are satisfied if viewed from the aspect of the overall campus having an interesting appearance, with multiple masses, articulation, roof height changes, major glazing on primary building elevations, etc. For this reason, not requiring compliance for the modular classroom has a lesser impact than if it were the only building being proposed for a site. Granting the variance will still allow for the overall purpose of a visually appealing building complex on the Gardiner campus to be met.

D. The placement of the proposed modular building to the side of the main school building, well set back from property boundaries, together with landscape screening and fencing, will mitigate for the requested variance.
E. The proposed modular classroom is the only means available to provide for the classroom needs of an increased student enrollment. This is a temporary solution until a new school is built on the Gardiner site.
F. There are no comprehensive plan policies that require the design standards listed in this section. Granting the variance will allow for the Oregon City School District to continue to provide educational services needed by the public in this area.

Finding: Complies as Proposed. The purpose of standards related to variation in massing, minimum wall articulation, and façade transparency are to provide architectural interest and variety and to avoid a dominant building mass with no relation to human size. The purpose of standards for similar characteristics for buildings in a multiple building development are to provide cohesiveness through the site and to enhance architectural interest.

These standards affect only the appearance of the building and are intended to provide for visually appealing building design. With the proposed conditions of approval, the building will not be visible from the street, standards intended to provide for buildings that are visually interesting and appealing in appearance are not as essential as they would be if the building were located in a more prominent location. Staff concurs with the applicant's response and finds that the criteria for granting a variance to OCMC 17.62.055.G. are met.

The following goals and policies of the Comprehensive Plan are applicable to this variance request:

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 2.4.5

Ensure a process is developed to prevent barriers in the development of neighborhood schools, senior and child care facilities, parks, and other uses that serve the needs of the immediate area and the residents of Oregon City.

The Gardiner Middle School campus is an institutional development. The proposed variance to allow a new structure for would increase neighborhood livability by allowing the Oregon City School District to accommodate additional students, thus allowing Clackamas County to function efficiently and improving their service to Oregon City and surrounding communities.

3. Variance to OCMC 17.58. – Variance of Nonconforming Upgrades

Standards that shall be met. Developments not complying with the development standards listed below shall be brought into conformance.
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 17.52 Off-Street Parking and Loading;
Screening; and
Paving of surface parking and exterior storage and display areas.

Bicycle parking, screening and paved parking standards are already satisfied.
The pedestrian circulation system is incomplete and would need to be upgraded to meet this standard. The parking lot was developed prior to the adoption of current landscaping standards. Perimeter landscaping and interior parking lot landscaping do not meet current standards.
The applicant has requested to be exempt from nonconforming upgrades due to the temporary nature of the project.

The applicant states the following regarding the parking lot landscaping:

- For perimeter parking lot landscaping, while there is a buffer of approximately 5 feet, it is not landscaped for most of its length. There are large cedar trees within the buffer near Ethel Street. There are cedar fences, but no significant landscaping for the rest of the length of that strip. As shown in photographs within the applicant's submittal, there is a significant grade change between the parking lot and adjacent residential lots to the west along much of this border. This grade change makes providing landscaping problematic.

- Given that this is a small project that is only intended to be in place until such time as the new middle school is built, a variance is being requested to allow the parking lot, its landscaping and the pedestrian circulation system to remain in their existing configurations.

Applicant's Response to Variance Criteria (A-F):

A. The parking lot has been in existence for decades in its current configuration. Allowing it to continue without additional landscaping will have no significant impact upon adjacent properties. As the photograph shows, there are existing fences that provide for buffer screening. Requiring that parking spaces be removed in order to comply with interior landscape standards would reduce needed parking and would be an expense beyond the scope of this project. When the new middle school is built, parking will be reconfigured and brought into full compliance at that time. With respect to pedestrian circulation, there are no sidewalks in the streets leading up to the school site. Therefore, not having sidewalks to the streets does not significantly impact pedestrian access to the school.
B. The variance requested is the minimum variance feasible. Requiring new landscaping and sidewalks would create a disproportionate cost to the scale of this minor project. The School District is working

with limited funds to deal with increasing enrollment. The time to bring the parking lot into compliance with new standards is when a construction bond is approved and the new middle school is built.

C. The existing parking lot and pedestrian circulation system have functioned well for decades. The placement of a modular classroom on the site will not trigger any change that warrants a major upgrade to parking lot landscaping.
D. The availability of bussing and parent drop-off areas serve to mitigate for the lack of sidewalk connections to the school. The lack of parking lot landscaping is mitigated by existing fencing and other landscaping along the front of the school.
E. There do not appear to be any other measures that would resolve the parking lot landscaping or sidewalk issues.
F. There are no comprehensive plan policies that require the parking lot landscaping specified in this section.

Finding: Complies with Condition. Staff finds that the applicant's responses are inadequate to show that all of the variance criteria are met. While the applicant indicates that nonconforming upgrades should be waived because the site will be rebuilt with a new building in upcoming years, the City has no guarantee that this redevelopment will occur. The school has not been held to nonconforming upgrades over a series of site changes including a new playground area and a new modular 8-building classroom built 4 years ago. The Planning Division enforces the standards for nonconforming upgrades for all nonconforming properties that undergo staff-level land use review.

Therefore, staff recommends that the Planning Commission require nonconforming upgrades and give the applicant a choice of either utilizing Option 1 or utilizing timing Option 2, which requires full upgrades to the list of items in 17.58.040 within 5 years of the issuance of the decision. If the school district chooses option 2 and then subsequently applies for land use approval of a new building within that time period, the new findings and conditions would supersede the conditions within this staff report. If the school district does not move forward with a new building proposal for the site within the 5 year time period, then this condition would ensure that upgrades are installed. Upgrades would include both perimeter and interior parking lot landscaping, plus any additional upgrades identified through a full nonconforming analysis required by OCMC 17.58.040.

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

III. STAFF RECOMMENDATION

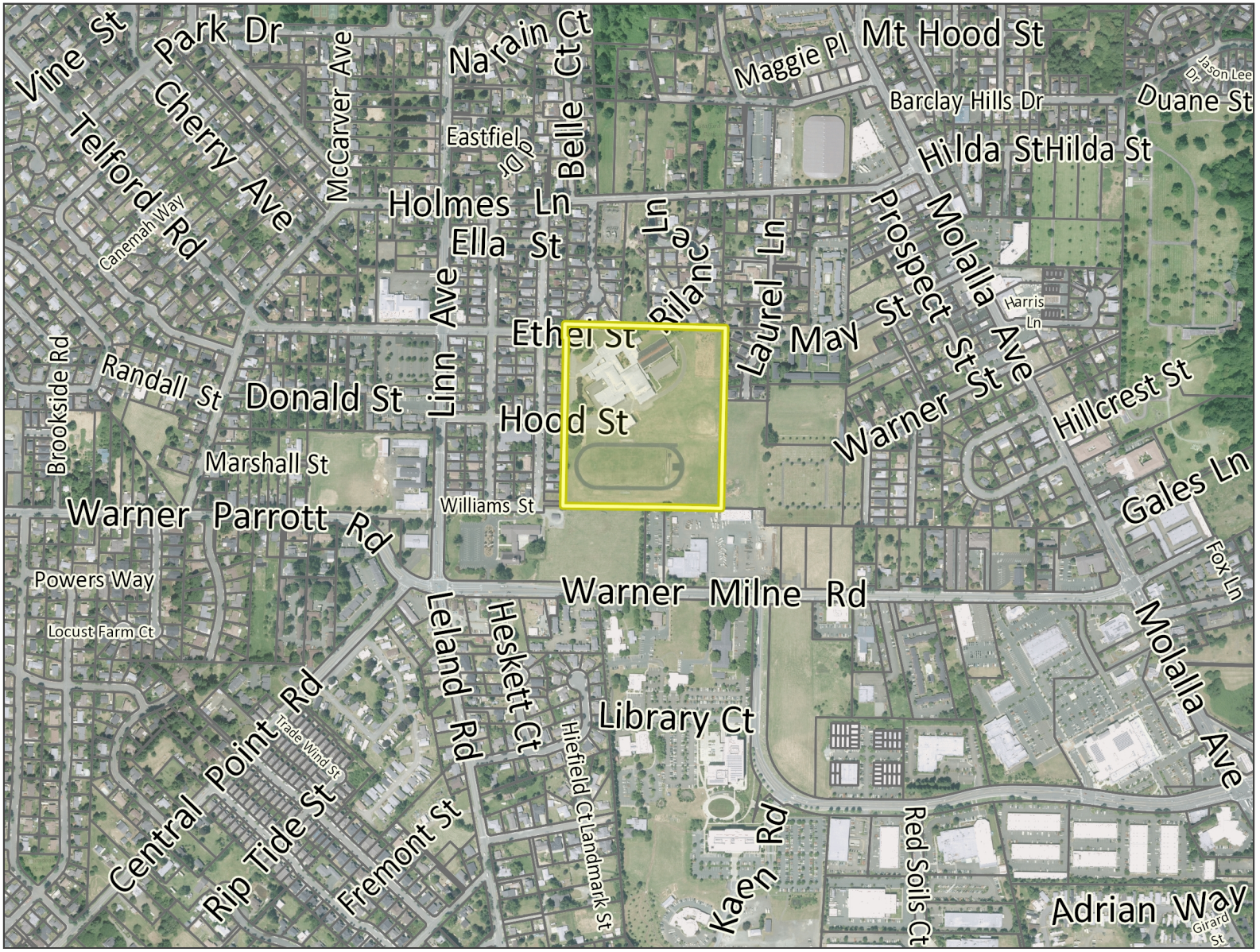
Staff recommends that the Planning Commission approve Planning files CU 17-03, SP 17-127and VR 17-10, 12, and 13 as submitted by the applicant with the attached recommended conditions of approval.

IV. EXHIBITS

The following exhibits are attached to this staff report.

1. Vicinity Map
2. Applicant's Submittal
3. Memorandum from John Replinger of Replinger and Associates

SP 17-127, CU 17-03, and VR 17-10



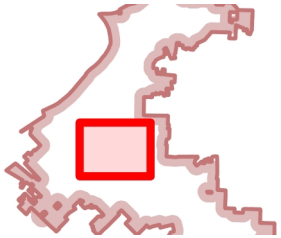
Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- City Limits
- UGB
- Basemap

Notes

The applicant has proposed a new modular classroom building with two classrooms to be added to the existing Gardiner Middle School property.

Overview Map



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 10/30/2017

N

0 800 1,600 Feet

1: 9,600

180 Ethel Street

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

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):_____

Proposed Land Use or Activity: Place a modular building containing two classrooms at the Gardiner Middle School campus.

Project Name: Gardiner Middle School Modular Number of Lots Proposed (If Applicable): NA

Physical Address of Site: 180 Ethel Street, Oregon City

Clackamas County Map and Tax Lot Number(s): 3 2E 06AD 7800

Applicant(s):

Applicant(s) Signature: _____

Applicant(s) Name Printed: Wes Rogers, Director of Operations, Oregon City Dist. Date: 9-7-2017

Mailing Address: 1417 12th St, Oregon City, OR 97045

Phone: 503-785-8426 Fax: 503-657-2492 Email: wes.rogers@orecity.k12.or.us

Property Owner(s):

Property Owner(s) Signature: Same as applicant.

Property Owner(s) Name Printed: _____ Date: _____

Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

Representative(s):

Representative(s) Signature: _____

Representative (s) Name Printed: Rick Givens, Planning Consultant Date: 9--7-2017

Mailing Address: 18680 Sunblaze Dr., Oregon City, OR 97045

Phone: 503-479-0097 Fax: 503-479-0097 Email: rickgivens@gmail.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.

Gardiner Middle School
Modular Classroom Addition
Application Narrative

Project Information:

Date:	August 2017
Applicant/Owner:	Attn: Wes Rogers Oregon City School District 62 PO Box 2110 Oregon City, OR 97045 (503) 785-8426
Planning Consultant:	Rick Givens 18680 Sunblaze Drive Oregon City, OR 97045 (503) 479-0097
Traffic Engineer:	Lancaster Engineering, Inc. Todd Mobley, PE, PTOE 321 SW 4th Avenue, Suite 400 Portland, OR 97204 (503) 248-0313
Request:	Modification of Conditional Use Permit, Site Design Review, and Variance to place a modular classroom building containing 2 classrooms and restroom facilities at the Gardiner Middle School campus.
Location:	The property is located at 180 Ethel Street, east of Linn Avenue, in Oregon City, OR.
Legal Description:	3 2E 06AD 07800
Site Area:	18.26 Acres
Zoning:	R-6 Single-family Residential District.

Introduction:

This application requests conditional use permit approval to allow the placement of a modular building containing two classrooms on the Gardiner Middle School campus. The application also requests site plan and design review and variance approvals for the project. Gardiner Middle School is located at 180 Ethel Street in Oregon City. The school serves grades six through 8. Due to anticipated increases in enrollment for the 2017-18 school year, there is a need for additional classroom space. The proposed modular classroom will meet this need.

CHAPTER 13.12 – STORMWATER MANAGEMENT

13.12.050 - Applicability and exemptions.

This chapter establishes performance standards for stormwater conveyance, quantity and quality.

Comment: Not applicable. The proposed modular building will be placed on the existing parking lot for the school. No new impervious area will be added.

CHAPTER 15.48 – GRADING, FILLING AND EXCAVATING

Applicant Response: Not applicable. No site grading is proposed in conjunction with the modular building. It will be placed on the existing paved parking lot.

CHAPTER 17.12 - R-6 SINGLE-FAMILY DWELLING DISTRICT

Section 17.12.030(G) establishes private and/or public educational facilities as use that may be permitted in the R-6 zone when authorized as a conditional use subject to the provisions of Chapter 17.56. Gardiner Middle School was originally built in the mid-1950's at a time when the City's zoning ordinance allowed schools as a primary use subject to Planning Commission approval. The proposed expansion of the school may be authorized by the city through the conditional use permit process requested in this application.

17.12.040 - Dimensional standards.

Dimensional standards in the R-6 district are:

A. Minimum lot areas, six thousand square feet;
B. Minimum lot width, fifty feet;
C. Minimum lot depth, seventy feet;
D. Maximum building height, two and one-half stories, not to exceed thirty-five feet;
E. Minimum required setbacks:
  1. Front yard, ten feet minimum setback,
  2. Front porch, five 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; five 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.

Applicant Response:

A. The subject property measures 795,217 square feet in area, exceeding the minimum 6,000 sq. ft. standard.
B. The site has a lot width of approximately 956 feet, exceeding the 50 foot minimum.
C. The property has a lot depth of approximately 934 feet, exceeding the 70 foot minimum.
D. Both the existing building and the proposed building are less than 35 feet or 2.5 stories in height.
E. The existing school building complies with setback standards as follows: Front – 87.9', Side – 29.8', Rear – 272.6'. The modular classroom is located on the south side of the existing school and is 270 feet from the front (west) property line and 516 feet from the south property line. It is within the setback envelope of the current facility. The overall setbacks will not change and will continue to exceed the minimum standards of the R-6 zone.
F. Not applicable. The site does not contain any garage structures.
G. The existing school building has a foot print of 108,251 square feet. With the addition of the new modular classroom measures approximately 64 feet by 28 square feet, or 1,792 sq. ft. The total lot coverage would come to 110,043sq. ft. This would equal 13.8% coverage for the 795,217 sq. ft. site, which is well under the 40 percent maximum allowable coverage.

CHAPTER 17.41 – TREE PROTECTION STANDARDS

17.41.020 - Tree protection—Applicability.

Applicant Response: Not applicable. No trees will be removed in conjunction with this project as the modular building will be placed on existing pavement.

CHAPTER 17.50 ADMINISTRATION AND PROCEDURES

Applicant Response: Consistent with the requirements of this section, this application for a Conditional Use Permit and Site Plan and Design Review will be processed through a Type III process. This process will provide for notice to property owners within 300 feet of the site, and a review of the application by the Planning Commission at a public hearing. A pre-application conference (PA 17-24) was held on June 6, 2017, prior to the submission of this application. As required by Section 17.50.055, the applicant contacted the Rivercrest Neighborhood Association and notes are attached that reflect the discussion with the representative of that group. A City Land Use application form has been completed and is included with the submittal package. All of the information required for submittal as listed in Section 17.50.080 and on the application checklist is also included. The City will provide appropriate notice pursuant to Section 17.50.090 and the applicant will post signs on the property consistent with Section 17.50.100.

CHAPTER 17.56 CONDITIONAL USES

17.56.010 - Permit—Authorization—Standards—Conditions.

A conditional use listed in this title may be permitted, enlarged or altered upon authorization of the planning commission in accordance with the standards and procedures of this title. A conditional use permit listed in this section may be permitted, enlarged or altered upon authorization of the planning commission in accordance with the standards and procedures of this section. Any expansion to, alteration of, or accessory use to a conditional use shall require planning commission approval of a modification to the original conditional use permit.

A. The following conditional uses, because of their public convenience and necessity and their effect upon the neighborhood shall be permitted only upon the approval of the planning commission after due notice and public hearing, according to procedure as provided in Chapter 17.50. The planning commission may allow a conditional use, provided that the applicant provides evidence substantiating that all the requirements of this title relative to the proposed use are satisfied, and demonstrates that the proposed use also satisfies the following criteria:

1. The use is listed as a conditional use in the underlying district;

Applicant Response: Private and/or public educational or training facilities are listed as a conditional use in OCMC 17.12.030.G. This is a public middle school serving 6th through 8th grade students.

2. The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements and natural features;

Applicant Response: The subject property measures 795,217 (18.26 acres). The site is rectangular in shape and is level in topography. It is presently developed with school facilities. The proposed modular classroom fits readily on the site, as demonstrated by the site plan, and conforms to setback and lot coverage standards. There are no physical limitations to the use of the property and its characteristics are suited to the proposed use.

3. The site and proposed development are timely, considering the adequacy of transportation systems, public facilities and services existing or planned for the area affected by the use;

Applicant Response: Sewer, water and storm drainage utilities are present and adequate to service the proposed uses, as indicated on the site plan and the attached storm water report. The existing water line on the property will be relocated to allow for the placement of the modular classroom building. The attached Transportation Assessment Letter (TAL) prepared by Lancaster Engineering demonstrates that the transportation system is adequate to serve the proposed expanded school enrollment. For these reasons, the proposed use is timely.

4. *The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs or precludes the use of surrounding properties for the primary uses listed in the underlying district;*

Applicant Response: The proposed modular building is located on the south side of the existing school building and will not have significant visual impact upon surrounding properties. The campus is adequately sized such that the new modular building will not be located in close proximity to adjacent residential properties. The TAL prepared by Lancaster Engineering demonstrates that the transportation system is adequate to serve the increased school size. For these reasons, the proposed uses will not limit or impair the use of surrounding properties.

5. *The proposal satisfies the goals and policies of the city comprehensive plan which apply to the proposed use.*

Applicant Response: The following Comprehensive Plan policies were identified are relevant to this application:

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.

Applicant Response: These school facilities enhance the diversity of land uses within the surrounding community, helping to provide a sense of place and uniqueness to this neighborhood.

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.

Applicant Response: The conditional use process allows for school uses to be authorized in a residential neighborhood such as this, consistent with this policy. Providing schools within residential areas provides for connection between the school and the surrounding community and allows for convenient community use of school facilities.

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.

Applicant Response: The Gardiner campus is centrally located within the service area of Oregon City Public Schools. Tri-Met bus service is located in close proximity to the

property, with Route 33 providing service on Linn Avenue approximately 700 feet west of the school property. School bus service is provided directly to the school site.

Policy 11.1.6
Enhance efficient use of existing public facilities and services by encouraging development at maximum levels permitted in the Comprehensive Plan, implementing minimum residential densities, and adopting an Accessory Dwelling Unit Ordinance to infill vacant land.

Applicant Response: The subject properties are located within a single-family residentially zoned area. The proposed expansion of the public educational use of this site is consistent with this policy.

Goal 11.8 Health and Education
Work with healthcare and education providers to optimize the siting and use of provider facilities.

Applicant Response: The subject properties are owned by Oregon City Public Schools. Allowing the use of these properties as proposed through the conditional use permit process would optimize their use for educational purposes, consistent with this policy.

Policy 11.8.3
Coordinate with the Oregon City School District to ensure that elementary and middle school sites are located centrally within the neighborhoods they serve, to the extent possible.

Applicant Response: The Gardiner campus is centrally located within Oregon City Public School District's service area. Approval of the conditional use permit is consistent with this policy.

B. *Permits for conditional uses shall stipulate restrictions or conditions which may include, but are not limited to, a definite time limit to meet such conditions, provisions for a front, side or rear yard greater than the minimum dimensional standards of the zoning ordinance, suitable landscaping, off-street parking, and any other reasonable restriction, condition or safeguard that would uphold the spirit and intent of the zoning ordinance, and mitigate adverse effect upon the neighborhood properties by reason of the use, extension, construction or alteration allowed as set forth in the findings of the planning commission.*

Applicant Response: The applicant recognizes the authority of the city to impose reasonable conditions of approval pursuant to this section. The proposed location of the new building is more than 270 feet to the closest (west) property line – greatly exceeding the required twenty foot rear yard setback. We will review and reserve the right to comment upon such conditions as may be proposed by staff or the Planning Commission through the public hearing process.

C. *Any conditional use shall meet the dimensional standards of the zone in which it is to be located pursuant to subsection B. of this section unless otherwise indicated, as well as the minimum conditions listed below.*

Applicant Response: As discussed above in comments relating to the R-6 District standards, the proposed location of the new building conforms to all required dimensional standards.

D. In the case of a use existing prior to the effective date of the ordinance codified in this title and classified in this title as a conditional use, any change of use expansion of lot area or expansion of structure shall conform with the requirements for conditional use.

Applicant Response: As discussed above, the proposed structure and existing buildings all conform to required dimensional standards.

E. The planning commission may specifically permit, upon approval of a conditional use, further expansion to a specified maximum designated by the planning commission without the need to return for additional review.

Applicant Response: Not applicable to this proposal.

17.56.040 - Criteria and standards for conditional uses.

In addition to the standards listed herein in Section 17.56.010, which are to be considered in the approval of all conditional uses and the standards of the zone in which the conditional use is located, the following additional standards shall be applicable:

A. Building Openings. The city may limit or prohibit building openings within fifty feet of residential property in a residential zone if the openings will cause glare, excessive noise or excessive traffic which would adversely affect adjacent residential property as set forth in the findings of the planning commission.

Applicant Response: No portion of the proposed building is located within 50 feet of a residential property.

B. Additional Street Right-of-Way. The dedication of additional right-of-way may be required where the city plan indicates need for increased width and where the street is inadequate for its use; or where the nature of the proposed development warrants increased street width.

Applicant Response: The subject property is served with access from the ends of Ethel Street and Hood Street. Both of these streets have 50 feet of right-of-way, consistent with local street standards.

C. Public Utility or Communication Facility. Such facilities as a utility substation, water storage tank, radio or television transmitter, tower, tank, power transformer, pumping station and similar structures shall be located, designed and installed with suitable regard for aesthetic values. The base of these facilities shall not be located closer to the property line than a distance equal to the height of the structure. Hydroelectric generation facilities shall not exceed ninety megawatts of generation capacity.

Applicant Response: Not applicable. No such facilities are proposed.

D. Schools. The site must be located to best serve the intended area, must be in conformance with the city plan, must have adequate access, and must be in accordance with appropriate State standards.

Applicant Response: The subject property is centrally located within its service area. The proposed conditional use would allow the expansion of the current Gardiner Middle School campus so as to make fuller use of this public facility. The site has been recognized by Oregon City as suitable for school use since its construction in the mid-1950s. The site has adequate access, as demonstrated by the attached Transportation Impact Analysis. The school conforms to all applicable State standards.

E. Helipad Landing Facility. In evaluating a conditional use application for a helipad, the planning commission shall consider such matters as the following:

Applicant Response: Not applicable. No helicopter landing facility is proposed.

F. Residential Care Facilities.

Applicant Response: Not applicable. No residential care facilities are proposed.

G. Bed and Breakfast Inns. Upon approval of a conditional use application for a bed and breakfast inn, the planning commission shall include the following as additional standards and criteria:

Applicant Response: Not applicable. No such use is proposed.

17.62 SITE PLAN AND DESIGN REVIEW CRITERIA:

Site plan and design review is required by Section 17.62.030 for all development that requires conditional use approval. In compliance with that requirement, this application includes the plans and information required for site plan and design review. As required by Section 17.62.020, a pre-application conference was held with city staff on October 9, 2012. The application exceeds the scale of development that would be allowed under the Minor site plan and design review provisions of Section 17.62.035, so that section is not applicable to this application.

17.62.040 – Plans required.

Applicant Response: As required by this section, this application includes a site plan containing the information specified in subsection 17.62.040(A), a landscaping plan, floor plan, elevations, and description of exterior materials. Since the modular classroom will be placed on existing asphalt, there is no need for an erosion and sediment control plan as no grading will occur. Lighting will be limited to on-building lighting. A legal description of the property and a traffic impact analysis are included.

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.

Applicant Response: These standards require that a minimum of 15% of the site be landscaped. The total site contains 795,217 sq. ft. Existing buildings cover 108,251 sq. ft. Parking and vehicular travel lanes total 95,848 sq. ft. The new modular classroom building will cover 1,792 sq. ft., for a total lot coverage of 205,891 sq. ft. Thus, with the addition of the new building the total landscaped area will exceed 74 percent of the site. A landscape plan for the area in the vicinity of the new modular building is included with this application.

The subject property is not located within a Natural Resource Overlay District, nor is it within the Downtown Design District, so provisions of this section that address such areas are not applicable.

2. *Vehicular Access and Connectivity.*

Applicant Response: The parking lot that serves the existing school will provide ample parking to provide for the added classroom space. The existing circulation system provides for traffic to flow through the site from Hood Street to Ethel Street. Please see discussion below relating to parking standards. No new parking is proposed or needed so these standards do not apply.

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 …*

    Applicant Response: Not applicable. The site is not located in any of these districts.

    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…*

    Applicant Response: Not applicable. The site is not within a historic area and the proposed location of the new building is screened from adjacent properties by the existing building or is buffered by large playfield areas.

4. *Grading shall be in accordance with the requirements of Chapter 15.48 and the public works stormwater and grading design standards.*

    Applicant Response: Not applicable. No new grading is proposed.

5. *Development subject to the requirements of the Geologic Hazard overlay district shall comply with the requirements of that district.*

    Applicant Response: Not applicable. The site is not located within the Geologic Hazard overlay district.

6. *Drainage shall be provided in accordance with city's drainage master plan, Chapter 13.12, and the public works stormwater and grading design standards.*

   Applicant Response: Not applicable. No new impervious area is proposed. The existing storm drainage system for the parking lot will accommodate the new structure.

7. *Parking, including carpool, vanpool and bicycle parking, shall comply with city off-street parking standards Chapter 17.52.*

   Applicant Response: All parking is existing development and no new parking is required for this project. Please see discussion of Chapter 17.52 below.

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.*

   Applicant Response: The subject property does not have frontage on any public streets with the exception of the termini of Ethel Street and Hood Street so there are no sidewalk improvements warranted on abutting streets.

9. *A well-marked, continuous and protected on-site pedestrian circulation system meeting the following standards shall be provided:*

   Applicant Response: The area where the modular building will be placed is paved with asphalt. A ramp will connect the classroom entrances to the existing pavement and a walkway from the classrooms to the school entrance will be striped with paint.

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.*

    Applicant Response: All facilities on the site are owned and maintained by Oregon City Public Schools.

11. *Site planning shall conform to the requirements of OCMC Chapter 17.41 Tree Protection.*

    Applicant Response: Not applicable. There are no trees in the area where the proposed modular will be placed on the existing parking lot.

12. *Development shall be planned, designed, constructed and maintained to protect water resources and habitat conservation areas in accordance with the requirements of the city's Natural Resources Overlay District, Chapter 17.49, as applicable.*

    Applicant Response: There are no water resource areas or habitat conservation areas on the subject property or within close proximity to the site. Chapter 17.49 does not apply.

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…

Applicant Response: Neither the existing school facility nor the proposed modular classroom generate or have any significant impact upon air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference.

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.*

    Applicant Response: A 12-inch city water line passes through the site, as shown on plans submitted with this application. A 10-inch city sewer line located at the end of Ethel Street provides service to the school site. The proposed modular building contains only classroom space. Students will make use of restroom facilities in the existing school building. No new public utilities are proposed.

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.*

    When approving land use actions, Oregon City requires all relevant intersections to be maintained at the minimum acceptable level of service (LOS) upon full build-out of the proposed land use action. The minimum acceptable LOS standards are as follows:

    a. *For signalized intersection areas of the city that are located outside the Regional Center boundaries a LOS of "D" or better 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 critical movements.*
    b. *For signalized intersections within the Regional Center boundaries a LOS "D" can be exceeded during the peak hour; however, during the second peak hour, LOS "D" or better will be required as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0.*
    c. *For unsignalized intersection throughout the city a LOS "E" or better for the poorest approach and with no movement serving more than twenty peak hour vehicles operating at worse than LOS "F" will be tolerated for minor movements during a peak hour.*

Applicant Response: Please refer to the attached TAL for discussion of compliance with these standards.

16. *If Tri-Met, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, bus landing pad or transit stop connection be constructed at the time of development, the review authority shall require such improvement, using designs supportive of transit use.*

    Applicant Response: The closest available Tri-Met service is located on Linn Avenue. There is no need for a bus stop, bus shelter, turnout lane or other transit facility at this location as the school provides its own bus transportation.

17. *All utility lines shall be placed underground.*

    Applicant Response: No new utilities 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.*

    Applicant Response: The pedestrian walkways serving the new modular building include ramps where necessary to provide for access by physically handicapped people.

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.*

    Applicant Response: Not applicable. The proposed development does not include residential construction.

20. *Screening of Mechanical Equipment:*

    Applicant Response: The proposed modular building will make use of wall-mounted heat pumps that will be screened by landscaping.

21. *Building Materials.*

    Applicant Response: Exterior building materials consist of Hardie Plank Lap siding, Narrow horizontal lap siding is included in the list of preferred building materials. No materials listed as "prohibited" are proposed to be used, nor are any materials subject to special material standards.

22. *Conditions of Approval. The review authority may impose such conditions as it deems necessary to ensure compliance with these standards and other applicable review criteria…*

    Applicant Response: The applicant understands that the city may impose reasonable conditions of approval for this project.

17.62.055 - Institutional and commercial building standards.

B. Applicability. In addition to Section 17.62.050 requirements, institutional and commercial buildings shall comply with design standards contained in this section.

Applicant Response: Schools are an institutional use and the proposed modular classroom addition is subject to the provisions of this section.

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.

Applicant Response: The scale of the proposed building and the materials used are commonly used in residential construction in the R-6 district.

2. A standardized prototype or franchise design shall be modified if necessary to meet the provisions of this section.

Applicant Response: Not applicable.

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.

Applicant Response: The proposed modular building is similar to the modular classroom wing that was constructed on the site in 2012. The roof pitch and exterior materials are similar to what was used in that project.

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.

Applicant Response: We are not aware of any such conflicts.

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.

Applicant Response: The subject property abuts the termini of Hood Street and Ethel Street for a combined distance of 100 feet. These streets constitute the only access into the subject property. The placement of the modular building within five feet of these street frontages would not be practical as it would block access to the school. Further, the modular building must be functionally tied to the existing school facility, which is separated from the street

frontages by the existing parking and access drives. A variance is requested to this standard. Please see discussion of requested variance below.

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.

Applicant Response: As discussed in the previous section, it is not practicable to comply with the five foot setback standard. It is also not feasible to achieve compliance through the installation of the elements listed in this section. The existing school building has a front setback of approximately 88 feet. The area between the building and the front lot line is developed with parking and vehicular accessways so there is no room for the types of improvements discussed above. It is not practicable to place the new building within five feet of the front property line because it needs to connect to the existing school facility. For these reasons, a variance to the setback standard is requested. Please see variance discussion below.

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.

Applicant Response: The primary school building entrance is oriented towards the street access points of the property. The proposed modular building is a minor element of the overall school campus and has no significant impact upon the appearance of the school from the street termini.

3. Entryways. The primary entranceway for each commercial or retail establishment shall face the major street…

Applicant Response: Not applicable. The proposed development does not include commercial or retail uses.

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.

Applicant Response: Not applicable. The proposed development does not include commercial or retail uses.

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.*

   Applicant Response: Not applicable. No trellises, canopies, or fabric awnings are proposed.

E. Corner Lots.

Applicant Response: Not applicable. The subject property is not located on a corner lot.

F. Commercial First Floor Frontage.

Applicant Response: Not applicable. The proposed development does not include commercial or retail uses.

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.*

Applicant Response: The school has multiple sections and wings rather than a single, large dominant building mass. However, the proposed modular classroom itself does not conform to this standard. It is not practicable to comply with this standard in a modular building. Please see variance discussion, below.

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.*

Applicant Response: The proposed modular building is 64 feet long and is approximately 13.5 feet high. Because of height restrictions on modular buildings that are moved on highways, it is not practicable to meet the one-to-three ratio. A variance to this provision is requested.

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.*

Applicant Response: It is not practicable to comply with this standard in a modular classroom building. Please see variance discussion, below.

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.

Applicant Response: The proposed modular building will be located at the south side of the existing school building. It does not directly face onto a street, but will be somewhat visible from the terminus of Hood Street. The building façade that will be oriented towards this street measures 28 in length and conforms to this standard.

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.*

   Applicant Response: Not applicable. The proposed building is only 64 feet in length.

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.*

   Applicant Response: Not applicable. The proposed building will be located to the side of the existing school and does not face onto a public street. Proposed landscaping will provide screening between the modular building and Hood Street.

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.

   Applicant Response: It is not practicable to comply with this standard with a modular classroom building. A variance is requested.

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.*

   Applicant Response: The campus buildings accomplish the overall intent of this standard, but it is not practicable to comply with this standard with a modular classroom building. A variance is requested..

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.*

   Applicant Response: It is not practicable to comply with this standard with a modular classroom building. A variance is requested.

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.

Applicant Response: The front elevation of the new modular classroom is 64 feet in length and provides 8' of window glazing (12.5%). It is not practicable in a modular building to increase the percentage of window glazing. A variance to this standard is requested. Please refer to the variance discussion, below.

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.*

   Applicant Response: Not applicable. No false windows or door openings 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.*

   Applicant Response: The proposed design for the roof is sloping with 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 continuous roofline shall be seventy-five feet.*

   Applicant Response: Not applicable. No mixed use buildings with flat roofs are proposed.

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).*

   Applicant Response: Not applicable. No other roof forms are proposed.

K. Drive-through facilities shall:

Applicant Response: Not applicable. No drive-through facilities are proposed.

17.62.056 - Additional standards for large retail establishments.

Applicant Response: Not applicable. No retail uses are proposed.

17.62.057 - Multi-family standards.

Applicant Response: Not applicable. No multi-family development is proposed.

17.62.059 - Cottage housing.

Applicant Response: Not applicable. No cottage housing is proposed.

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.

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.

Applicant Response: The proposed school use is an institutional use, which is not listed as a type of development for which an exterior lighting plan is required. As a practical matter, the existing school facility has pre-existing exterior lighting for the building, parking and walkway areas. Exterior lighting for the new building is proposed to be provided with wall-mounted lights on the building walls at the doorways to the classrooms.

17.62.080 - Special development standards along transit streets.

Applicant Response: Not applicable. The site is not located along a transit street.

17.62.085 - Refuse and recycling standards for commercial, industrial, and multi-family developments.

Applicant Response: The new modular building will make use of existing refuse and recycling facilities for the school. These facilities are located in the small parking lot area in the “U” on the

southwest corner of the main school building. This area is enclosed with an arborvitae hedge that serves to screen the trash and recycling bins from view. No changes to these facilities are proposed.

CHAPTER 17.52 OFF-STREET PARKING AND LOADING

17.52.020 - Number of automobile spaces required.

Applicant Response: Table 17.52.020 sets the parking requirements for elementary and middle schools as minimum of one space per classroom and a maximum of 1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium. The existing parking lot provides for a total of 90 vehicles. Several spaces would be removed to allow for placement of the modular building. Two of these spaces will be relocated, as shown on the site plan. The number of parking spaces remaining after completion of this project will be 78. The existing school has a total of 28 classrooms. With the addition of the two classrooms in the modular unit, the total increases to 30. The minimum number of parking spaces that would be required by this section would be 30, which is satisfied by the existing parking. The existing parking lot predates the adoption of the maximum parking standards and no expansion of parking is proposed. Therefore, it is not necessary to address compliance with the maximum standard in this application.

17.52.030.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.

Applicant Response: No changes to driveway access points are proposed.

17.52.030.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 stormwater runoff and improve water quality pursuant to the city's stormwater and low impact development design standards are encouraged.

Applicant Response: The existing parking lot and access aisle are paved and provide for stormwater runoff.

17.52.030.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.

Applicant Response: The existing parking lot has provisions to accommodate storm water runoff. No changes to the existing parking lot are proposed.

17.52.030.D. Dimensional Requirements.

Applicant Response: The existing parking lot will continue to be used in its current configuration. No parking improvements are required.

17.52.030.E. Carpool and Vanpool Parking

Applicant Response: Not applicable. No changes to the existing parking facilities are proposed or required for this project so compliance with carpool or vanpool parking improvements does not apply.

17.52.040 – Bicycle Parking Standards

Applicant Response: Table A in this section requires that Junior High schools provide a minimum of 2 bicycle parking spaces per classroom and that 50 percent of the spaces be covered. With the addition of the two new classrooms, the total number of classrooms at Gardiner Middle School will be 30, thus requiring bicycle racks capable of accommodating a minimum of 60 bicycles. At least 30 of these spaces would be required to be covered. The school has existing covered bicycle parking near the front entrance to the school, as shown on the site plan. Two 8-foot double-sided bicycle racks capable of accommodating 16 bicycles each, and two 10-foot bicycle racks capable of accommodating 20 bicycles each are provided, for a total capacity of 72 bicycles. All of these racks are under cover, as shown in the photograph below. The requirements of this section are met by the existing bicycle racks.

17.52.040.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.

Applicant Response: The bicycle parking provides for bike racks that are bolted to a concrete slab. The bike racks allow for locking the bicycles securely.

17.52.040.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.*
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.*
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.*
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.*

Applicant Response: The location of the existing bike racks provides for safety and security as it is in an area that is within view of adjacent classroom windows and in close proximity to the main entrance of the school. There is a direct pedestrian connection from the bicycle parking area to the main entrance of the building. The bicycle parking area does not interfere with pedestrian or vehicular movement as it is located adjacent to, but does not obstruct the pedestrian walkway near the existing school's main entrance.

17.52.060 - Parking lot landscaping.

Applicant Response: The parking lot is pre-existing and no new parking is proposed. No change to parking landscaping is proposed other than as shown for the modular classrooms.

17.52.070 - Alternative landscaping plan.

Applicant Response: No alternative landscape plan is proposed at this time.

17.52.080 - Maintenance.

Applicant Response: The parking lot, bicycle parking, and associated landscaping will all be maintained by Oregon City School District.

17.52.090 - Loading areas.

Applicant Response: Loading areas for buses are already in existence near the main entrance to the school. No changes to loading areas are proposed.

Chapter 17.54 - SUPPLEMENTAL ZONING REGULATIONS AND EXCEPTIONS

17.54.100 - Fences.

A. Generally. Fence, hedge, or wall.

1. Fences and walls—Fences and walls over forty-two inches shall not be located in front of the front façade or within forty feet of the public right-of-way, whichever is less. All other fences (including fences along the side and rear of a property) shall not exceed six feet in total height unless as permitted [in] Section 17.54.100.B.

B. Exception. Fence, hedge, wall, or other obstructing vegetation on retaining wall. When a fence, hedge, wall, or other obstructing vegetation is built on a retaining wall or an artificial berm that is not adjacent to or abutting a public right-of-way, the following standards shall apply:

4. An alternative height or location requirement may be approved within a land use process for all non-single-family and two-family residential properties. The fence, hedge or wall shall be compatible with the adjacent neighborhood and achieve the same intent of the zoning designation and applicable site plan and design review process. In no case may the fence, hedge or wall exceed eight feet in height without approval of a variance.

Applicant Response: As shown on the landscape plan submitted with this application, a six foot high fence is proposed to be constructed around the perimeter of the proposed modular classroom in order to provide for security of students moving to and from the new building. The fence will ensure that students do not wander into the parking lot area and will help to prevent outsiders from entering the school environment. Being located in front of the front façade of the modular classroom would normally be precluded by 17.54.100.A.1. The applicant is requesting an exception to the locational standards pursuant to 17.54.100.B.4. The school use is institutional, not residential, in nature and therefore an alternative fence location may be approved under this section. The intent of the fence location restriction is presumably to provide for a more attractive and open view of front facades of buildings. In this instance, however, security and safety concerns must be considered. The proposed landscape screening in front of the fencing will help to soften the impact of the fencing. Further, the location of the fencing is more than 270 feet from the nearest adjacent property, which makes this proposed fencing differ from the usual situation intended by this ordinance of prohibiting fencing along the front elevation of a building that is abutting a street.

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.

Comment: The original school building was constructed prior to the requirement for Conditional Use approval for schools in residential zones. *OCMC 17.56.010 - Permit—Authorization—Standards—Conditions. D.* allows review of expansions to existing uses subsequently designated as conditional uses to be expanded through a conditional use review process. Therefore, subsequent expansion of the school with a modular classroom wing was approved in 2013 as a modification to a pre-existing conditional use. (CU 12-01). The existing use, therefore, is legally established.

In 2008, the City adopted new standards for institutional uses that contain design provisions that the existing school does not conform to. As a result, the proposed expansion through the placement of a modular classroom on the school site is subject to the provisions of Chapter 17.58.

17.58.020 - Lawful nonconforming lots of record.

Lots or parcels lawfully created but which do not now conform to the legal lot standards in this land use code may be occupied by uses otherwise permitted if those uses comply with all other provisions of this land use code.

Comment: Not applicable. The lot on which the school is sited is a legal lot of record and conforms to the minimum dimensional standards of the R-6 zoning district, as discussed above in this narrative.

17.58.030 - Lawful nonconforming use.

A use that was lawfully established on a particular development site but that no longer complies with the allowed uses or the standards for those uses in this title may be considered a lawful nonconforming use. Change of ownership, tenancy, or management of a lawfully established nonconforming use shall not affect its lawful nonconforming status. The continuation of a lawful nonconforming use is subject to the following:

A. Discontinuance. If a lawful nonconforming use is discontinued for a period of one year, it shall lose its lawful nonconforming status and the use of the property thereafter shall conform with the existing provisions of this title. If a nonconforming use ceases operations, even if the structure or materials related to the use remain, the use shall be deemed to have been discontinued.

Comment: Not applicable. The school has been in continuous use for school purposes since it was first established on the site.

B. Conformance. If a lawful nonconforming use is converted to a conforming use, no nonconforming use may be resumed.

Comment: Not applicable. The school use has never been converted to another use.

C. Destruction of a Non-residential Use. When a structure containing a lawful nonconforming non-residential use is damaged by fire or other causes, the re-establishment of the nonconforming use shall be prohibited if the repair cost of the structure is more than sixty percent of its assessed value.

Comment: Not applicable. The existing structure has never been destroyed by fire or other cause.

D. Destruction of a Residential Use. When a structure containing a lawful nonconforming residential use is damaged by fire or other causes, the re-establishment of the nonconforming use shall be permitted.

Comment: Not applicable. The existing school use is not a residential use.

E. Intentional Destruction. When a structure containing a nonconforming use is removed or intentionally damaged by fire or other causes within the control of the owner, the re-establishment of the nonconforming use shall be prohibited.

Comment: Not applicable. The school has never been removed or intentionally damaged by fire or other cause.

F. Expansion. No lawful nonconforming use may be replaced by a different type of nonconforming use, nor may any legal nonconforming use be expanded or intensified.

Comment: Not applicable. No change of use is proposed.

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.

Comment: Not applicable. There hasn't been any accidental destruction.

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.

Comment: Not applicable. There hasn't been any intentional destruction.

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.

Comment: This application would expand the existing, lawfully established, nonconforming school structure by adding a modular unit.

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.*

Comment: The proposed modular classroom at Gardiner Middle School will provide two additional classrooms. These classrooms are needed in order to respond to increased enrollment at the school. Oregon City School District plans to replace the existing school with a new middle school, but that cannot happen until a bond levy is approved by the voters. Allowing the placement of a modular classroom will permit the district to continue to provide adequate classroom space during the interim period. The proposed modular building will be place in an area of the site that will have minimal impacts on the surrounding area. It can be easily screened with landscaping and fencing. The building will be placed on existing pavement so that there will be no increased stormwater impacts. The TAL provided with the application demonstrates that there is adequate capacity in the transportation system to accommodate the increased enrollment.

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 than 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.*

    Comment: The value of the proposed modular addition is approximately $300,000. This cost does not relate to any of the exempt alterations or modifications, therefore the project meets the threshold of this section.

    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.*

Comment: The existing pedestrian circulation system provides for connectivity from all drop-off areas to the main entrance of the building. There isn't a sidewalk connection to the ends of Ethel or Hood Street, but there are no sidewalks in either of those streets. Bicycle parking, screening and paved parking standards are satisfied. The parking lot, however, was developed prior to the adoption of current landscaping standards. Perimeter landscaping would be required to be provided along the western border of the existing parking lot. While there is a buffer of approximately 5 feet, it is not landscaped for most of its length. There are large cedar trees within the buffer near Ethel Street. There are cedar fences, but no significant landscaping for the rest of the length of that strip. Additionally, the parking lot does not conform to new interior landscaping standards that require a landscape island to be placed between every 8 spaces. Given that this is a small project that is only intended to be in place until such time as the new middle school is built, a variance is being requested to allow the parking lot, its landscaping and the pedestrian circulation system to remain in their existing configurations.

17.58.060 - Process to confirm the legality of a nonconforming use, lot or structure.

Any person may request a Type I or a Type II review to confirm the legality of a nonconforming use, lot or structure. In order to confirm that the nonconforming use, lot or structure is legal, sufficient evidence shall be submitted to the city determining the following:

A. The nonconforming use or structure was established lawfully; and
B. The nonconforming use or structure has not become more nonconforming within the past twenty years from the date of application.

The applicant shall provide sufficient evidence to allow the community development director to review and confirm the legality of a nonconforming use, lot or structure. An applicant may request a Type I procedure, provided the applicant can provide sufficient evidence to confirm 17.58.060A. and B. without discretion. If the applicant cannot provide sufficient evidence to determine 17.58.060A. and B. without discretion, the applicant may apply for a Type II procedure. Applications for a Type II procedures shall be noticed to the public in a public comment period to gather additional information. If the applicant cannot show that the nonconforming use, lot or structure was lawfully established or has not been expanded pursuant to 17.58.060A. and B. above, the use, lot or structure shall be determined to be illegal.

Comment: The legal status of the existing use was previously reviewed as a part of the 2012 application for a modular classroom wing

17.60 – VARIANCE REQUESTS

A variance to the maximum five foot front setback standard is requested in conjunction with this project. Additionally, we are requesting a variance to some building design elements of section 17.62.055 and to improvement requirements associated with Chapter 17.58. Variances may be allowed subject to the criteria listed in section 17.60.030. The following comments address the approval criteria as they relate to the requested variances.

Variance to Maximum 5 Foot Front Setback

17.60.030 - Variance—Grounds.

A variance may be granted only in the event that all of the following conditions exist:

- *A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;*
- *B. That the request is the minimum variance that would alleviate the hardship;*
- *C. Granting the variance will equal or exceed the purpose of the regulation to be modified.*
- *D. Any impacts resulting from the adjustment are mitigated;*
- *E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance; and*
- *F. The variance conforms to the comprehensive plan and the intent of the ordinance being varied.*

Applicant Response: The provisions of Section 17.62.055C5 require that 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. A greater setback may be allowed through the placement of additional site elements under the provisions of Section 17.62.055D. It is not practicable to comply with the five foot setback or to provide additional elements listed in Section 17.62.055D on the subject property due to the nature of the street frontage (road termini which provide the only access into the site) and because of existing building placement on the property.

It should be noted that a variance to this standard was granted for the 2012 modular classroom wing. However, because it was not requested in that application that the variance should apply to future projects such as is now proposed, Planning Director has determined that a new variance is needed. In order to avoid duplicative variances in the future, and because the circumstances preventing compliance with this standard would apply to all new construction, we request that this variance apply to any future construction on the school site.

The requested variance conforms to the grounds listed in Section 17.60.030 as follows:

A. The requested variance will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities. The existing school is located more than 80 feet back from the ends of Hood Street and Ethel Street. This location is necessary in order to allow for access to the parking lot and for site circulation from Hood Street to Ethel Street. The proposed modular would be located more than 270 feet from the closest property line and, therefore, cannot impact light, air or other desirable qualities on abutting properties.

B. The variance requested is the minimum variance feasible. Placing the building at the specified 5' setback distance would interfere with access from the ends of Hood Street and Ethel Street. The proposed location at the side of the existing school building is the only feasible spot on the property that will allow for the new modular classroom to be tied into the functions of the existing school building. Short walkways to existing building access points will allow students to move to and from the classrooms in the modular building as necessary for other school activities that take place in the main building. Placing the building closer to either Ethel Street or Hood Street would not allow for the school to function in a unified manner that effectively serves the students.

C. The purpose of the five foot maximum setback for institutional buildings is, presumably, to ensure that building placement supports convenient pedestrian access from public streets. In the case of Gardiner Middle School, students are typically bussed to the campus or dropped off by parents. The availability of these forms of access ensures that the purpose of the standard will be met by alternative means.

D. The availability of bussing and parent drop-off areas serve to mitigate for the building being set back farther from the public street.

E. The proposed location is the only area on the school property that has open space for a new building and which can be tied into the existing school building via short connecting walkways.

F. There are no comprehensive plan policies that require a 5-foot maximum setback. The intent of the ordinance, while not specifically stated, is presumably to ensure convenient pedestrian access to institutional buildings. The school provides walkways and areas for buses and parents to conveniently drop-off students. These measures achieve the same purpose as the ordinance standard.

Variance to Maximum Building Design Provisions of Section 17.62.055

This variance request relates to standards in Section 17.62.055 that require building articulation and changes in materials/colors to break up long facades, and to transparency requirements. Specifically, the variance request relates to these subsections:

G. Variation in Massing (1. single, large, dominant building mass shall be avoided , 2. height: width ratio of one-to-three, and 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.

H. Minimum Wall Articulation (4. Building facades must include a repeating pattern, 5. expression of architectural or structural bay, 6.Facades shall have at least one of elements subsections H.4. or H.5. of this section repeat horizontally.)

I. Facade Transparency (1. The main front elevation shall provide at least sixty percent windows or transparency at the pedestrian level.)

These standards are not compatible with modular classroom buildings, which are designed in a rectangular form in order to be transported on roadways.

17.60.030 - Variance—Grounds.

A variance may be granted only in the event that all of the following conditions exist:

A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;
B. That the request is the minimum variance that would alleviate the hardship;
C. Granting the variance will equal or exceed the purpose of the regulation to be modified.
D. Any impacts resulting from the adjustment are mitigated;
E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance; and
F. The variance conforms to the comprehensive plan and the intent of the ordinance being varied.

Applicant Response: The requested variance conforms to the grounds listed in Section 17.60.030 as follows:

A. The requested variance will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities. The requested variance relates only to the appearance of the proposed modular classroom. The location of the proposed building in only visible from a limited number of off-site properties that are well-removed from the building location. Proposed landscaping and screening as shown on the landscape plan will mitigate for the requested variances impact upon the appearance of this building.

B. The variance requested to eliminate compliance with these standards is the minimum variance feasible. Complying with standards relating to articulation, height to width ratios, and 60 percent glazing standards is simply not compatible with the design requirements for a modular classroom building that must be transported to the site over highways. Lane widths create limitations in the ability to articulate the structure. Heights must be kept low due to overpass height restrictions.

C. The purpose of these standards is to create a visually interesting building design. It must be realized that the modular building is only one element of the overall campus building design. Many of these design requirements are satisfied if viewed from the aspect of the overall campus having an interesting appearance, with multiple masses, articulation, roof height changes, major glazing on primary building elevations, etc. For this reason, not requiring compliance for the modular classroom has a lesser impact than if it were the only building being proposed for a site. Granting the variance will still allow for the overall purpose of a visually appealing building complex on the Gardiner campus to be met.

D. The placement of the proposed modular building to the side of the main school building, well set back from property boundaries, together with landscape screening and fencing, will mitigate for the requested variance.

E. The proposed modular classroom is the only means available to provide for the classroom needs of an increased student enrollment. This is a temporary solution until a new school is built on the Gardiner site.

F. There are no comprehensive plan policies that require the design standards listed in this section. Granting the variance will allow for the Oregon City School District to continue to provide educational services needed by the public in this area.

Variance to improvement requirements associated with Chapter 17.58

The provisions of Section 17.58.040.C.2.b would require that improvements be made to parking lot landscaping. Additionally, it could be required under this section that a pedestrian connection be provided to Ethel or Hood Street.

Perimeter landscaping would be required to be provided along the western border of the existing parking lot. There is a buffer of approximately 5 feet, but it is not landscaped for most of its length. There are large cedar trees within the buffer near Ethel Street. There are cedar fences, but no significant landscaping for the rest of the length of that strip. Additionally, the parking lot does not conform to new interior landscaping standards that require a landscape island to be placed between every 8 spaces. As shown in the photograph below, there is a significant grade change between the parking lot and adjacent residential lots to the west along much of this border. This grade change makes providing landscaping problematic.

17.60.030 - Variance—Grounds.

A variance may be granted only in the event that all of the following conditions exist:

A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;
B. That the request is the minimum variance that would alleviate the hardship;
C. Granting the variance will equal or exceed the purpose of the regulation to be modified.
D. Any impacts resulting from the adjustment are mitigated;
E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance; and
F. The variance conforms to the comprehensive plan and the intent of the ordinance being varied.

Applicant Response: The requested variance conforms to the grounds listed in Section 17.60.030 as follows:

A. The parking lot has been in existence for decades in its current configuration. Allowing it to continue without additional landscaping will have no significant impact upon adjacent properties. As the photograph shows, there are existing fences that provide for buffer screening. Requiring that parking spaces be removed in order to comply with interior landscape standards would reduce needed parking and would be an expense beyond the scope of this project. When the new middle school is built, parking will be reconfigured and brought into full compliance at that time. With respect to pedestrian circulation, there are no sidewalks in the streets leading up to the school site. Therefore, not having sidewalks to the streets does not significantly impact pedestrian access to the school.

B. The variance requested is the minimum variance feasible. Requiring new landscaping and sidewalks would create a disproportionate cost to the scale of this minor project. The School District is working with limited funds to deal with increasing enrollment. The time to bring the parking lot into compliance with new standards is when a construction bond is approved and the new middle school is built.

C. The existing parking lot and pedestrian circulation system have functioned well for decades. The placement of a modular classroom on the site will not trigger any change that warrants a major upgrade to parking lot landscaping.

D. The availability of bussing and parent drop-off areas serve to mitigate for the lack of sidewalk connections to the school. The lack of parking lot landscaping is mitigated by existing fencing and other landscaping along the front of the school.

E. There do not appear to be any other measures that would resolve the parking lot landscaping or sidewalk issues.

F. There are no comprehensive plan policies that require the parking lot landscaping specified in this section.

Compliance with Conditions of Approval 4 & 5, CU 12-01

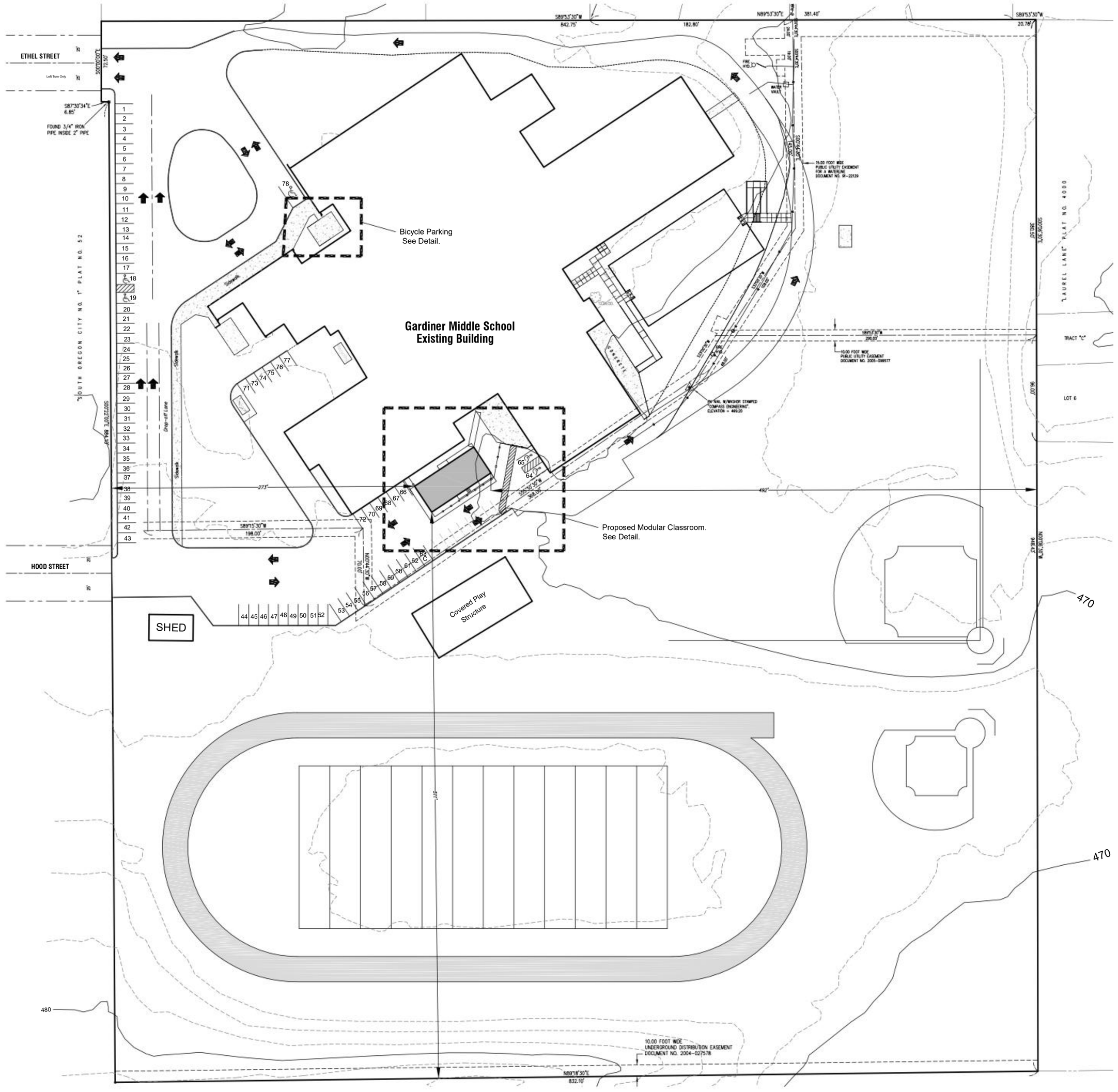
City staff have asked the applicant to address compliance with these conditions of approval from the 2012 conditional use permit application. These conditions read as follows:

"4. Prior to occupancy, the applicant shall encourage staff to park in the under-utilized south parking lot rather than the west parking lot. This would free up spaces in the western parking lot for parents conducting pick-ups and drop-offs and reduce the usage of spaces in the south parking lot for these activities, thereby reducing bus-car conflicts and allowing for smoother traffic flow."

Applicant's Response: The School District has encouraged staff to park in the south parking lot and Wes Rogers of the District states that "I observe that happening every day I'm out there. Because we have more staff than south lot parking spots, we do have some staff parking in the west lot. We can again do notification to staff as well as put up staff parking signs."

"5. **Planning Commission Condition of Approval (items in italics added by Planning Commission).** Prior to occupancy, to improve the utility of the loop drive frontage for pick-ups and drop-offs, while accommodating the three short buses, the school shall open the loop drive to pickups and drop-offs and demarcate the bus spaces as clearly off limits to these vehicles via pavement markings and signs. This will provide additional space for the increased pick-up and drop-off activity and reduce the likelihood that queues extend beyond school property. *The applicant shall improve the loop drive frontage for pick-up as identified in the applicant's bus parking widening plan* (Exhibit 14 *The new sidewalk abutting the parking area shall be landscaped consistent with the parking area / building buffer requirement of OCMC 17.52.060(C)(1) or (2).* The additional parking lot landscaping shall be shown on the revised landscaping plan. *(P)"*

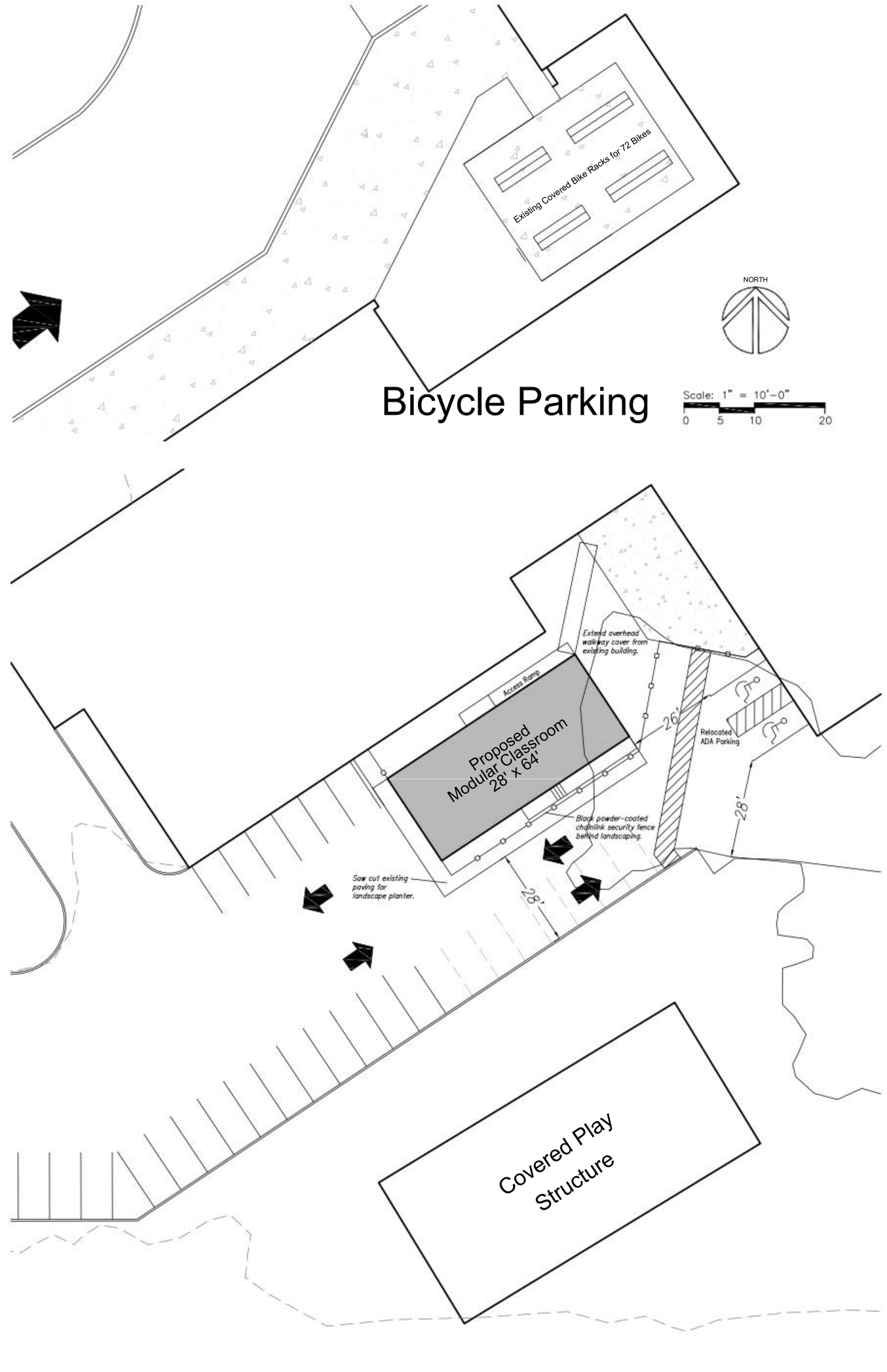
Applicant's Response: The District has re-striped the parking lot to identify drop off/pick up and drive thru lanes in the loop parking area. A-frame signs are also used throughout the loop to provide directions to drivers. These are deployed every day. Landscaping was provided adjacent to the new sidewalk abutting the parking area.



Gardiner Middle School Campus Plan

scale: 1" = 50'
0 25 50 100

NORTH



Bicycle Parking

Scale: 1" = 10'-0"
0 5 10 20

NORTH

Modular Classroom Improvements

Scale: 1" = 20'-0"
0 10 20 40

NORTH

DESIGNED:	REG	10-6-17	1	Added bicycle parking detail & dimensions
DRAWN:	REG			
SCALE:	1" = 50'			
DATE:	August 2017			
FILE:	17-OCS-100	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
18680 Sunblaze Dr.
Oregon City, OR 97045
PH: (503) 479-0097

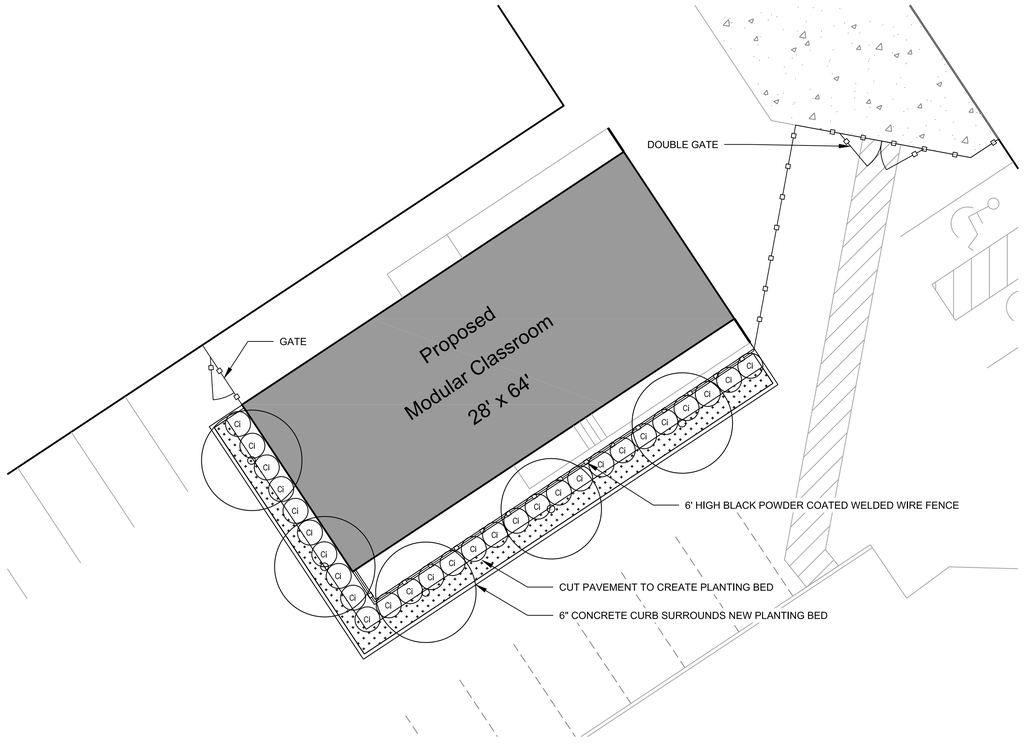
APPLICANT: Oregon City Public Schools
1417 12th Street
Oregon City, OR 97045
PH: (503) 785-8421

Gardiner Middle School
Modular Classroom Project

SHEET
1/1

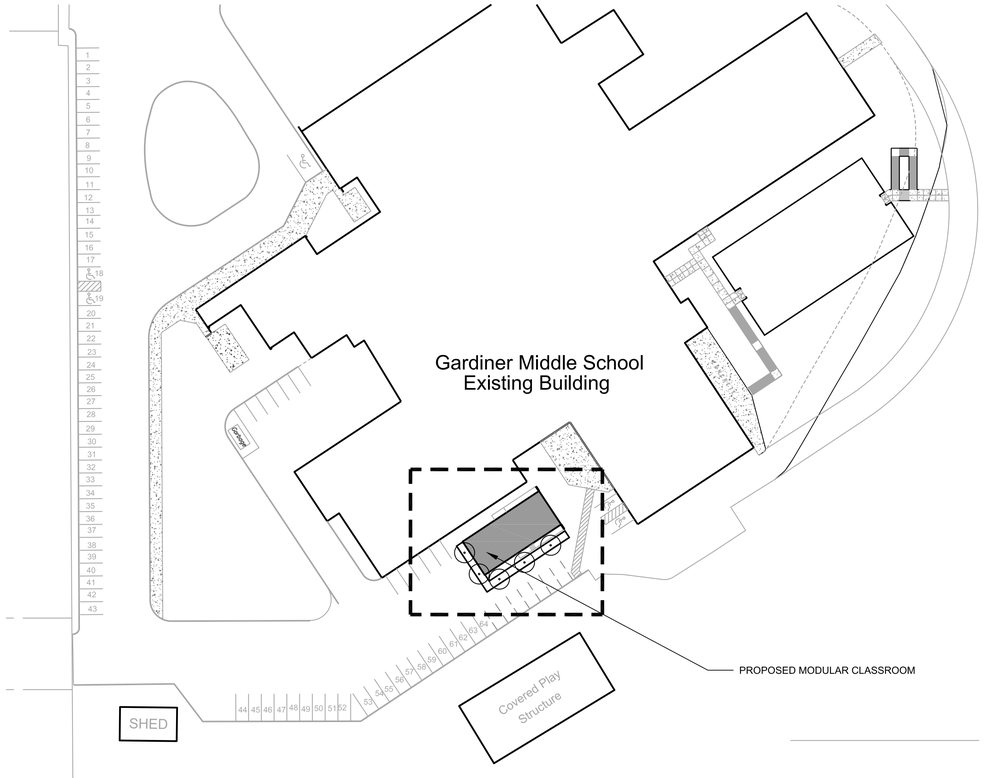
PLANT SCHEDULE

	BOTANICAL / COMMON NAME	SIZE	QUANTITY
O	MAACKIA AMURENSIS AMUR MAACKIA	2" CAL.	5
Ci	CISTUS x HYBRIDUS HYBRID WHITE ROCKROSE	5 GAL.	28
	GROUNDCOVER- PLANT 16" O.C. IDAHOE FESCUE FESTUCA IDAHOENSIS	4" POT	4 FLATS OF 18



GARDINER MIDDLE SCHOOL PROPOSED MODULAR CLASSROOM

scale: 1" = 10'-0"
0 5 10 20



GARDINER MIDDLE SCHOOL SITE CONTEXT

scale: 1" = 50'-0"
0 25 50 100

Caitilin Pope Daum
Landscape Architect, LLC
(503) 841-3642
www.cpd-landscape.com

REGISTERED
763
CAITILIN POPE DAUM
OREGON
02/17/12
LANDSCAPE ARCHITECT

GARDINER MIDDLE SCHOOL MODULAR CLASSROOM PROJECT

180 ETHEL STREET
OREGON CITY, OR 97045

Landuse

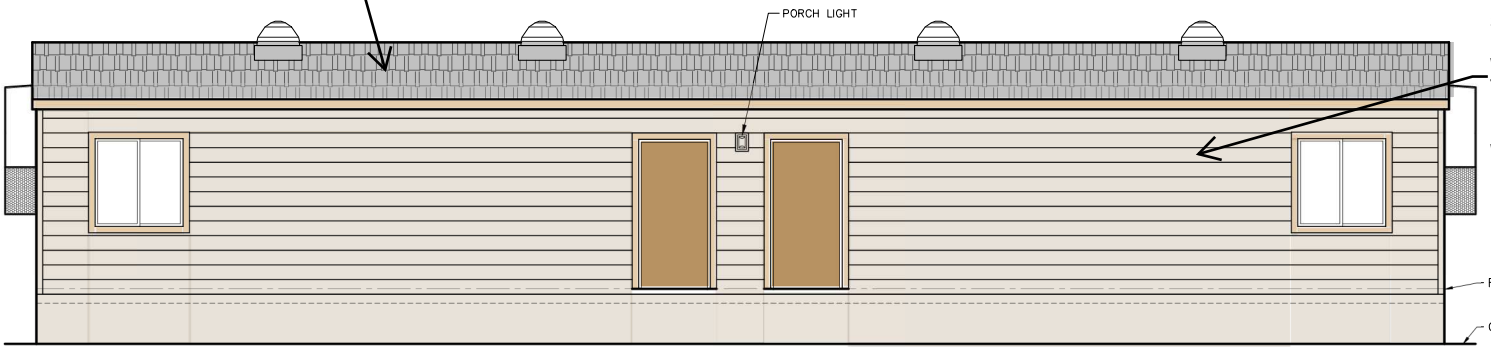
August 4, 2017

Drawn by:
CPD/EDJ

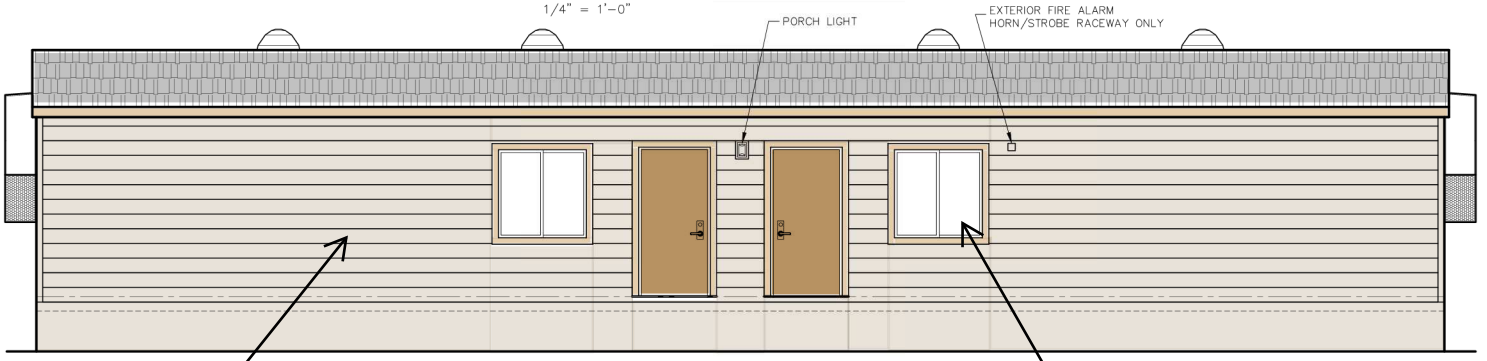
L100

Pabco "Premier" Laminated Fiberglass
Architectural Shingles "Weathered White"

Miller "Evolution"
Satin Exterior Paint
Main Body: To Match Sherwin Williams "Relaxed Khaki" #6149
Trim: To Match Sherwin Williams "Golden Fleece" #6388
Exterior Doors: To Match Sherwin Williams "Copper Mountain" #6356



WALL "A" ELEVATION
1/4" = 1'-0"



WALL "C" ELEVATION
1/4" = 1'-0"

Hardie Plank Fiber Cement Lap Siding

White Vinyl-Framed Operable Windows 4' x 4' (Typical)

Note: Colors depicted in this drawing are representative only. Please refer to following color swatches for actual color:

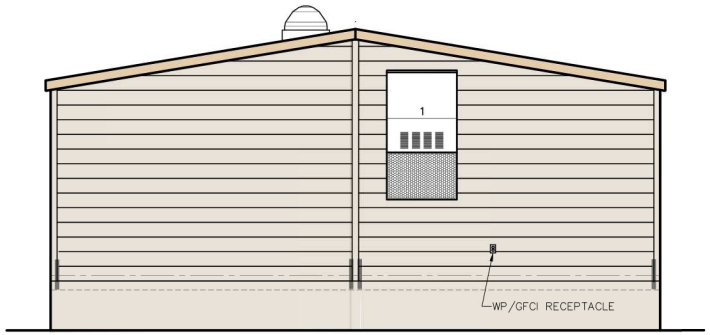
Main Body Siding:

Trim:

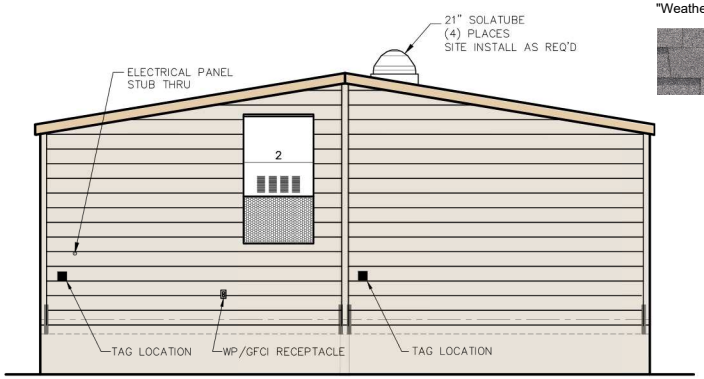
Exterior Door:

PABCO PREMIER
LAMINATED
FIBERGLASS SHINGLES

"Weathered White"



WALL '1' ELEVATION
1/4" = 1'-0"



WALL '2' ELEVATION
1/4" = 1'-0"

09/07/2017

REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15, 1997
ROCK M. SHETLER
EXPIRES: 6/30/2018

DATE	REVISION	BY
8-8-17	NOTE ADDED FOR SOLATUBES	AJB

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Blazer INDUSTRIES, INC.
www.blazerind.com
P.O. BOX 489 ■ Aumsville, OR 97325-0489

MODULAR
28 x 64
OR. GOLD

CLASSROOM for:
Oregon City School District
Aries Building Systems
Oregon City, OR

Approved for Const:
File Copy:
Drawn By: AJB
Issue Date: 8-8-17

Job No: 19026

A-3

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

June 28, 2017

Ms. Diliana Vassileva
City of Oregon City Planning
221 Molalla Ave
Ste 200
Oregon City, OR 97045

RE: SHPO Case No. 17-0898
City of Oregon City, PA 17-24, Gardiner Middle School Modular Building
Construct modular building
180 Ethel Street (3S 2E 6 TL7800), 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

Gardiner Middle School

Lighting Code Responses

17.62.065 - Outdoor lighting.

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:*

   Comment: The proposed outdoor lighting is limited to the porch lights that will be mounted at the building entrances. The building will generally not be used at night, but the porch lights do aid in security and safety for the occasional times that it will be used. The angle of the front façade at the proposed building site will result in the light emitted by the porch lights being screened by the corner of the building to the closest property line at Hood St. The property lines to the east and south are more than 500 feet from the proposed lights. Cut sheet information provided for the lighting fixture indicates a maximum light output of 329 candela for the porch lights (measured at 90 degrees to the fixture). Using the standard formula for conversion of candela to foot candles: (Foot-candles = candela / distance in feet * distance in feet) yields a maximum light measurement at the property line of less than one .001 foot candle at that distance.

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.*

   Comment: Not applicable. The maximum light emitted by the fixtures is 204 lumens.

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.*

   Comment: Not applicable. No lighting poles are proposed.

4. *Lighting levels:*

   Comment: For building entrances, Table 1-17.62.065 requires a minimum of 3 Foot-candles. The proposed lights emit 3 foot candles when measured at 8 feet from the door.

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.*

   Comment: The porch lights at the main school doors plus the porch lights on the building will serve to light the short distance to the modular entrance.

8. *Floodlights shall not be utilized to light all or any portion of a building facade between ten p.m. and six a.m.*

   Comment: No floodlights are proposed.

10. *The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.*

    Comment: The proposed lights are a standard porch light design that is typical for modular buildings.

11. *In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site.*

    Comment: As discussed above, light from the porch fixtures measured at the closest property line will be approximately .001 footcandle.

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — Provides general illumination for outdoor use in residential and light commercial applications. Ideal for entryways, walkways, side yards, patios, and commercial buildings creating an inviting exterior space as well as providing safety and security.

CONSTRUCTION — Dusk-to-dawn photocell automatically turns on at dusk and off at dawn for convenience and energy savings. The durable polycarbonate housing is offered in bronze or white. High-impact polycarbonate refractor is UV-stablized to prevent yellowing.

ELECTRICAL — Standard with electronic ballast (120V, 60 Hz). Starts instantly down to -13°F (-26°C).

Includes (1) 42W GX24q 4-pin base 4100K triple-tube compact fluorescent lamp.

For use with non-dimmable switches only.

INSTALLATION — All mounting hardware included.

LISTINGS — CUL Listed to US and Canadian safety standards and suitable for wet locations.

WARRANTY — Guaranteed for one year against mechanical defects in manufacture. (Excludes lamp)

Note: Specifications subject to change without notice.

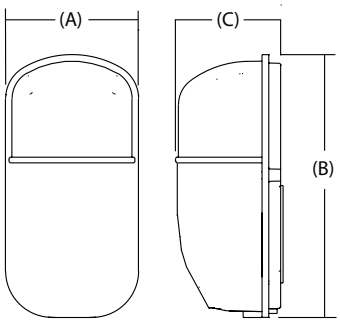
Outdoor General Purpose

Mini-Wall Pack Dusk-to-Dawn

COMPACT FLUORESCENT

DUSK to DAWN

c UL us LISTED



DIMENSIONS					
Lamp configuration	**Model number**	**Number of lamps**	**(A) Width**	**(B) Height**	**(C) Extension***
	OWP3 42F	(1) 42W GX24q 4-pin base compact (TTT)	5-3/4 (14.6)	11 (27.9)	5 (12.7)
* Maximum extension from wall.					

All dimensions are inches (centimeters) unless otherwise indicated.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: OWP3 42F 120 P LP BZ

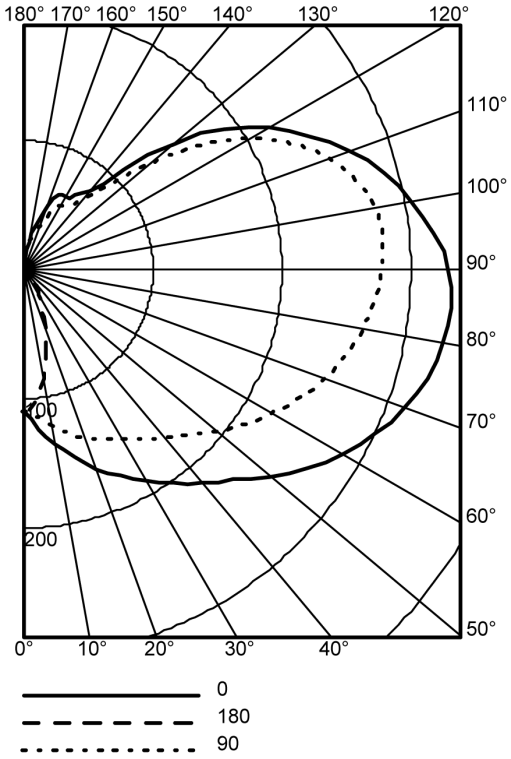
OWP3 42F	120	P	LP	
Series	**Voltage**	**Control**	**Lamp**	**Finish**
OWP3 42F (1) 42W GX24q 4-pin 4100K triple-tube compact fluorescent lamp (included)	120 120V residential electronic ballast (standard)	P Dusk-to-dawn photocell	LP Lamp included	BZ Bronze WH White

Accessories: *Order as separate catalog number.*	
CF42TRT41 4-PIN M6	42W GX24q 4-pin 4100K triple-tube compact fluorescent lamp

PHOTOMETRICS

CANDELA DISTRIBUTION

	0	45	90	135	180	Ave	Lumens
0	110	110	110	110	110	110	
5	124	120	114	106	102	114	11
15	150	152	131	90	67	121	34
25	176	185	145	67	33	125	58
35	202	215	160	43	18	132	83
45	230	240	181	25	11	141	110
55	268	261	209	14	8	155	139
65	301	278	235	9	5	169	168
75	324	289	258	7	1	181	191
85	333	294	273	7	1	187	204
90	329	294	277	7	1	188	
95	319	287	279	9	1	185	202
105	289	263	267	15	0	172	182
115	244	219	231	19	0	146	145
125	190	156	169	11	0	107	96
135	110	105	93	9	0	64	51
145	70	90	63	14	0	51	32
155	64	71	48	13	0	41	19
165	37	34	26	11	2	23	7
175	0	2	9	6	0	4	1
180	0	0	0	0	0	0	



ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0° - 30°	103.4	3.2	6.0
0° - 40°	186.5	5.8	10.8
0° - 60°	435.2	13.6	25.1
0° - 90°	997.8	31.2	57.6
90° - 120°	527.8	16.5	30.5
90° - 130°	623.4	19.5	36.0
90° - 150°	706.4	22.1	40.8
90° - 180°	733.2	22.9	42.4
0° - 180°	1731.0	54.1	100.0

LUMINAIRE EFFICIENCY: 54.1%

CIE CLASSIFICATION: General Diffuse

SPACING CRITERIA(0-Deg): 2.7
SPACING CRITERIA(90-Deg): 2.3
SPACING CRITERIA(180-Deg): 0.6

SINGLE LUMINAIRE PERFORMANCE

Task Height: 2.5ft.

		50% beam - 85.5°		10% beam - 132.6°	
Mounting Height	Inital FC Center Beam	Diameter	FC	Diameter	FC
8.0	3.6	10.2	1.8	25.1	0.4
10.0	2.0	13.9	1.0	34.2	0.2
12.0	1.2	17.6	0.6	43.3	0.1
14.0	0.8	21.3	0.4	52.4	0.1
16.0	0.6	25.0	0.3	61.5	0.1

COEFFICIENTS OF UTILIZATION

pf	20%														
pc	80%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	59	59	59	59	47	47	47	40	40	40	34	34	34	31	
1	51	47	44	41	37	35	32	31	29	27	25	24	23	20	
2	45	39	35	31	31	27	25	25	23	21	20	19	17	14	
3	40	34	28	24	26	22	19	22	19	16	17	15	13	11	
4	37	29	24	20	23	19	16	19	16	13	15	13	11	08	
5	33	26	20	17	20	16	13	16	13	11	13	11	09	07	
6	31	23	18	14	18	14	11	15	12	09	12	09	07	06	
7	28	20	15	12	16	12	10	13	10	08	11	08	06	05	
8	26	18	14	10	14	11	08	12	09	07	10	07	06	04	
9	24	17	12	09	13	10	07	11	08	06	09	07	05	04	
10	23	15	11	08	12	09	06	10	07	05	08	06	04	03	

AVERAGE LUMINANCE (cd/m2)

	0°	90°	180°
45°	14146	13278	677
55°	15808	15026	472
65°	17570	17074	292
75°	19297	19544	60
85°	20893	22310	63

Calculations based on IES File Luminous Area: 3.96 in. W x 3.0 in. L x 6.0 in. H

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Technical Memorandum

9/8/17

REGISTERED PROFESSIONAL ENGINEER
54983PE
OREGON
JULY 10, 2002
MICHAEL T. ARD

EXPIRES: 12/31/17

LANCASTER ENGINEERING

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

To: Wes Rogers

From: Michael Ard, PE
Richard Martin, EI

Date: September 8, 2017

Subject: Gardiner Middle School Modular Structure Traffic Analysis Letter

Dear Mr. Rogers,

We have completed our transportation analysis for the proposed Gardiner Middle School modular classroom located at 180 Ethel Street in Oregon City, Oregon. In accordance with Oregon City's "Guidelines for Transportation Impact Analyses" and based on the scale of the proposed development, a full traffic impact study is not required; however, a Transportation Analysis Letter (TAL) is needed. This letter is provided to address the TAL requirements.

Project & Location Description

The property located at 180 Ethel Street is proposed for development with a 1,792 square-foot modular classroom. The existing Gardiner Middle School campus is located at the east end of Hood and Ethel Streets in Oregon City. The proposed modular classroom will be an addition to the existing facilities and will be situated at the south side of the existing school.

Ethel Street is under the jurisdiction of Oregon City and is classified as a Local Street. West of Linn Avenue, Ethel Street becomes AV Davis Road, which is classified as a Collector. Ethel Street is generally a two-lane roadway with a statutory residential speed limit of 25 mph. No curbs or sidewalks are present. On-street parking is available on both sides of the street and no bike lanes are present. East of Leonard Street, Ethel Street is a one-way road serving westbound traffic exiting the school campus. West of Linn Avenue along AV Davis Road, curbs and sidewalks are installed on both sides of the facility.

Hood Street is under the jurisdiction of Oregon City and is classified as a Local Street. It is generally a two-lane roadway with a statutory residential speed limit of 25 mph. Curbs and sidewalks are in place intermittently along the south side of the roadway. On-street parking is available and no bike lanes are present. East of Leonard Street, Hood Street is a one-way road serving eastbound traffic entering the school campus.

Leonard Street operates under the jurisdiction of Oregon City and is classified as a Local Street. It is generally a two-lane roadway with a statutory residential speed limit of 25 mph. No curbs, sidewalks, or bike lanes are present along the length of the roadway. On-street parking is available on both sides of the facility.

Linn Avenue is under the jurisdiction of Oregon City and is classified as a Minor Arterial. It is generally a two-lane roadway with a posted speed limit of 35mph. South of Hood Street, the speed limit reduces to 20 mph between 7:00 AM and 5:00 PM on school days. Curbs and sidewalks are present along the east side of the street and are intermittent along the west side. Bike lanes are striped on both sides of the roadway. Some areas of on-street parking are available along both sides of the roadway outside the bike lanes in the site vicinity.

The intersection of Linn Avenue at Ethel Street is a four-legged intersection controlled by STOP signs on the AV Davis and Ethel Street approaches. Through traffic on Linn Avenue doesn't stop. Each leg of the intersection consists of a single, shared lane for all turning movements. Ladder-striped cross-walks are present on the north, east, and west legs of the intersection.

The intersection of Linn Avenue and Hood Street is a three-legged intersection controlled by a STOP sign on the westbound Hood Street approach. Each approach at the intersection consists of a single, shared lane for all turning movements.

A vicinity map showing the project site is provided below. Detailed site plans can be found in the appendix.

Trip Generation Analysis

To estimate the trip generation of the proposed development, trip rates from the *TRIP GENERATION MANUAL*, Ninth Edition, published by the Institute of Transportation Engineers (ITE), were used. Trip rates for land-use code 522, *Middle-Junior High School*, were referenced in projecting the trip generation of the modular classroom based on the area of the facility.

Upon completion of development at the middle school, the property is projected to generate a maximum increase of 8 trips during the morning peak hour with 4 trip entering and 4 trips exiting the site. During the evening peak hour, 2 new trips are anticipated with 1 trip entering and 1 trip exiting the site.

The table on the following page summarizes the trip generation for the proposed subdivision. Detailed trip generation calculations are included in the technical appendix.

Table 1: Trip Generation Summary

			AM Peak Hour			PM Peak Hour			Total
	ITE Code	Size	In	Out	Total	In	Out	Total	Daily
Proposed Development									
Modular Classroom	522	1,792 sf	4	4	8	1	1	2	24

Since the proposed modular classroom will generate fewer than 24 new trips during each of the peak hours and fewer than 250 daily trips, no analysis of nearby intersections is required per Oregon City standards. The traffic impacts resulting from the development or the proposed subdivision are projected to be negligible and no mitigations are recommended.

Driveway Width Standards

Per Oregon City standards, non-residential driveways must have a width of 15 to 40 feet. Although the Gardiner Middle School campus does not have driveways in the traditional sense, since the points of access are essentially extensions of the existing Ethel Street and Hood Street alignments without curb cuts, it was noted that the widths of the one-way street segments serving the school fall within the required driveway width standards, with Ethel Street having a width of approximately 33 feet and Hood Street having a width of approximately 35 feet. Accordingly, regardless of whether or not the curb cut width standards apply for this project, the standard is met.

Access Spacing Standards

Oregon City's Minimum Driveway Spacing Standards state that for Local Streets, a minimum distance of 25 feet is required between all proposed driveways and the nearest street corner, as measured from the near-side right-of-way at the intersecting street to the near side of the driveway. Additionally, a minimum distance of 25 feet is required between adjacent driveways serving uses other than single and two-family dwellings. The same standards apply with a minimum distance of 100 feet for streets classified as Collectors.

Both Ethel Street and Hood Street are classified as Local Streets. There are no proposed new driveways, and the existing driveways are spaced appropriate distances from street corners for their classifications. Based on the analysis, the city's access spacing standards are met and no mitigations are required.

Sight Distance

Intersection sight distance requirements were taken from *A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS*, published in 2011 by the American Association of State Highway and Transportation Officials (AASHTO). Sight distance requirements are based on an approaching driver's eye height of 3.5 feet above the road and an eye height of 3.5 feet with the driver's eye 15 feet behind the edge of the near-side travel lane.

Intersection sight distance standards are not directly applicable at the points of access to the school campus on Hood Street and Ethel Street since these roadways simply extend into the campus without curb cuts or conflict points. However, intersection sight distance was examined for the primary point of egress from the school campus on Ethel Street to Linn Avenue. Linn Avenue has a posted speed limit of 35 mph, requiring a minimum of 390 feet of intersection sight distance in each direction. Intersection sight distance was measured to be in excess of 390 feet in each direction from this location.

Based on the detailed analysis, adequate intersection sight distance is available for the proposed development and no mitigations are necessary or recommended.

Safety

Using data obtained from ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (2011-2015) at the study intersections was performed. Crash data was examined for the intersections of Ethel Street at Linn Avenue, Ethel Street at Leonard Street, Hood Street at Linn Avenue and Hood Street at Leonard Street.

Ethel Street at Linn Avenue had three reported crashes, two of which resulted in a report of "possible injury/complaint of pain". No specific crash patterns were noted, and no mitigations are necessary or recommended.

The intersection of Ethel Street at Leonard Street had no reported crashes during the five-year analysis period.

The intersection of Hood Street at Linn Avenue had four reported crashes, resulting in two reports of a "possible injury/complaint of pain". Again, the crash patterns are not indicative of any significant safety concerns, and no mitigation is recommended.

The intersection of Hood Street at Leonard Street had one reported crash, which resulted in two reports of "possible injury/complaint of pain".

Based on the crash data, the study area intersections are currently operating acceptably with respect to safety. Detailed crash data is included in the attached technical appendix.

Based on the review of the site layout, roadway speeds, and culture, no safety concerns were identified in association with the proposed development in regards to traffic calming.

Compliance with TSP and Applicable Standards

Based on a review of the city's Transportation System Plan, there are several proposed improvements in the site vicinity with regards to walking solutions. Leonard Street is planned for a family friendly route, including sidewalk infill on both sides of the street (project FF24). Ethel Street and Hood Street are also planned for sidewalk infill on both sides of the street (projects W58 and W60).

A multi-lane roundabout is also proposed for the nearby intersection of Linn Avenue/Leland Road at Warner Milne Road/Warner Parrott Road (project #D34). This project would be projected to improve operations of the intersection in the future and would not be projected to substantially impact the proposed project.

All of the proposed above-described proposed projects are currently listed as "not likely to be funded" in the Transportation System Plan, with designations of the projects as either "Long-Term Phase 3" or "Long-Term Phase 4".

Conclusions

The traffic impact on surrounding public intersections resulting from traffic generated by the proposed modular classroom is projected to be negligible. No operational mitigations are necessary or recommended.

All site access driveways meet the applicable Oregon City Private Access Driveway Width Standards and Access Spacing Standards.

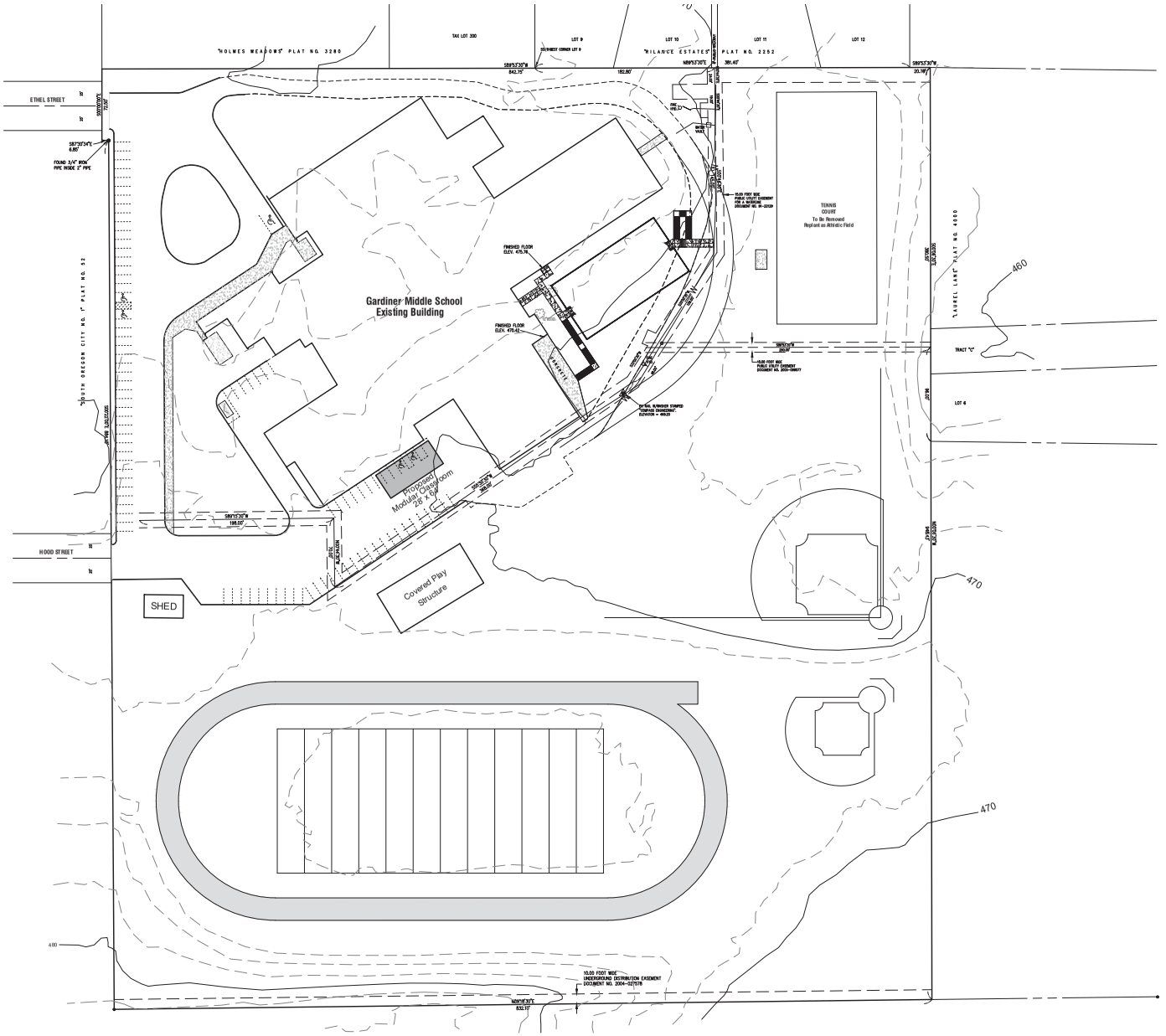
Based on the analysis, adequate intersection sight distance is available for safe egress from the school campus.

Based on the review of crash data, no significant existing crash hazards are evident in the site vicinity. No specific safety mitigations are necessary or recommended in conjunction with the proposed development.

Based on a review of the city's Transportation System Plan, there are currently no projects considered "likely to be funded" within the site vicinity.

If you have any questions, comments, or concerns regarding this report or if you need any further assistance, please don't hesitate to contact us.

APPENDIX



DESIGNED:	REG			
DRAWN:	REG			
SCALE:	1" = 50'			
DATE:	May 2017			
FILE:	17-OCS-100	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
18680 Sunblaze Dr.
Oregon City, OR 97045
PH: (503) 479-0097

APPLICANT: Oregon City Public Schools
1417 12th Street
Oregon City, OR 97045
PH: (503) 785-8421

Gardiner Middle School
Modular Classroom Project

SHEET: 1/1

TRIP GENERATION CALCULATIONS

Land Use: Middle School/Junior High School
Land Use Code: 522
Variable: 1000 Sq Ft Gross Floor Area
Variable Value: 1.79

AM PEAK HOUR

Trip Rate: 4.35

	Enter	Exit	Total
Directional Distribution	55%	45%	
Trip Ends	**4**	**4**	**8**

PM PEAK HOUR

Trip Rate: 1.19

	Enter	Exit	Total
Directional Distribution	52%	48%	
Trip Ends	**1**	**1**	**2**

WEEKDAY

Trip Rate: 13.78

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**12**	**12**	**24**

PM PEAK HOUR OF GENERATOR

Trip Rate: 2.52

	Enter	Exit	Total
Directional Distribution	45%	55%	
Trip Ends	**2**	**3**	**5**

Source: TRIP GENERATION, Ninth Edition

CITY OF OREGON CITY, CLACKAMAS COUNTY

ETHEL ST at LINN AVE, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 3

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W	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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00764	N	N	N	N	N		03/04/2011	16	ETHEL ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
CITY							FR	0	LINN AVE	CN		STOP SIGN	N	DRY	TURN		PRVTE	N -S								000	00
							12P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	41	M	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	E -S									015	00
																	PSNGR CAR		01	DRVR	INJC	53	M	OR-Y OR<25		028	000	02
04953	N	N	N				12/24/2011	16	ETHEL ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT							SA	0	LINN AVE	CN		STOP SIGN	N	DRY	ANGL		PRVTE	S -N								000	00
							11A			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	51	F	OR-Y OR<25		000	000	00
																02	NONE 0	STRGHT										
																	PRVTE	E -W									015	00
																	PSNGR CAR		01	DRVR	NONE	66	F	OR-Y OR<25		028	000	02
03810	N	N	N				10/07/2013	16	ETHEL ST	INTER	3-LEG	N	N	CLD	ANGL-OTH	01	NONE 0	TURN-L										02
NONE							MO	0	LINN AVE	CN		STOP SIGN	N	DRY	TURN		PRVTE	E -S								015	00
							4P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	52	F	OR-Y OR<25		028	000	02
																02	NONE 0	STRGHT										
																	PRVTE	N -S									000	00
																	PSNGR CAR		01	DRVR	NONE	61	M	OR-Y OR<25		000	000	00

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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

HOOD ST at LINN AVE, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 4

SER# / INVEST	SPEED	ALCOHOL	DRUGS	SCHL BUS	WORK ZONE	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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03206	N	N	N			08/30/2011	16	HOOD ST	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						TU	0	LINN AVE	N		UNKNOWN	N	DRY	REAR		PRVTE	N -S									000	00
						12P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	50	F	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																UNKN	N -S									011	00
																PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		000	000	00
00380	N	N	N			01/30/2015	16	HOOD ST	INTER	3-LEG	N	N	CLR	S-OTHER	01	NONE 0	TURN-R										06,08
NONE						FR	0	LINN AVE	S		UNKNOWN	N	DRY	TURN		PRVTE	S -E									000	00
						8A			06	0		N	DAY	PDO		SCHL BUS		01	DRVR	NONE	34	F	OR-Y OR<25		034,002	000	06,08
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		000	000	00
03299	N	N	N			09/05/2013	16	HOOD ST	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						TH	0	LINN AVE	CN		STOP SIGN	N	WET	TURN		PRVTE	S -N									000	00
						3P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	56	F	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	E -S									015	00
																PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		028	000	02
03772	N	N	N			09/14/2015	16	HOOD ST	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
UNK						MO	0	LINN AVE	CN		STOP SIGN	N	DRY	TURN		PRVTE	S -N									000	00
						8A			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	56	F	OR-Y OR<25		000	000	00
															01	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		02	PSNG	INJC	59	M			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	E -S									015	00
																PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		028	000	02

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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

HOOD ST at LEONARD ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 1

SER# / INVEST	S P E D	A L C	U G S	R H L	S C K	W O R	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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00596	N	N	N				02/16/2015	19	HOOD ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
NONE							MO	0	LEONARD ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	N -S									000	00
							10A			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y OR<25		021	000	03
																02	NONE 0	TURN-R										
																	PRVTE	W -S									000	00
																	PSNGR CAR		01	DRVR	INJC	31	F	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-R										
																	PRVTE	W -S									000	00
																	PSNGR CAR		02	PSNG	INJC	30	M			000	000	00

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From: Rogers, Wes
Sent: Wednesday, July 5, 2017 4:53 PM
To: Rick Givens
Subject: Fwd: June Rivercrest NA meeting

FYI.
.wes

---------- Forwarded message ----------
From: **Karin Morey** <karin.morey@gmail.com>
Date: Wed, Jul 5, 2017 at 4:10 PM
Subject: Re: June Rivercrest NA meeting
To: "Rogers, Wes" <wes.rogers@orecity.k12.or.us>

Yes - you made a presentation on the addition of two modular at Gardiner Middle School at our June 15, 2017 meeting.

Minutes attached for further confirmation.

On Jul 5, 2017 3:59 PM, "Rogers, Wes" <wes.rogers@orecity.k12.or.us> wrote:

> Karin, can you please reply to this e-mail with your confirmation that I made a presentation at the June 15th meeting concerning the new 2 classroom modular building being installed at Gardiner Middle School? thanks.
> ..wes
>
> --
> Wes Rogers, Director of Operations
> 503-785-8426
> wes.rogers@orecity.k12.or.us
> Oregon City School District
> PO Box 2110
> Oregon City, OR 97045

--
Wes Rogers, Director of Operations
503-785-8426
wes.rogers@orecity.k12.or.us
Oregon City School District
PO Box 2110
Oregon City, OR 97045

June 15th

Rivercrest N.A.

Name	Address	Phone &/or Email
Chris Hamper	829 Linn	(360)901-9217 chrishamper1@gmail.com
Patty Epperson	920 Promontory Ave	(503)380-1451 pepperson@hotmail.com
Sgt. DAVID EDWINS	320 WATERLEMILLE	503-793-4621
Wes & Colleen Ramsey	VINETT	
MIKE & ALICE NORRIS	141 OREGON	503-655-7765
FERRUCCIO & SHARON CROCETTI	420 Weleber	503-657-2578
WES ROGERS	OREGON CITY SCHOOL DISTRICT	906 SUMMIT ST O.C.
Velma Buttolph	250 Park dr.	503-656-5057
Vera Buttolph	" "	"
Marie McKnight	161 Bradley Ave OC	503 656-6435
Erlyn & Lesley Krueger	631 Charman St, OC	503-656-4916
FRED PULFORD	611 BRIGHTON AVE	503-217-0146
KEVIN POPPEN & CATHY POPPEN	222 PARK DR	503-655-3841
Jessica & Steven Rice	214 Park Dr	405-443-7273
Jonathan Waverly	500 Hilda St	503-519-0377

Neighborhood Meeting Summary

For Gardiner Middle School Modular Classroom

June 15, 2017

Wes Rogers, Director of Operations for Oregon City School District, attended the Rivercrest NA meeting on June 15, 2017. Mr. Rogers shared with those in attendance that an increase in Gardiner's enrollment for September 2017 necessitates the installation of a 2 classroom modular building. Several handouts were provided that showed where the modular would be located on the Gardiner MS campus and a picture of the exterior design for the modular building.

Mr. Rogers answered several questions from the audience and the presentation lasted approximately 15 minutes. Questions included:

1. Why is the enrollment increasing?
   Answer: Larger 5th grade classes are moving up to 6th grade and there has been some additional housing construction that has added to expected enrollment.
2. What about parking at the site?
   Answer: We will meet the requirements as specified by the Planning Department.

Rivercrest Neighborhood Association Minutes
General Meeting
□une 15, 2017, 7□00 PM
First Evangelical Presbyterian Church of Oregon City
Acting Chair□Nominee□Ed Lind□uist, Co-Chair□Karin Morey
Acting Secretary□Treasurer□Nominee□Violet Stephenson

21 members present □Sign □p Sheet attached□
Guests□
Sgt. David Edwins, OCPD
Kelly Reid, Oregon City Planning
Tony Konkol, City Manager
Wes Rogers, OCSD
□onathan 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 Lind□uist for Chair, nomination seconded and general membership voted unanimously to confirm. Ed Lind□uist 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 □□uasi-public.□ The City owns the property and this modification will allow for the Community Development and Planning department to move into the anne□ 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 e□pected to be impacted by this move. Kelly advised that after the application is submitted there will be public hearings scheduled and announced. E□pected timing for submission of application is □uly-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 e□pressed 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 re□uested 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 ne□t 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 re□uired. General discussion included parking challenges to an already tight parking area. Wes invited additional comments or □uestions and provided his contact information to members.

Jonathan Waverly, Oregon City Parks Department
Karin introduced □onathan and advised members that he attended at the re□uest of members to discuss safety and security concerns at Rivercrest Park. Specific discussion was focused on the re□uest for viability of a Park Host at Rivercrest. □onathan described current park host locations within the park system in Oregon City and presented some of the perceived challenges. After much discussion it was re□uested that more information or study be done to address the security and safety at Rivercrest and Waterboard, aka□□the Cross, the Bluff□ . □onathan reiterated Sgt. Edwins advice to make the calls to OCPD when witnessing any suspicious activities. Members re□uested additional wood chips be added to the dog disposal stand areas, re□uested 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 Lind□uist suggested a sub committee or task force may be helpful to further this discussion.

General Meeting Discussion/Action:

Karin Morey nominated Ed Lind□uist to be the back up representative to the Citizens Involvement Committee. He accepted and general membership approved.

Karin Morey presented the □uotes 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 re□uirement of □une 30, 2017. Both vendors operate in Oregon City.

Reminder announcement made about the RNA Annual BB□ □ Dessert Potluck□August 15 @ 5□30 pm. Picnic committee needs to meet to confirm plans. Reservation for shelter areas has been received.

□pcoming Meeting Dates□
Steering Committee- October 19
General Membership Meeting □ November 16

Meeting closed by Chair Ed Lind□uist at 9□00 pm.

June 15th

Rivercrest N.A.

Name	Address	Phone #/or Email
Chris Hemper	829 Linn	(360)901-9217 chrishemper@
Patty Epperson	320 Promontory Ave	(503) 380-1451 pepperdan56@
Sgt. David Edwins	520 Warner Milne	503-793-4621
Wes & Colleen Ramsey	VINET	
Mike & Alice Ellis	141 Center	503-655-7705
Ferruccio & Sharon Crocetti	420 Meleber	503-657-2578
Wes Rogers	Oregon City School District	906 Summit St O.C.
Delores Buttaph	250 Park St	503-656-5037
Vern Buttaph	" " "	
Maire McKnight	161 Barclay Ave. OC	503 656-6435
Ealy & Lesley Kanega	6031 Charman St OC	503-656-4916
Fred Pufahl	611 Brighton Ave	503-217-0116
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

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

November 9, 2017

Ms. Kelly Reid
City of Oregon City
PO Box 3040
Oregon City, OR 97045

SUBJECT: REVIEW OF TRANSPORTATION ANALYSIS LETTER – GARDINER MIDDLE SCHOOL EXPANSION – SP17-127

Dear Ms. Reid:

In response to your request, I have reviewed the materials submitted in support of the proposed expansion of the Gardiner Middle School. The school is located on the east side of Leonard Street between Williams Street and Ethel Street. The relevant materials consisted of the Transportation Analysis Letter (TAL) dated September 8, 2017 and the project narrative. The TAL was prepared under the direction of Michael Ard, PE of Lancaster Engineering.

The proposed school expansion would consist of the placement of a 1792 square-foot modular unit for additional classroom space on the campus.

The TAL provides an adequate basis upon which the proposal can be evaluated for transportation impacts.

Comments

1. ***Trip Generation.*** The TAL presents information on trip generation from the addition of 1792 square feet of classroom space. The trip generation rates were taken from the Institute of Transportation Engineers' *Trip Generation Manual* using land use category 522 – Middle/Junior High School. The additional classroom space is calculated to produce 8 new AM peak hour trips; 2 new PM peak hour trips; and 24 new weekday trips.

2. ***Access Locations.*** Access for the school is provided by the extension of Ethel and Hood Streets into the site. Access will not change due to the expansion.

3. ***Driveway Width.*** The existing accesses are extensions of Ethel and Hood Streets. The engineer reports that the widths of these streets are 33 and 35 feet, respectively, and that they meet city standards for width.

4. ***Intersection Spacing.*** The proposal does not change the access. Driveway and intersection spacing are appropriate.

5. ***Sight Distance.*** The engineer states that driveway sight distance standards are not really applicable since the site accesses are essentially extensions of Ethel and Hood Streets. I agree that sight distance is not an issue requiring further attention.

6. ***Safety Issues.*** The TAL included a crash summary for the intersections of Ethel Street at Linn Avenue, Ethel Street at Leonard Street, Hood Street at Linn Avenue and Hood Street at Leonard Street. Ethel Street at Linn Avenue had three reported crashes, two of which resulted in a report of "possible injury/complaint of pain." No specific crash patterns were noted, and no mitigations are necessary or recommended. I concur with the engineer's conclusions.

7. ***Consistency with the Transportation System Plan (TSP).*** The TAL summarizes proposed improvements in the vicinity from the TSP. Sidewalk infill is proposed for Leonard Street, Ethel Street and Hood Street. A multi-lane roundabout is also proposed for the nearby intersection of Linn Avenue/Leland Road at Warner Milne Road/Warner Parrott Road (project #D34). All of the proposed above-described proposed projects are currently listed as "not likely to be funded" in the Transportation System Plan, with designations of the projects as either "Long-Term Phase 3" or "Long-Term Phase 4." The proposal does not provide additional justification for any of these projects.

8. ***Conditions of Approval from Prior Expansion.*** Conditions of approval for the prior conditional use permit application in 2012 included encouraging staff to use the south parking lot and improving the loop drive frontage to improve pick-up and drop-off operations. The applicant explains in the project narrative that both have been accomplished. While I cannot confirm the staff use of the south parking lot, I did observe operations of the school driveway during a site visit during October 2017. I was able to verify the use of signs described by the applicant. I did not observe any deficiencies related to operations.

Conclusion and Recommendations

I find that the TIS provides an adequate basis upon which to assess the impacts of the proposed school expansion. I find no need for mitigation to address traffic impacts from the proposed expansion.

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\SP17-127

City of Oregon City

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

Staff Report

File Number: PC 17-143

Agenda Date: 11/27/2017

Status: Agenda Ready

To: Planning Commission

Agenda #: 4b.

From: Christina Robertson-Gardiner

File Type: Planning Item

SUBJECT:
AN 17-01, ZC 17-03, and TP 17-07: Annexation of a 6.33 acre property into the city limits of Oregon City, Zone Change from Clackamas County Future Urban 10-Acre (FU-10) to "R-6" Single-Family Dwelling District, and a Subdivision of 28 lots.

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

BACKGROUND:
This is an application for an Annexation, Zone Change to R-6 and a 28-lot Subdivision (Lindsay Anne Estates Too) in the City of Oregon City for the future construction of single-family detached residential homes.

The essential components of this subdivision are:

- 28 lots for the future construction of single-family detached homes consistent with the adjoining community to the south
- An interconnected pedestrian and vehicular circulation system
- Creation of a cohesive neighborhood with the continuation of Cedarwood Way and Cherrywood Way from the adjoining Lindsay Anne Estates Subdivision to the southeast, through the project site connecting to the project's new east/west local street extending from S Leland Road
- An integrated on-site stormwater management system including street side vegetated filtration swales and flow control.

The property has a Low Density Residential Comprehensive Plan designation. This application is being submitted to: 1) Annexing to the City, and 2) apply the City's R-6 zoning designation to the property.

According to the Applicants the factors that support approval of this application are as follows:

- Application of the R-6 zoning district is consistent with the City's Low Density Residential Comprehensive Plan designation

- The property is mapped by the City as unconstrained vacant land, free of natural hazards, flood plains or other similar impediments to future residential use and has been within the Urban Growth Boundary (UGB) since it was established by Metro in 1979.
- The property has convenient access to and is efficiently served by all necessary public services and utilities including water, sanitary sewer, storm drainage, schools, access/transportation, police, fire protection, etc.

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

FILE NUMBER: Annexation: AN 17-03

APPLICANT: PDX Development, Inc.
P.O. Box 2559
Oregon City, OR 97045

OWNER: Bruce Raymond Miller and Shelly Alane Miller
Trustees of the Bruce and Shelly Miller Revocable Living Trust
19701 S Leland Road
Oregon City, OR 97045

REQUEST: The applicant is seeking approval for the Annexation of a 6.33 acre property into the city limits of Oregon City. The site is within the Oregon City Urban Growth Boundary and has a Comprehensive Plan designation of Low Density Residential. The applicant is additionally seeking approval for a Zone Change from Clackamas County Future Urban 10-Acre (FU-10) Zone to "R-6" Single-Family Dwelling District and a Subdivision of 28 lots, w/ one Stormwater Facility Tract.

LOCATION: 19701 S Leland Road, Oregon City, OR 97045
Map: 32E18, Tax Lot 1400

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

RECOMMENDATION: Approval.

PROCESS: Pursuant to OCMC Chapter 14.04. *City Boundary Changes and Extension of Services.* The procedure for review of annexations is governed by State Law and Oregon City Code Chapter 14.04.
The public hearing process is governed by OCMC 14.04 and 17.50. The planning commission shall conduct a public hearing in the manner provided by OCMC Section 17.50.170(B) to evaluate the proposed annexation and make a recommendation to the city commission regarding how the proposal has or has not complied with the factors set forth in Section 14.04.060. The planning commission shall provide findings in support of its recommendation. Upon receipt of the planning commission's recommendation, the city commission shall hold a public hearing in the manner provided by OCMC Section 17.50.170(C).

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The applicant and all documents submitted by or on behalf of the applicant are available for inspection at no cost at the Oregon City Planning Division, 221 Molalla Avenue, Oregon City, Oregon 97045, from 8:30am to 3:30pm Monday thru Friday. The staff report, with all the applicable approval criteria, will also be available for inspection 7 days prior to the hearing. Copies of these materials may be obtained for a reasonable cost in advance. Please be advised that any issue that is intended to provide a basis for appeal must be raised before the close of the Planning Commission hearing, in person or by letter, with sufficient specificity to afford the Planning Commission and the parties an opportunity to respond to the issue. Failure to raise an issue with sufficient specificity will preclude any appeal on that issue. The Planning Commission shall make a recommendation to the City Commission as to whether the application has or has not complied with the factors set forth in section 14.04.060 of the Oregon City Municipal Code. The City Commission decision is appealable to LUBA within 14 days of issuance of the Notice of Decision.

PROPOSAL NO. AN-17-03 - CITY OF OREGON CITY - Annexation

Property Owners / Voters: Bruce Raymond Miller and Shelly Alane Miller
Trustees of the Bruce and Shelly Miller Revocable Living Trust
19701 S Leland Road
Oregon City, OR 97045

Applicant(s): PDX Development, Inc.
P.O. Box 2559
Oregon City, OR 97045

Proposal No. AN 17-03 is a single tax lot annexation initiated by consent petitions of a double majority of the property owners and registered voters. The petition meets the requirement for initiation set forth in ORS 222.170 (2) (double majority annexation law) and Metro Code 3.09.040 (a) (Metro's minimum requirements for a petition).

Under the City's Code the Planning Commission reviews annexation proposals and makes a recommendation to the City Commission. If the City Commission decides the proposed annexation should be approved, the City Commission may approve this annexation by resolution.

If a necessary party raises concerns prior to or at the City Commission's public hearing, the necessary party may appeal the decision to the Land Use Board of Appeals.

The territory to be annexed is located in the Hazel Grove/Westling Farms area of the City near Wesley Linn Park. The subject property is approximately ±6.33 acres of generally flat underdeveloped land currently located within the jurisdiction of Clackamas County and zoned FU-10. The property is occupied by an existing single-family detached home and outbuildings situated adjacent to other underdeveloped land to the northwest also located in Clackamas County. The current estimated assessed value in 2017 of $226,256.00.

The scope of this report is limited to the proposed Annexation.

Zoning

The applicant is concurrently applying for a 28-lot subdivision and rezone to R-6 upon annexation (ZC 17-03, TP 17-07). Re-zoning following annexation is permitted under OCMC 17.68. If the Planning Commission or City Commission determines that the criteria for Zone change under OCMC 17.68 cannot be met, the subject site shall annex at R-10.

REASON FOR ANNEXATION

The owner would be able to receive city services, including specifically, sanitary sewer connection, water system connection, and storm water services, development opportunity as well as the full range of administrative and municipal services provided upon annexation to the City. The property is within 300 feet of a city sanitary sewer system and by Oregon Revised Statute, it must be connected to the city sewer service if new development is proposed.

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.

Two public comments have been received for the combine applications (AN 17-01, ZC 17-03, TP 17-07) and response are also included in both staff reports.

Mysha Angel-12747 Lindsey Anne Lane- The application was originally noticed to be heard at the November 13, 2017 Planning Commission meeting, but was continued to November 27, 2017. Ms Angel attended and provided comment at the meeting. She did not support the application and felt that the views and open space of the property should be protected.

Staff Response: This property is within the urban growth boundary and is adjacent to the city limits and existing residential development and has a county zone of FU10- future development. The reports analyze the project for compliance with the applicable standards.

Jamin Moore: Mr. Moore cited 12.04.199 - Pedestrian and bicycle accessways and 12.04.245 - Street design—Pedestrian and bicycle safety as a reason to deny the application because the proposal did not provide adequate sidewalk or pedestrian access to Wesley Lynn Park. He additionally felt that the zone change necessitated dedication of a park onsite to serve the residents coupled with the upcoming construction of the acessway at Wesley Lynn Park which he believed effectively reduced the size of the park.

Staff Response: Residents of the new subdivision will access Wesley Lynn Park via Leland Road and Jessie Avenue. While Jessie Avenue was constructed in the 1960s without sidewalks, it is a local street. The stretch of Leland Road below has either sidewalk or protected shoulder access along much of its frontage. The Transportation Advisory Committee (TAC) will continue to monitor this intersection for a future crosswalk as they have done at Leland and Reddaway to see when adequate street lights and street conditions make a controlled crossing a safe option.

The zone change and subdivision criteria do not provide an avenue for requiring onsite private parks. Each new housing unit will pay parks System Development Charges (SDCs) for future park

LAND USE PLANNING

SITE CHARACTERISTICS

The property gently slopes south at less than 5 percent. The applicant would be able to connect to the city sewer main system that passes along the south edge of the property with a service line. The site is a residential parcel with a few scattered trees around the existing house and outbuilding. The property is in the South End Drainage Basin.

REGIONAL PLANNING

General Information

This territory is inside Metro's jurisdictional boundary and inside the regional Urban Growth Boundary (UGB).

Metro Boundary Change Criteria – Chapter 3.09

The Legislature has directed Metro to establish criteria that must be used by all cities within the Metro boundary. The Metro Code states that a final decision shall be based on substantial evidence in the record of the hearing and that the written decision must include findings of fact and conclusions from those findings. The Code requires these findings and conclusions to address the following minimum criteria:

1. Consistency with directly applicable provisions in ORS 195 agreements or ORS 195 annexation plans.

2. Consistency with directly applicable provisions of urban planning area agreements between the annexing entity and a necessary party.

3. Consistency with directly applicable standards for boundary changes contained in Comprehensive land use plans and public facility plans.

4. Consistency with directly applicable standards for boundary changes contained in the Regional framework or any functional plans.

5. Whether the proposed boundary change will promote or not interfere with the timely, orderly and economic provision of public facilities and services.

6. Consistency with other applicable criteria for the boundary change in question under state and local law.

Consistency with the County and urban service provider planning agreements along with the timely, orderly and economic provision of public services as required by the Metro Code are discussed in greater detail below.

The Metro Code also contains a second set of 10 factors that are to be considered where: 1) no ORS 195 agreements have been adopted, and 2) a necessary party is contesting the boundary change. Those 10 factors are not applicable at this time to this annexation because no necessary party has contested the proposed annexation.

REGIONAL FRAMEWORK PLAN

The law that requires Metro to adopt criteria for boundary changes specifically states that those criteria shall include " . . . compliance with adopted regional urban growth goals and objectives, functional plans . . . and the regional framework plan of the district [Metro]." The Growth Management Functional Plan was reviewed and found not to contain any criteria directly applicable to boundary changes. The Regional Framework Plan was reviewed and found not to contain specific criteria applicable to boundary changes.

CLACKAMAS COUNTY PLANNING

The Metro Code states that the Commission's decision on this boundary change should be ". . . consistent with specific directly applicable standards or criteria for boundary changes contained in comprehensive land use plans, public facility plans, . . "

The Clackamas County Comprehensive Plan is the currently applicable plan for this area. The plan designation for this site is Low Density Residential (LR) on the County's Oregon City Area Land Use Plan (Map IV-5).

The County Zoning on the property is FU-10. The FU-10 zone means a 10-acre minimum lot size. This is a holding zone to prevent the creation of small parcels in areas within the UGB to preserve the capacity of land to fully develop once a full range of urban services is available. Lands located outside areas having sanitary sewer service available were designated Future Urbanizable.

Clackamas County Zoning and Development Ordinance (ZDO) section 314.02 provides that the Future Urban 10-Acre District is applied to those areas designated as Future Urban by Chapter 4 of the Clackamas County Comprehensive Plan.

The *Land Use* section of the Plan, Chapter 4, identifies the territory proposed for annexation as *future urban,* which are defined as:

> *"Future urban areas are lands within urban growth boundaries but outside immediate urban areas. Future urban areas are planned to be provided with public facilities, but currently lack providers of those facilities. Future urban areas are substantially underdeveloped and will be retained in their current use to ensure future availability for urban needs. Future urban areas are planned for urban uses but zoned for large-lot, limited development.*

Urban Growth Management Agreement

The City and the County have an Urban Growth Management Agreement (UGMA), which is a part of their Comprehensive Plans. The territory to be annexed falls within the Urban Growth Management Boundary (UGMB) identified for Oregon City and is subject to the agreement. The County agreed to adopt the City's Comprehensive Plan designations for this area that is Low Density Residential. Consequently, when property is annexed to Oregon City, it may receive a City planning designation by default, which is R-10 single-family dwelling district.

The applicant also wishes to receive R-6 zoning following annexation. The criteria for rezone can be found in Planning File no. ZC 17-02/ TP 17-07.

The Agreement presumes that all the urban lands within the UGMB will ultimately annex to the City. It specifies that the city is responsible for the public facilities plan required by Oregon Administrative Rule Chapter 660, division 11. The Agreement goes on to say:

4. City and County Notice and Coordination

** * **

D. The CITY shall provide notification to the COUNTY, and an opportunity to participate, review and comment, at least 20 days prior to the first public hearing on all proposed annexations . . .

** * **

5. City Annexations

A. CITY may undertake annexations in the manner provided for by law within the UGMB. CITY annexation proposals shall include adjacent road right-of-way to properties proposed for annexation. COUNTY shall not oppose such annexations.

B. *Upon annexation, CITY shall assume jurisdiction of COUNTY roads and local access roads that are within the area annexed. As a condition of jurisdiction transfer for roads not built to CITY street standards on the date of the final decision on the annexation, COUNTY agrees to pay to CITY a sum of money equal to the cost of a two-inch asphaltic concrete overlay over the width of the then-existing pavement; however, if the width of pavement is less than 20 feet, the sum shall be calculated for an overlay 20 feet wide. The cost of asphaltic concrete overlay to be used in the calculation shall be the average of the most current asphaltic concrete overlay projects performed by each of CITY and COUNTY. Arterial roads will be considered for transfer on a case- by-case basis. Terms of transfer for arterial roads will be negotiated and agreed to by both jurisdictions.*

C. Public sewer and water shall be provided to lands within the UGMB in the manner provided in the public facility plan . . .
* * *

The required notice was provided to the County at least 20 days before the Planning Commission hearing. The agreement requires that adjacent road rights-of-way be included within annexations. Leland Road abuts the site and is within the jurisdiction of Clackamas County and will remain so after this annexation occurs.

CLACKAMAS RIVER WATER

Clackamas River Water (CRW) is currently serving 19701 S Leland Road with the following infrastructure within the public right-of-way with a 1960 era 6-inch steel waterline located within S Leland Rd Road. CRW has determine that this line should be abandoned

It is anticipated as the Leland Road area develops, water service will be through the Oregon City system. CRW is requesting the following service modifications to minimize future impacts:

TP 17-07 Subdivision Conditions of Approval
As part of the subdivision approval (TP 17-07), the applicant will install a 1-inch service connection for future ¾" water meter at:
1. 19695 S Leland Road – locate in future right-of-way at lot 12 or 13.
2. 19634 S Leland Road – locate at or near existing service.
3. 19646 S Leland Road – locate at or near existing service.
4. 19658 S Leland Road – locate at or near existing service.
5. 19717 S Leland Road – locate at or near existing service.

b. CRW will be financially responsible for those services not impacted by the development and located outside the City limits.
c. CRW will coordinate with the City of Oregon City on the S Leland Rd construction plan review regarding the transferring or abandonment of water services.

a. The applicant shall provide on the final subdivision plat any access or utility easements for the benefit of 19695 S Leland Rd.

Outside of the Subject Land Use process (AN 17-03, AC 17-03, TP 17-07)
CRW and Oregon City will negotiate at a later date a Joint User Agreement as the Oregon City area annexes and develops within the Urban Growth Area.

Tri-City Sewer District

The property at 19701 S Leland Road is not within the Tri City Service District (TCSD) and will be required to annex into TCSD to receive sanitary sewer service. Upon annexation approval, the applicant shall commence a separate annexation process. An application packet is attached as Exhibit 4

CITY OF OREGON CITY MUNICIPAL CODE
Title 14 – ANNEXATIONS
Chapter 14.04: CITY BOUNDARY CHANGES AND EXTENSION OF SERVICES

14.04.050 Annexation procedures.

A. Application Filing Deadlines. Annexation elections shall be scheduled for March, May, September and November of each year. Each application shall first be approved by the city commission, which shall provide a valid ballot title in sufficient time for the matter to be submitted to the voters as provided by the election laws of the state of Oregon.
Finding: Complies as Proposed. In accordance with Senate Bill 1573, which went into effect March 16, 2016 and, "applies to a city whose laws require a petition proposing annexation of territory to be submitted to the electors of the city," the following criteria found in Section 2 and 3 of Senate Bill 1573 have been addressed to determine the territory's support for annexation.

Section 2. (2)
Notwithstanding a contrary provision of the city charter or a city ordinance, upon receipt of a petition proposing annexation of territory submitted by all owners of land in the territory, the legislative body of the city shall annex the territory without submitting the proposal to the electors of the city if:
(a) The territory is included within an urban growth boundary adopted by the city or Metro, as defined in ORS 197.015
Finding: Complies as Proposed. 100% of the land owners have signed the annexation petition. This petition is included in the application materials, which has been certified by the Clackamas County Assessor's Office. The territory is included within the Portland Metropolitan UGB.

(b) The territory is, or upon annexation of the territory into the city will be, subject to the acknowledged comprehensive plan of the city.

Finding: Complies as Proposed. The subject property currently has an Oregon City Comprehensive Plan designation of Low Density Residential (LR), which includes the R-10, R-8, and R-6 zoning districts. Upon approval of this annexation and concurrent zone change application, the subject property is to be rezoned from the County's FU-10 zone to the City's R-6 zone, which is consistent with the City's LR Comprehensive Plan designation.

(c) At least one lot or parcel within the territory is contiguous to the city limits or is separated from the city limits only by a public right of way or a body of water.
Finding: Complies as Proposed. As shown on the preliminary plans, and the certified legal description and map included in the application materials, the subject property's southeast property line is contiguous to City limits.

(d) The proposal conforms to all other requirements of the city's ordinances.
Finding: Complies as Proposed. All required information, forms, and documents found in Oregon City's "Annexation Application Submittal Checklist" have been included in the application materials.

Section 2. (3)
The territory to be annexed under this section includes any additional territory described in ORS 222.111 (1) that must be annexed in order to locate infrastructure and right of way access for services necessary for development of the territory described in subsection (2) of this section at a density equal to the average residential density within the annexing city.
Finding: Complies as Proposed. The territory to be annexed includes territory that must be annexed in order to locate future infrastructure and right-of-way access for services necessary for the territory to meet density equal to the average residential density within Oregon City per the R-6 zoning designation. Access is available from S Leland Road and abutting street stubs (Cedarwood Way and Cherrywood Way), and City services are available.

Section 2. (4)
When the legislative body of the city determines that the criteria described in subsection (2) of this section apply to territory proposed for annexation, the legislative body may declare that the territory described in subsections (2) and (3) of this section is annexed to the city by an ordinance that contains a description of the territory annexed.
Finding: Complies as Proposed. A legal description and map for the subject property planned for annexation prepared by a Professional Land Surveyor and certified by the Clackamas County Assessor's Office is included in the application materials.

This 2016 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2016 Act takes effect on its passage.
Finding: Complies as Proposed. Senate Bill 1573 was signed by the Governor and became effective on March 15, 2016.

B. Preapplication Review. Prior to submitting an annexation application, the applicant shall confer in the manner provided by Section 17.50.050(A) with the representative of the planning division appointed by the city manager.

Finding: Complies as Proposed. A pre-application conference was held by the City March 8, 2017. Copies of the City's Pre-Application Conference Meeting Notes have been included in the application materials.

C. Neighborhood Contact. Prior to filing an annexation application, the applicant is encouraged to meet with the city-recognized neighborhood association or associations within which the property proposed to be annexed is located. If the city manager deems that more than one such association is affected, the applicant is encouraged to meet with each such association, as identified by the city manager. Unwillingness or unreasonable unavailability of a neighborhood association to meet shall not be deemed a negative factor in the evaluation of the annexation application.
Finding: Complies as Proposed. A neighborhood meeting with the Hillendale and Tower Vista Neighborhood Association was held on June 6, 2017. The required neighborhood meeting materials have been included in the application materials. This standard is met.

D. Signatures on Consent Form and Application. The applicant shall sign the consent form and the application for annexation. If the applicant is not the owner of the property proposed for annexation, the owner shall sign the consent form and application in writing before the city manager may accept the same for review.
Finding: Complies as Proposed. The appropriate consent form and annexation application have been signed by 100% of the property owners, a copy of which has been included in the application materials.

E. Contents of Application. An applicant seeking to annex land to the city shall file with the city the appropriate application form approved by the city manager. The application shall include the following:

1. Written consent form to the annexation signed by the requisite number of affected property owners, electors or both, provided by ORS 222, if applicable;
Finding: Complies as Proposed. The appropriate consent form and annexation application have been signed by 100% of the property owners. Copies of the signed consent form and application have been included in the application materials.

2. A legal description of the territory to be annexed, meeting the relevant requirements of the Metro Code and ORS Ch. 308. If such a description is not submitted, a boundary survey may be required. A lot and block description may be substituted for the metes and bounds description if the area is platted. If the legal description contains any deed or book and page references, legible copies of these shall be submitted with the legal description;
Finding: Complies as Proposed. A copy of the certified legal description and map for the subject property to be annexed has been included in the application materials. This standard is met.

3. A list of property owners within three hundred feet of the subject property and, if applicable, those property owners that will be "islanded" by the annexation proposal, on mailing labels acceptable
to the city manager;

Finding: Complies as Proposed. A list of property owners within a 300-foot radius of the subject property, including appropriate mailing labels have been included in the application materials. This standard is met.

4. Two full quarter-section county tax assessor's maps, with the subject property(ies) outlined;
Finding: Complies as Proposed. Two full quarter-section County Tax Assessor's Maps with the subject property outlined on each map have been included in the application materials. This standard is met.

5. A site plan, drawn to scale (not greater than one inch = fifty feet), indicating:
a. The location of existing structures (if any);
b. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed;
c. The location and direction of all water features on and abutting the subject property. Approximate location of areas subject to inundation, stormwater overflow or standing water. Base flood data showing elevations of all property subject to inundation in the event of one-hundred-year flood shall be shown;
d. Natural features, such as rock outcroppings, marshes or wetlands (as delineated by the Division of State Lands),wooded areas, identified habitat conservation areas, isolated preservable trees (trees with trunks over six inches in diameter—as measured four feet above ground), and significant areas of vegetation;
e. General land use plan indicating the types and intensities of the proposed, or potential development;
Finding: Complies as Proposed. Preliminary Plans containing the information required by these criteria have been included in the application materials.

6. If applicable, a double-majority worksheet, certification of ownership and voters. Certification of legal description and map, and boundary change data sheet on forms provided by the city.
Finding: Complies as Proposed. This application is using the Petition of Owners of 100% of Land Area method of annexation, not the double majority method. Valid forms contained in Oregon City's Annexation Application Packet certifying the petition, legal description, and map have been included in the application materials. A boundary data sheet has also been included in the application materials.

7. A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:
a. Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;
Finding: Complies as Proposed. A narrative was submitted.

Water Facilities -Availability
The subject property is currently within Clackamas River Water (CRW) District and served by the CRW's 6-inch water main located in the S Leland Road right-of-way. A separate 12-

inch City water main is also located within the S Leland Road right-of-way approximately 120 feet southeast of the subject property. In addition, existing 8-inch water mains are located in both Cedarwood Way and Cherrywood Way abutting the subject property to the southeast from the existing Lindsay Anne Estates Subdivision.

Water Facilities -Capacity
Based upon discussions with City staff, the City's Water Master Plan, and the Public Facilities Memorandum included in the application materials, no known capacity or pressure issues exist in the vicinity.

Water Facilities -Status
The subject property is currently within the Clackamas River Water (CRW) District and is served by the CRW's 6-inch water main located in the S Leland Road right-of-way. The subject property is also easily served by City water as described above. The Public Facilities Memorandum included in the application materials discusses adequacy of public facilities.

Sanitary Sewer Facilities- *Availability*
The existing residence located on the subject property is served by a private septic system. Tri-City Service District provides wastewater treatment for the City of Oregon City. The Applicant plans to file the appropriate documents for annexation into the Tri-City Service District following successful annexation of the property to the City, however, sewer connections are not planned with this application. The City of Oregon City currently operates the sanitary sewer collection system in this area, which connects to the Tri-City Service District interceptor. An existing 8-inch sanitary sewer main is located within the S Leland Road right-of-way approximately 120 feet southeast of the subject property. Additionally, existing 8-inch sanitary sewer mains are located in Cedarwood Way and Cherrywood Way of the adjoining Lindsay Anne Estate Subdivision to the southeast.

Sanitary Sewer Facilities- *Capacity*
Based upon discussions with City staff, the City's Sanitary Sewer Master Plan, and the Public Facilities Memorandum included in the application materials, no known capacity or pressure issues exist in the vicinity. The applicant's engineer has provided a memorandum dated November 13, 2017 evaluating the capacity of the City's sanitary system per the 2014 master plan flow demand methodology. Staff has reviewed the evaluation and concurs that there is adequacy in the system to serve the proposed development.

Sanitary Sewer Facilities- *Status*
As noted above, the Applicant plans to file the appropriate documents for annexation into the Tri-City Service District, following successful annexation of the subject property into the City.

Storm Drainage Facilities-Availability
Existing 12-inch storm lines are located directly to the southeast within the rights-of-way of Cedarwood Way and Cherrywood Way, the two separate stub streets located within the abutting Lindsay Anne Estates Subdivision. An existing 12-inch storm line is also located

within the S Leland Road right-of-way approximately 120 feet southeast of the subject property.

Storm Drainage Facilities -Capacity
Based upon comments received from City staff, and the Public Facilities Memorandum included in the application materials, no known stormwater capacity issues exist in the vicinity.

Storm Drainage Facilities -Status
Upon annexation, the property will be subject to the City's Stormwater and Grading Design Standards.

Transportation Facilities -*Availability*
The subject property is currently accessed by way of an existing private driveway from S Leland Road. S Leland Road is classified as a minor arterial street controlled by Clackamas County. Cedarwood Way and Cherrywood Way (local streets) are stubbed to the subject property from the adjacent Lindsay Anne Subdivision to the southeast.

Transportation Facilities- Capacity
Successful annexation of the subject property will not create any increase in service demands to transportation facilities. A Traffic Impact Study (TIS), which includes a Transportation Planning Rule (TPR) analysis, has been prepared by a registered professional traffic engineer based upon a scope of work provided by the City's traffic engineering consultant. The TIS includes trip generation estimates for the existing FU-10 zoning designation, the planned R-6 zoning designation, 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). The TIS concludes that study area intersections operate acceptably through the planning horizon, and that the annexation and zone change of the subject property will not significantly affect the City's transportation system. No mitigation has been recommended, and the Transportation Planning Rule is therefore satisfied. Please see the TIS included in the application materials for additional information.

Park Facilities -Availability
The closest park to the subject property is Wesley Lynn Park, approximately ±540 feet to the northeast. The annexation application, by itself, will not impact the existing parks in the area.

Park Facilities -Capacity
Annexation of the subject property will not affect the capacity of park facilities. *Park*

Park Facilities -Status
The subject property is not adjacent to existing park facilities, and the annexation application will not impact the existing parks in the area.

School Facilities -Availability

The subject property is currently served by the Oregon City School District. Annexation of the subject property to the City would have no impact on the School District. The subject property is located within approximately one (±1) mile of Gaffney Lane Elementary School to the east, and John McLoughlin Elementary School to the northwest; less than two (±2) miles from Gardiner Middle School to the northeast; roughly four (±4) miles from Oregon City High School, and two and a half (±2½) miles from Clackamas Community College to the east.

School Facilities -Capacity
Oregon City School District Superintendent, Wes Rogers attended the pre-application conference for this application. The annexation/zone change application was discussed along with potential future re-development of the subject property at R-6 residential densities.

School Facilities -Status
The responses to the availability, capacity, and status of existing water, sewer, storm drainage, transportation, park, and school facilities of the annexation of the subject property meet the above standard.

b. Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;
Finding: Complies as Proposed.

Water Facilities
Annexation to the City as provided for in this application will not create an increased demand for water facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity as conditioned in ZC 17-03/TP 17-07, to satisfy potential increased demand to the public water system at R-6 residential densities.

Sanitary Sewer Facilities
Annexation to the City as provided for in this application will not create an increased demand for sanitary sewer facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. The proposed change to a higher density zoning will create a slightly increased demand on the sanitary sewer system. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand, as conditioned in ZC 17-03/TP 17-07, to the public sanitary sewer system at R-6 residential densities. The applicant's engineer has provided a memorandum dated November 13, 2017 evaluating the capacity of the City's sanitary system per the 2014 master plan flow demand methodology. Staff has reviewed the evaluation and concurs that there is adequacy in the system to serve the proposed development.

Storm Drainage Facilities
Annexation to the City as provided for in this application will not create an increased demand for storm drainage facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity as conditioned in ZC 17-03/TP 17-07, to satisfy potential increased demand to the public storm drainage system at R-6 residential densities.

Transportation Facilities
Annexation to the City as provided for in this application will not create an increased demand for transportation facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public transportation system at R-6 residential densities.

Park Facilities
Annexation to the City as provided for in this application will not create an increased demand for park facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public parks system at R-6 residential densities.

School Facilities
Annexation to the City as provided for in this application will not create an increased demand for school facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public school system at R-6 residential densities.

c. Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;
Finding: Complies as Proposed. No additional facilities are required for this application.

Water Facilities
The subject property is currently within the Clackamas River Water (CRW) District. Annexation of the subject property to the City of Oregon City would not cause increased demand on water services. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application. Potential future redevelopment of the property at R-6 residential densities was discussed with City staff and CRW at the pre-application conference required for this application. Based on this conversation, written information provided by City and CRW staff, and previous experience

with recent projects in the area, it is understood that the City of Oregon City will be the ultimate provider of water service in this area and that sufficient capacity exists to serve the property at R-6 residential densities. This is summarized in the Public Facilities Memorandum that is included in the application materials. It is also understood that potential future water main extensions are subject to compliance with applicable City design standards (and necessary permits), and that service connections to the City system are also subject to payment of required City fees (that fund plan review and inspections) and SDC's which provide funding for necessary City water system infrastructure capacity improvements.

Sanitary Sewer Facilities

The existing residence located on the subject property is served by an on-site private septic system. It is understood that the ultimate provider for public sanitary sewer service is the City of Oregon City, whose system transports wastewater to the Tri-City Service District treatment plant (operated by Clackamas County Water Environment Services). Annexation of the subject property to the City of Oregon City would not cause increased demand on the existing septic system or the City Sanitary Sewer System. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on this conversation, written information provided by City staff, and previous experience with recent projects in the area, it is understood that sufficient capacity exists to serve the property at R-6 residential densities. This is summarized in the Public Facilities Memorandum that is included in the application materials. The applicant's engineer has provided a memorandum dated November 13, 2017 evaluating the capacity of the City's sanitary system per the 2014 master plan flow demand methodology. Staff has reviewed the evaluation and concurs that there is adequacy in the system to serve the proposed development.

It is also understood that potential future sanitary sewer system infrastructure improvements would be subject to compliance with applicable City design standards (and necessary permits), and that service connections to the City system are also subject to payment of required City fees (that fund plan review and inspections) and System Development Charges (SDCs) which provide funding for necessary City sanitary sewer system infrastructure capacity improvements.

Storm Drainage Facilities

The property is over 6 acres, there is limited impervious areas, and the existing home was built in 1909. It is understood that the ultimate provider for public stormwater management service is the City of Oregon City. Annexation of the subject property to the City of Oregon City would not cause increased demand on the City stormwater management system. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on this conversation, the written information provided by City staff, and previous experience with recent projects in the area, it is understood that sufficient capacity exists to serve the property at R-6 residential densities. This is summarized in the Public Facilities Memorandum that is included in the application materials.

It is also understood that potential future stormwater management system infrastructure improvements would be subject to compliance with applicable City design standards (and necessary permits), and that service connections to the City system are also subject to payment of required City fees (that fund plan review and inspections) and SDC's which provide funding for necessary City stormwater management system infrastructure capacity improvements.

Transportation Facilities

The subject property fronts on S Leland Road, which is a Clackamas County arterial roadway. Annexation of the subject property to the City of Oregon City would not cause increased demand on the County/City management system. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on that conversation, a Traffic Impact Analysis has been prepared and is included in the application materials. The Traffic Impact Analysis includes a Transportation Planning Rule Analysis which analyzes capacity at certain intersections for the 20-year planning horizon as required by Oregon State Administrative Rule (OAR) 660-012-060). The analysis found that study area intersections operate acceptably through the planning horizon with the annexation and zone change.

It is also understood that potential future transportation management system infrastructure improvements would be subject to compliance with applicable City and County design standards (and necessary permits), and are also subject to payment of required City fees (that fund plan review and inspections) and SDC's which provide funding for necessary transportation system infrastructure capacity improvements.

Park Facilities

Wesley Lynn Park, is located approximately ±540 feet to the northeast of the subject property. It is understood that the ultimate provider for park services is the City of Oregon City. Annexation of the subject property to the City of Oregon City would not cause increased demand on the City's parks system. In fact, once the property is annexed, taxes (including those that support parks) would be assessed and collected by the City.

Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application. Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference

required for this application. Based on this conversation, the written information provided by City staff, and previous experience with recent projects in the area, it is understood that sufficient capacity exists to serve the property at R-6 residential densities. It is also understood that potential future SDC's and property taxes would provide funding for necessary City parks system improvements.

The subject property is located within the Oregon City School District. Annexation of the subject property to the City of Oregon City would not cause increased demand on the school district. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Wes Rogers, Oregon City School District Superintendent attended the pre-application conference for this application. The annexation/zone change application was discussed and Mr. Rogers concluded that based on a variety of factors (i.e. demographic trends, the small size of the property) that sufficient capacity exists to serve the property at R-6 residential densities. It is also understood that potential future construction excise taxes and property taxes would provide funding for necessary school district improvements.

Additional Facilities
The subject property is currently within and served by Clackamas Fire District #1. Annexation of the subject property to the City of Oregon City would not cause increased demand on the fire district's resources. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on this conversation, the written information provided by City staff, and previous experience with recent projects in the area, it is understood that the fire district has sufficient resources to serve the property at R-6 residential densities. It is also understood that potential future property taxes, potential district bonds, etc. provide necessary funding for the fire district.

The subject property is currently within and served by the Clackamas County Sheriff's Office. It is understood that the ultimate provider of police service is the City of Oregon City Police Department. Annexation of the subject property to the City of Oregon City would not create a negligible demand on the City's Police Department resources. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on this conversation, the written information provided by City staff, and previous experience with recent projects in the area, it is understood that the Police Department has sufficient resources to serve the property at R-6 residential densities. It is also understood that potential future property taxes, potential district bonds, etc. will provide necessary funding for the Police Department.

Phasing of Facilities
As discussed above, phasing of facilities is not necessary for any necessary service.

d. Statement outlining method and source of financing required to provide additional facilities, if any;
Finding: Complies as Proposed. Annexation of the subject property to the City of Oregon City would not cause increased demand on City or service provider resources. Therefore, additional facilities requiring financing are not required or relevant to the annexation and zone change application. That said, to the extent potential future redevelopment of the subject property at R-6 residential densities is relevant to this application, such financing mechanisms were described in Section c. above.

e. Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced;
Finding: Complies as Proposed. Annexation of the subject property to the City of Oregon City will not affect a physical change of the property. That said, a conceptual shadow plat is included in the application materials that illustrates a potential vision for the property given the City's R-6 Low Density Residential designation to be applied upon annexation. The plan features a continuation of the adjacent low density residential development pattern with critical connections to adjacent developed streets. Assumed with the plan are the types of features that accompany new residential communities such as frontage improvements on S Leland Road, public sanitary sewer and stormwater management infrastructure, new public streets with sidewalks and street trees, areas to build new homes, plant landscaping, etc.

f. Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;
Finding: Complies as Proposed. Annexation of the subject property to the City of Oregon City will not affect a physical, aesthetic, or discernable social change of the property. That said, a conceptual shadow plat is included in the application materials that illustrates a potential vision for the property given the City's R-6 Low Density Residential designation to be applied upon annexation. The plan features a continuation of the adjacent low density residential development pattern with critical connections to adjacent developed streets. Assumed with the plan are the types of features that accompany new residential communities such as frontage improvements on S Leland Road, public sanitary sewer and stormwater management infrastructure, new public streets with sidewalks and street trees, areas to build new homes, plant landscaping, etc. Therefore, negative effects are not anticipated. That said, this annexation/zone change application does not authorize any physical changes to the property. The City of Oregon City has established standards, requirements, and review procedures by which development applications are considered. That process involves a neighborhood meeting and public notice by which members of the community may provide input on the application, potential issues can be identified, and remedies created.

g. Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;
Finding: Complies as Proposed. In accordance with the Clackamas County/Oregon City UGMA, the subject property already exhibits an Oregon City Comprehensive Plan designation of Low Density Residential (LR). Consistent with that designation, this application includes placing the City's R-6 zoning designation on the subject property on the City zoning map. Because the R-6 designation is identified as a Low Density Residential zone, a comprehensive plan map amendment is not relevant to this application.

8. The application fee for annexations established by resolution of the city commission and any fees required by metro. In addition to the application fees, the city manager shall require a deposit, which is adequate to cover any and all costs related to the election;
Finding: Complies as Proposed. The required application fee has been included with this application submittal. That said, pursuant to Senate Bill 1573, approval of the application will not involve an election.

9. Paper and electronic copies of the complete application as required by the community development director.
Finding: Complies as Proposed. The appropriate number of application packets, and electronic copies of the application packet have been submitted**.**

14.04.060 Annexation factors.
A. When reviewing a proposed annexation, the commission shall consider the following factors, as relevant:
1. Adequacy of access to the site;
Finding: Complies as Proposed. The subject property has direct access onto S Leland Road, a minor arterial controlled by Clackamas County. Local streets (Cedarwood Way and Cherrywood Way) are stubbed to the subject property from the adjacent Lindsay Anne Estates Subdivision. Therefore, the subject property has excellent site access.

2. Conformity of the proposal with the city's comprehensive plan;
Comprehensive Plan Section 2: Land Use
Goal 2.1: Efficient Use of Land
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 subject property is located within the UGB, and has an existing Low Density Residential Comprehensive Plan designation. That said, the future anticipated use of the property is low density residential at R-6 densities as envisioned and consistent with other projects in the area, which is consistent with the City's Comprehensive Plan designation, and ensures an adequate supply of housing in an area that can be provided with urban services in an efficient and timely manner.

Goal 2.7: Oregon City Comprehensive Plan Land-Use Map
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 annexation/zone change of the subject property is consistent with and maintains the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for development within the area of the property. This application has no impact on this policy.

Comprehensive Plan Section 14: Urbanization
Goal 14.1: Urban Growth Boundary
Establish, and amend when appropriate, the Urban Growth Boundary in the unincorporated area around the city that contains sufficient land to accommodate growth during the planning period for a full range of city land uses, including residential, commercial, industrial, and institutional.
Finding: Complies as Proposed. : The subject property is located within the UGB and greater than 6 acres in size, which is sufficient to accommodate future residential growth at R-6 densities as envisioned and consistent with other projects in the area.

Policy 14.1.1
The Urban Growth Boundary shall conform to Title 11 of the Code of the Metropolitan Service District and will provide sufficient land to accommodate 20-year urban land needs, resulting in efficient urban growth and a distinction between urban uses and surrounding rural lands, and promoting appropriate infill and redevelopment in the city.
Finding: Complies as Proposed. The subject property has been within the UGB since it was established by Metro in 1979. Based on the property size (greater than 6 acres), it is included in the Metropolitan Service District's inventory of sufficient land to accommodate 20-year urban land needs. The annexation/zone change of the subject property to the City's R-6 zoning designation promotes appropriate infill and redevelopment in the City consistent with the City's Comprehensive Plan.

Policy 14.1.2
Concept plans that provide more detail than the city's Comprehensive Plan will be required prior to development of lands within the Urban Growth Boundary.
Finding: Complies as Proposed. Although no physical alterations of the subject property are included with this application ,an Aerial Photo and Conceptual Shadow Plat of the property has been included in the application materials to show how the property can conceptually be redeveloped in the future.

Goal 14.3: Orderly Provision of Services to Growth Areas
Plan for public services to lands within the Urban Growth Boundary through adoption of a concept plan and related Capital Improvement Program, as amendments to the Comprehensive Plan.
Finding: Complies as Proposed. The subject property is located within the UGB; however, no concept plan has been adopted for the area. That said, the future anticipated use of the property is low density residential at R-6 densities as envisioned and consistent with other projects in the area. The City's Capital Improvement Program includes utility master plans that have been updated in anticipation of serving additional properties annexed in the area. The availability, capacity, and status of existing and planned services and facilities (water,

sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative.

Policy 14.3.1
Minimize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.
Finding: Complies as Proposed. Annexation of the subject property will not affect current public facilities or services in the area. The zone change of the property to the City's R-6 zone is consistent with this policy as it allows compatible residential density within the Low Density Residential Comprehensive Plan designation of the property.

Policy 14.3.2
Ensure that the extension of new services does not diminish the delivery of those same services to existing areas and residents in the city.
Finding: Complies as Proposed. Annexation of the subject property will not affect existing utility services. That said, and as addressed above, the City's utility master plans have been updated to account for the extension of services to annexed properties within the area without diminishing the delivery of those same services to existing areas and residents within the City.

Policy 14.3.3
Oppose the formation of new urban services districts and oppose the formation of new utility districts that may conflict with efficient delivery of city utilities within the Urban Growth Boundary.
Finding: Complies as Proposed. Annexation of the subject property will not create a new service district or affect the future delivery of City utilities to the subject property or the area.

Policy 14.3.4
Ensure the cost of providing new public services and improvements to existing public services resulting from new development are borne by the entity responsible for the new development to the maximum extent allowed under state law for Systems Development Charges.
Finding: Complies as Proposed. Annexation of the subject property will not create any new service connections, therefore, no costs borne by the Applicant for new connections are required. Utility connection fees, SDC's, and ongoing user fees, are planned to be paid for by private parties with the future redevelopment of the property.

Goal 14.4: Annexation of Lands to the City
Annex lands to the city through a process that considers the effects on public services and the benefits to the city as a whole and ensures that development within the annexed area is consistent with the Oregon City Comprehensive Plan, City ordinances, and the City Charter.
Finding: Complies as Proposed. This application is required by the City to be reviewed through a Type IV land use process, which ensures consideration of the effects of annexed properties on public services and the City as a whole. Future anticipated use of the property is low density residential at R-6 densities as envisioned and consistent with other

projects in the area, and the Oregon City's Low Density Comprehensive Plan designation applied to the property.

Policy 14.4.1
Promote compact urban form and support efficient delivery of public services by ensuring that lands to be annexed are within the City's Urban Growth Boundary, and contiguous with the city limits. Do not consider long linear extensions, such as cherry stems and flag lots, to be contiguous with the city limits.
Finding: Complies as Proposed. Annexation of the subject property would support compact urban form and support efficient delivery of public services as the property is within the UGB and contiguous to City limits. No physical alterations to the property are included with this application.

Policy 14.4.2
Include an assessment of the fiscal impacts of providing public services to unincorporated areas upon annexation, including the costs and benefits to the city as a whole as a requirement for concept plans.
Finding: Complies as Proposed. The City of Oregon City does not currently have a concept plan for this area. That said, the annexation of the subject property will have no fiscal impacts on providing public services because no physical alterations to the property are included with this application. The City's various public facilities master plans include analyses of the costs associated with providing adequate levels of service in the area, which can be assessed at the time of future land application submittal for the property.

Policy 14.4.3
Evaluate and in some instances require that parcels adjacent to proposed annexations be included
to:
• avoid creating unincorporated islands within the city;
• enable public services to be efficiently and cost-effectively extended to the entire area; or
• implement a concept plan or sub-area master plan that has been approved by the Planning and City Commissions.
Finding: Complies as Proposed. As shown on the preliminary plans, annexation of the subject property will not create unincorporated islands within the City, or interfere with the timely or efficient extension
of public services to the area in the future. No concept plan or sub-area mater plan currently exists.

Policy 14.4.4
Expedite the annexation of property as provided by state law in order to provide sewer service to adjacent unincorporated properties when a public health hazard is created by a failing septic tank sewage system.
Finding: Complies as Proposed. The subject property is currently on a private septic system. However, the property is not subject to a public health hazard associated with a failing septic system.

3. Adequacy and availability of public facilities and services to service potential development;
Finding: Complies as Proposed. As described in the preceding sections of this narrative, adequate public facilities and services are available to support potential future development of the subject property.

4. Compliance with applicable sections of ORS Ch. 222, and Metro Code Section 3.09;
Finding: Complies as Proposed. ORS Chapter 222 provides several options for annexing land into a City, and requires that property to annexed be contiguous to City limits. The process by which the subject property is being annexed is in accordance with Senate Bill 1573 which, "applies to a city whose laws require a petition proposing annexation of territory to be submitted to the electors of the city." That said, the planned annexation of the subject property meets ORS Ch. 222, as it includes a petition signed by 100% of the land owners in the territory, is within the adopted UGB, is within an area subject to the adopted and acknowledged Oregon City Comprehensive Plan, and is contiguous to existing City limits. In addition, this application is consistent with the applicable boundary change criteria of Metro's Code Section 3.09, more specifically Section 3.09.045 D, which has been addressed below.

Metro Code 3.09.045.D: To approve a boundary change through an expedited process, the city shall:
1. Find that the change is consistent with expressly applicable provisions in:
a. Any applicable urban service agreement adopted pursuant to ORS 195.065
Finding: Complies as Proposed. The subject property is currently within the CRW service district, which upon annexation the property will be included in the City's service districts. The property will annex into the Tri-City Service District.

b. Any applicable annexation plan adopted pursuant to ORS 195.205;
Finding: Complies as Proposed. No applicable annexation plan for the area currently exists.

c. Any applicable cooperative planning agreement adopted pursuant to ORS 195.020 (2) between the affected entity and a necessary party;
Finding: Complies as Proposed. Annexation of the subject property is consistent with the applicable UGMA in place between Clackamas County and Oregon City.

d. Any applicable public facility plan adopted pursuant to a statewide planning goal on public facilities and services;
Finding: Complies as Proposed. Annexation of the subject property is consistent with the City's Capital Improvement Program, which includes utility master plans that have been updated in anticipation of serving additional properties annexed in the area.

e. Any applicable comprehensive plan;

Finding: Complies as Proposed. Annexation of the subject property is consistent with the City's Comprehensive Plan, which designates the property as Low Density Residential.

f. Any applicable concept plan; and
Finding: Complies as Proposed. No applicable concept plan for the area currently exists.

2. Consider whether the boundary change would:
a. Promote the timely, orderly and economic provisions of public facilities and services; **Finding: Complies as Proposed.** The subject property is within the UGB, contiguous to City limits, and adjacent to properties currently receiving City services. Therefore, the application promotes the timely, orderly, and economic provision of public facilities.

b. Affect the quality and quantity of urban services; and
Finding: Complies as Proposed. Annexation of the subject property will not affect the quality and quantity of urban services in the area.

c. Eliminate or avoid unnecessary duplication of facilities or services.
Finding: Complies as Proposed. As part of the annexation process, the City will notify applicable service providers as to the annexation or withdrawal of the property to or from their district to avoid duplication of facilities and/or services.

5. Natural hazards identified by the city, such as wetlands, floodplains and steep slopes;
Finding: Complies as Proposed. The subject property is not on or near any natural hazards identified by the City (such as wetlands, floodplains, and steep slopes).

6. Any significant adverse effects on specially designated open space, scenic, historic or natural resource areas by urbanization of the subject property at time of annexation;
Finding: Complies as Proposed. The annexation of the subject property will not have an effect on designated open space, scenic, historic, or natural resource areas.

7. Lack of any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.
Finding: Complies as Proposed. The annexation of the subject property will have no adverse effects on the economic, social, and/or physical environment of the community. Public services are available to support future land uses of the property.

STAFF RECOMMENDATION

Based on the findings made in this report and the applicant's petition, staff recommends that the City Commission approve Planning File AN 17-03, and adopt as its own this Staff Report and Exhibits. Staff makes the following recommendations, which have been included in the attached findings, reasons for decision and recommendations attached hereto.

- As required by State Statute, The City Commission should find that this annexation is consistent with a positive balance of the factors set forth in OCMC Section 14.04.060 and complies with ORS 222.170(2).
- Recommend withdrawing the territory from the County Service District for Enhanced Law Enforcement as allowed by statute.
- Recommend that the City Commission concur with Tri-City Service District's annexation of the subject property in the enacting ordinance.
- Recommend that the City Commission concur Clackamas River Water de-annexation of the subject property in the enacting ordinance.
- Recommend that the property annex to R-6 subject to the approval of ZC 17-03/TP 17-04 as part of the concurrent Subdivision and Zone Change Applications. If the Planning Commission or City Commission determines that the criteria for Zone change under OCMC 17.68 cannot be met, the subject site shall annex at R-10.

EXHIBITS

1. Vicinity Map
2. Applicant's Narrative and Plans
   a. AN 17-03 findings
   b. ZC 17-03 & TP 17-07 plans and findings.
3. Clackamas River Water (CRW) comments
4. Clackamas County Comments
5. TCSD Comments
   a. Tri City Service District (TCSD) Annexation Packet
6. Replinger and Associates Comments
7. November 13, 2017 letter from Monty Hurley-Sanitary Sewer Service Capacity addendum
8. Public comments
   a. Mysha Angell (November 13, 2017 PC Meeting, oral testimony)
   b. Jamin More

The complete record and application is available for inspection at the Planning Division.

PROPOSED FINDINGS, REASONS FOR DECISION, AND RECOMMENDATIONS

Based on the Findings, the Commission determines the following:

1. The Metro Code calls for consistency of the annexation with the Regional Framework Plan or any functional plan. The Commission concludes the annexation is consistent with this criterion because there were no directly applicable criteria for boundary changes found in the Regional Framework Plan, the Urban Growth Management Function Plan, or the Regional Transportation Plan.

2. Metro Code 3.09.050(d)(1) requires the Commission's findings to address consistency with applicable provisions of urban service agreements or annexation plans adopted pursuant to ORS 195. As noted in the Findings, there are no such plans or agreements in place. Therefore the Commission finds that there are no inconsistencies between these plans/agreements and this annexation.

3. The Metro Code, at 3.09.050(d)(3), requires the City's decision to be consistent with any "directly applicable standards or criteria for boundary changes contained in comprehensive land use plans and public facilities plans." The County Plan also identifies the property as *Immediate Urban* lands, which should ensure the "orderly, economic provision of public facilities and services." The property owner has demonstrated that the City can provide all necessary urban services. Nothing in the County Plan speaks directly to criteria for annexation. Therefore the Commission finds this proposal is consistent with the applicable plan as required Metro Code 3.09.050 (d)(3).

4. The Commission concludes that the annexation is consistent with the City Comprehensive Plan that calls for a full range of urban services to be available to accommodate new development as noted in the Findings above. The City operates and provides a full range of urban services. Specifically with regard to water, storm and sewer service, the City has both of these services available to serve the area.

5. The Commission notes that the Metro Code also calls for consistency of the annexation with urban planning area agreements. As stated in the Findings, the Oregon City-Clackamas County Urban Growth Management Agreement specifically provides for annexations by the City.

6. Metro Code 3.09.050(d)(5) states that another criterion to be addressed is "Whether the proposed change will promote or not interfere with the timely, orderly, and economic provision of public facilities and services." Based on the evidence in the Findings, the Commission concludes that the annexation

will not interfere with the timely, orderly, and economic provision of services.

7. The Oregon City Code contains provisions on annexation processing. Section 6 of the ordinance requires that the City Commission consider seven factors if they are relevant. These factors are covered in the Findings and the Commission finds that this proposal is consistent with a positive balance of those factors.

8. The City Commission concurs with Tri-City Service District's annexation of the subject property in the enacting City ordinance.

9. The Commission determines that the property should be withdrawn from the Clackamas County Service District for Enhanced Law Enforcement as allowed by statute since the City will provide police services upon annexation.

10. The Commission determines that the property should not be withdrawn from the Clackamas County Fire District #1.

11. The Commission determines that the property should be withdrawn from Clackamas River Water District.

12. The City Commission determines that the property be annexed to R-6 subject to the approval of ZC 17-03/TP 17-07 as part of the concurrent Subdivision and Zone Change Applications. If the Planning Commission or City Commission determines that the criteria for Zone Change under OCMC 17.68 cannot be met, the subject site shall annex at R-10.

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
November 16, 2017

Application Submitted: 8/11/2017
Application Complete: 9/11/2017
120-Day Decision Deadline: 12/9/2017

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

APPLICANT: PDX Development, Inc.
P.O. Box 2559
Oregon City, OR 97045

OWNER: Bruce Raymond Miller and Shelly Alane Miller
Trustees of the Bruce and Shelly Miller Revocable Living Trust
19701 S Leland Road
Oregon City, OR 97045

REQUEST: The applicant is seeking approval for the Annexation of a 6.33 acre property into the city limits of Oregon City. The site is within the Oregon City Urban Growth Boundary and has a Comprehensive Plan designation of Low Density Residential. The applicant is additionally seeking approval for a Zone Change from Clackamas County Future Urban 10-Acre (FU-10) Zone to "R-6" Single-Family Dwelling District and a Subdivision of 28 lots, w/ one Stormwater Facility Tract.

LOCATION: 19701 S Leland Road, Oregon City, OR 97045
Map: 32E18, Tax Lot 1400

REVIEWER: Christina Robertson-Gardiner, AICP, Senior Planner
Mario de la Rosa, Senior 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 17-07 & ZC 17-03

(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.

1. The applicant shall comply with all Oregon City Public Works design standards, codes, and policies regarding public improvements. (DS)

2. 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)

3. Applicant shall abandon existing connection to Clackamas River Water (CRW) 6-inch water main andextend the City's 12-inch water main along the subject property's S Leland Road frontage. (DS)

4. Septic system on the subject lot (which serves 19701 S Leland Road) shall be abandoned per Oregon DEQ requirements prior to issuance of building permit. (DS)

5. Applicant shall install a 1-inch water service connection from the new 12-inch City water main in Leland Road for future ¾" water meter at: 19634 S Leland Road, 19646 S Leland Road, 19658 S Leland Road, and 19717 S Leland Road. Clackamas River Water (CRW) will be financially responsible for these connections. (DS)

6. The applicant shall maintain existing utility service to 19695 Leland Road during construction, provide new water service from the new water main, constructed to City standards, and coordinate with the City the transfer of service. (DS)

7. 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)

8. 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)

9. All easements required for the final engineering plans shall be dedicated on the final plat, including ten-foot public utility easements along all street frontages and private easements. (DS)

10. The applicant shall provide written approval from PGE allowing street trees, street lights, fences, and other construction to be placed within the 125-foot PGE transmission easement. (DS)

11. Vehicular access to Lot 1, Lot 2, and Lot 28 shall be provided from Miller Road and not Leland Road. Applicant will be required to provide a private access easement on Lot 2 for benefit of Lot 1 from Miller Road. (DS)

12. 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)

13. The applicant shall dedicate 54-feet of right-of-way for Miller Road, Cedarwood Way, and Cherrywood Way. 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)

14. Where proposed street improvements fall short of the property boundaries due to topographical constraints, fee in lieu of construction shall be provided. (DS)

15. The applicant shall dedicate approximately 9 feet of right-of-way on S Leland Road and shall verify by survey that a 39-foot wide, one-half right-of-way width exists along the entire site frontage, or shall dedicate additional right-of-way as necessary to provide it. (DS)

16. Applicant shall construct Leland Road along project frontage with pavement width of 26 feet from centerline, 5.5-foot wide planter strip measured from face of curb, 7-foot sidewalk and 0.5 foot public access strip measured from back of walk. Structural pavement section for Leland Road shall consist of 7-1/2" HMAC PG 70-22 over 4" (3/4"-0) compacted crushed rock leveling course over 10" (1-1/2"-0) compacted crushed rock base course over geotextile fabric, or as approved by Clackamas County. (DS)

17. The applicant shall obtain permits from Clackamas County prior to commencement of construction. (DS)

18. Unless approved by City Engineer, non-vehicular access strips will be provided at terminus of Miller Road, Cedarwood Way, and Cherrywood Way at the project's southwest and northwest property lines. (DS)

19. A 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)

20. The applicant shall obtain a City Erosion Control permit and a 1200-C permit from Oregon Department of Environmental Quality prior to commencement of construction activities. (DS)

21. 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 or mitigated trees will be protected through a covenant and provide a fee in lieu calculation. Fee in lieu payment shall occur before the site is platted. (P)

22. Prior to issuance of Occupancy of Building permits the applicant shall plant all required mitigation trees and 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)

23. The applicant has proposed a street layout that requires 81 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)

24. 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-6 Single-Family Dwelling District or have been relocated. (P)

25. Prior to platting, the applicant shall demonstrate that the subdivision complies with the lot width and lot depth dimensional standards of the zone. (P)

26. The Community Development Director supports the applicant's proposal to front Lot 28 on Miller Street rather than Leland Road due to the odd lot shape and PGE easement. Prior to plating a covenant shall be placed on Lot 28 that allows the house to front Miller Street with a requirement for a maximum 3.5 foot front yard fence height limit on the Miller Street and Leland Road frontages of lot 28. (P)

27. Per Oregon City's street naming policy, street names that are a duplicate of an existing street in Oregon City are prohibited, and duplications of streets in Clackamas County shall be avoided. Further, similar sounding names shall also be avoided. Prior to final plat, the applicant shall coordinate with City staff to ensure the name of the proposed new street meets City requirements. (P)

28. This conditional approval is subject to the approval of AN 17-03. (P)

I. BACKGROUND:

1. Existing Conditions

The subject property is approximately ±6.33 acres of generally flat underdeveloped land currently located within the jurisdiction of Clackamas County and zoned FU-10. The property is occupied by an existing single-family detached home and outbuildings situated adjacent to other underdeveloped land to the northwest also located in Clackamas County. Abutting properties to the southwest are located outside of the UGB. Properties adjacent to the subject site to the southeast are within Oregon City, and have been redeveloped as residential subdivisions under the City's R-6 zoning designation (Lindsay Anne Estates, Ellis Estates, and Marlo Farms). The subject property has direct frontage on S Leland Road, which the property currently takes access. Existing street stubs (Cedarwood Way and Cherrywood Way) from the adjoining Lindsay Anne Estates Subdivision abut the property's southeast boundary, which were required as part of the Lindsay Anne Estates land use approval in order to facilitate future development patterns of the area.

Subject Site

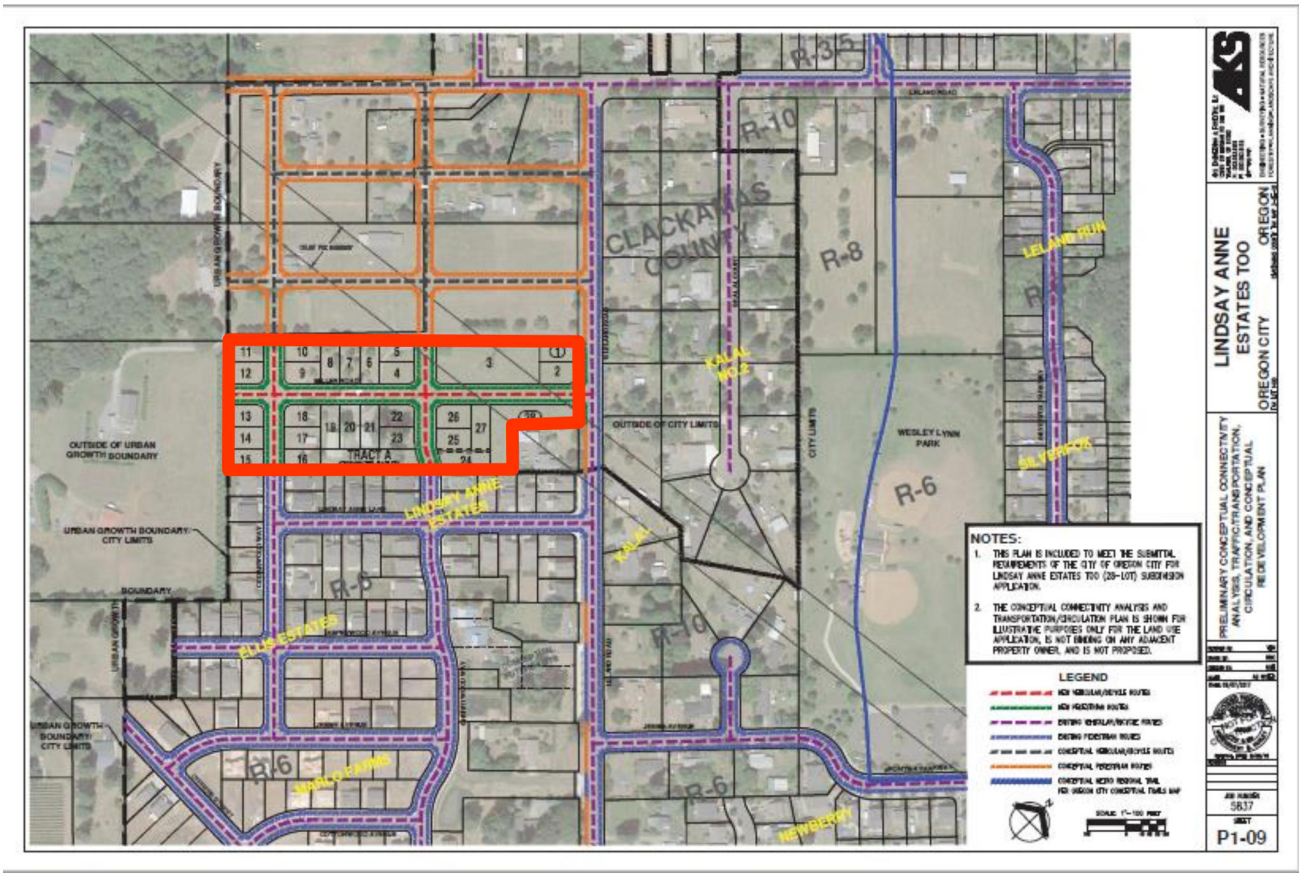
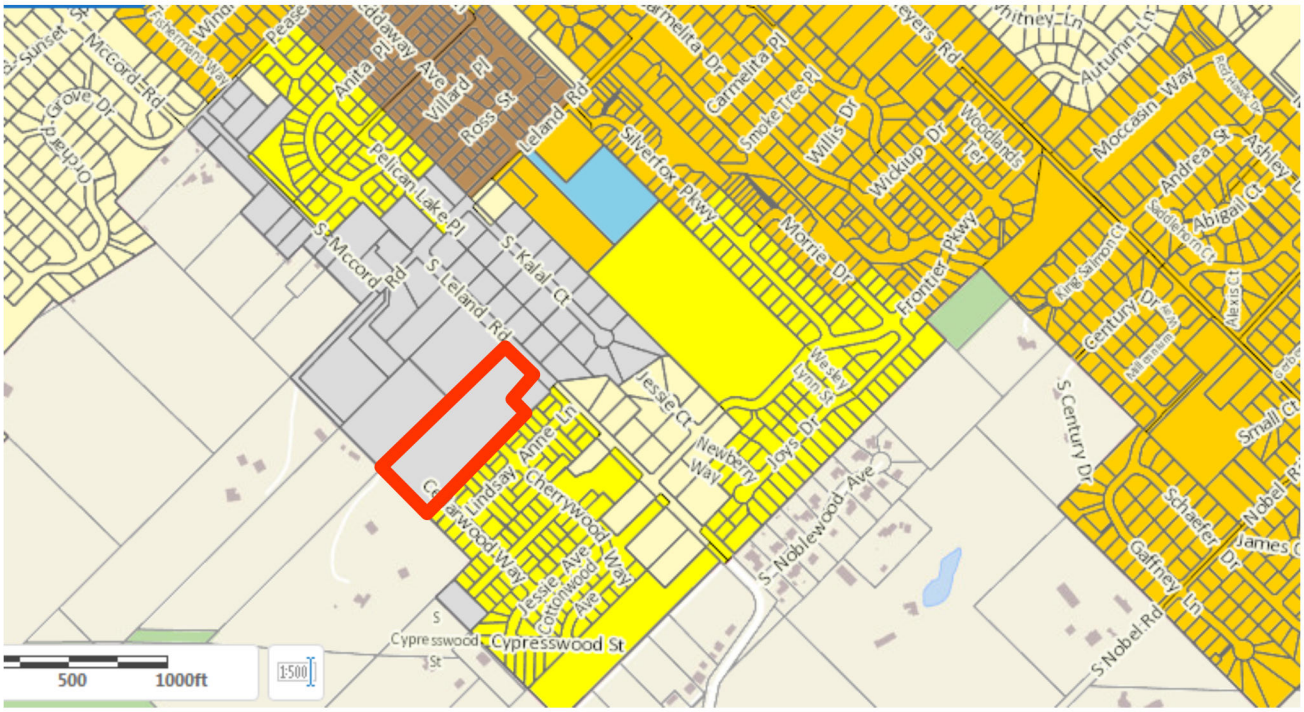
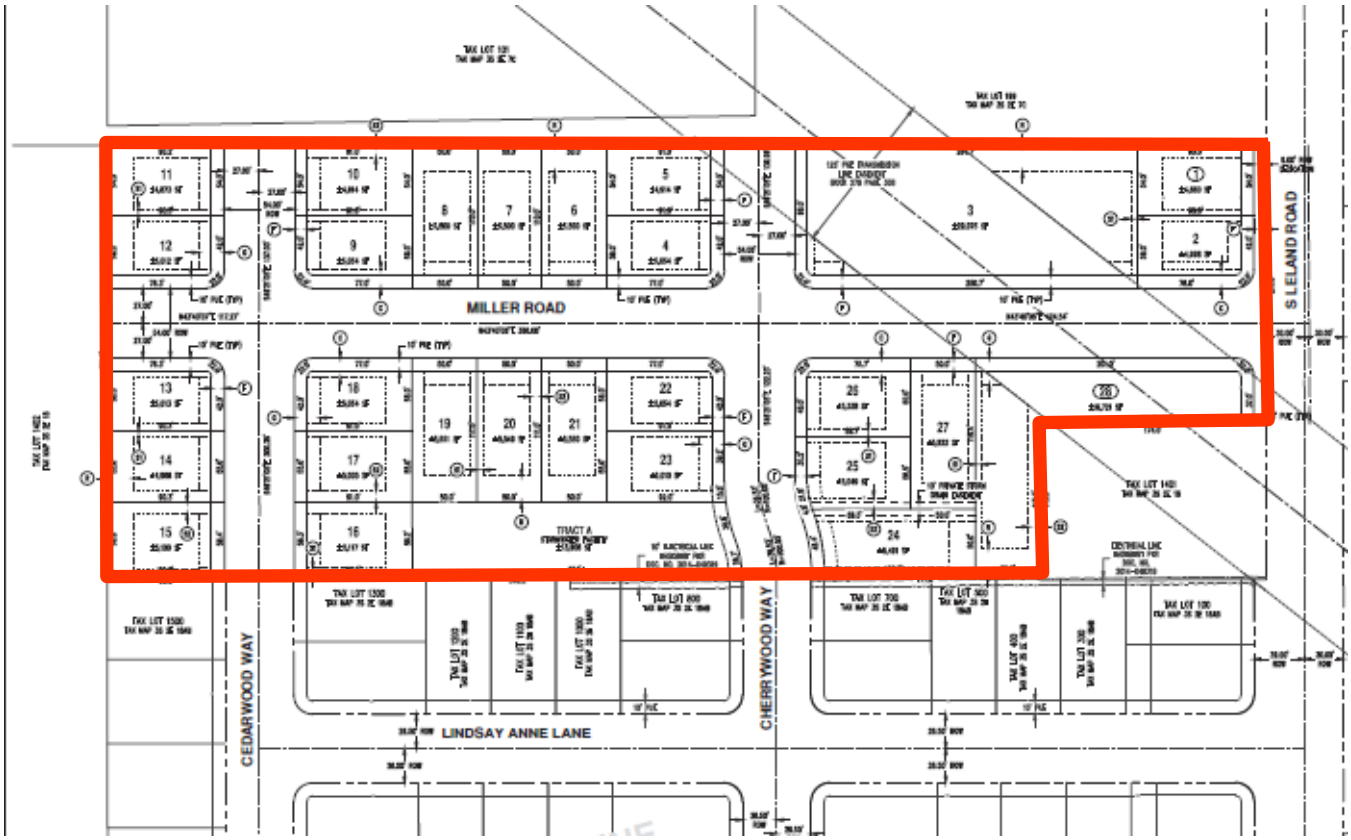


Figure 1. Vicinity and Connectivity Analysis Map





2. Project Description

This is an application for an Annexation, Zone Change to R-6 and a 28-lot Subdivision (Lindsay Anne Estates Too) in the City of Oregon City for the future construction of single-family detached residential homes. This report is limited to the analysis of the subdivision and zone change. A separate report will analyze the annexation for compliance with the Oregon City Municipal Code. The project includes the necessary streets, sidewalks, services, utilities, and other needed public improvements to support the project.

The essential components of this subdivision are:

- 28 lots for the future construction of single-family detached homes consistent with the adjoining community to the south
- An interconnected pedestrian and vehicular circulation system
- Creation of a cohesive neighborhood with the continuation of Cedarwood Way and Cherrywood Way from the adjoining Lindsay Anne Estates Subdivision to the southeast, through the project site connecting to the project's new east/west local street extending from S Leland Road
- An integrated on-site stormwater management system including street side vegetated filtration swales and flow control. The Miller property has been within the Urban Growth Boundary (UGB) since it was established by Metro in 1979.

The property has a Low Density Residential Comprehensive Plan designation. The property owners have observed annexations occurring in the area over time as well as the recent creation of new residential neighborhoods adjacent to their property. This application is being submitted to emulate and follow this process by: 1) Annexing to the City, and 2) apply the City's R-6 zoning designation to the property.

According to the Applicants the factors that support approval of this application are as follows:

- Application of the R-6 zoning district is consistent with the City's Low Density Residential Comprehensive Plan designation
- The property is mapped by the City as unconstrained vacant land, free of natural hazards, flood plains or other similar impediments to future residential use
- The property has convenient access to and is efficiently served by all necessary public services and utilities including water, sanitary sewer, storm drainage, schools, access/transportation, police, fire protection, etc.

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
   14 Annexations
   15.48 - Grading, Filling and Excavating
   16.08 - Subdivisions-Process and Standards
   16.12 - Minimum Improvements and Design Standards for Land Divisions
   17.12 - R-6 Single Family Dwelling District
   17.41 – Tree Protection
   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.

   Two public comments have been received for this application,

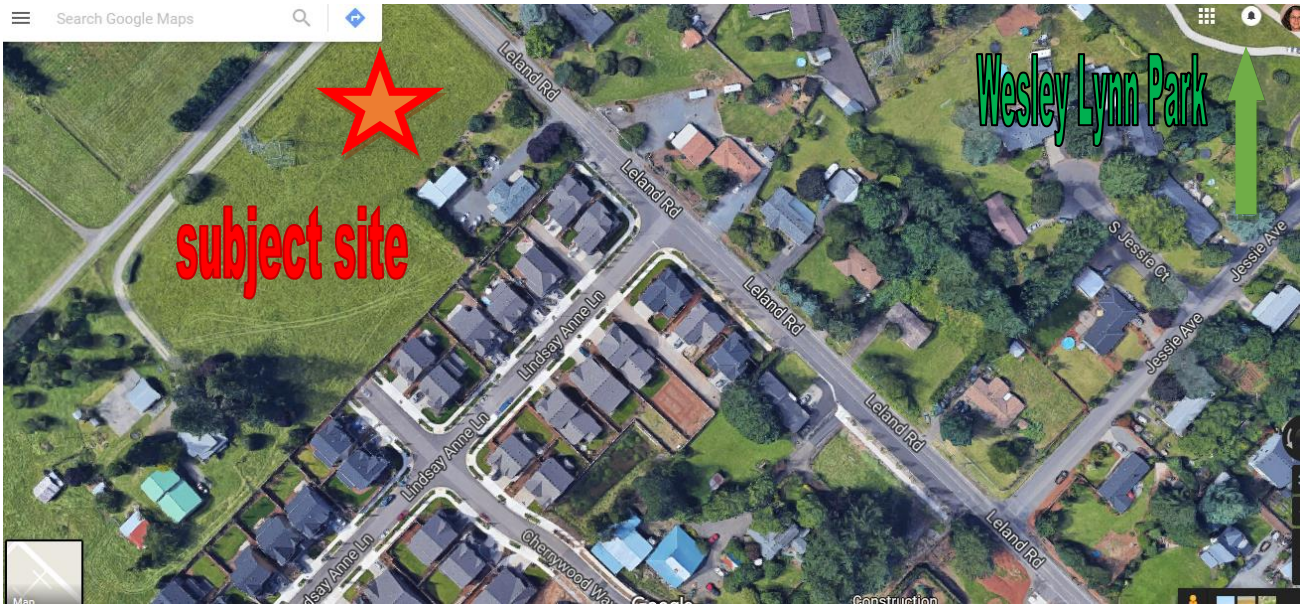
   November 13, 2017 Planning Commission Meeting
   Mysha Angel-12747 Lindsey Anne Lane- The application was originally noticed to be heard at the November 13, 2017 Planning Commission meeting, but was continued to November 27, 2017. Ms Angel attended and provided comment at the meeting. She did not support the application and felt that the views and open space of the property should be protected.

Staff Response: This property is within the urban growth boundary and is adjacent to the city limits and existing residential development and has a county zone of FU10- future development. The reports analyze the project for compliance with the applicable standards.

Jamin Moore: Mr. Moore cited 12.04.199 - Pedestrian and bicycle accessways and 12.04.245 - Street design—Pedestrian and bicycle safety as a reason to deny the application because the proposal did not provide adequate sidewalk or pedestrian access to Wesley Lynn Park. He additionally felt that the zone change necessitated dedication of a park onsite to serve the residents coupled with the upcoming construction of the acessway at Wesley Lynn Park which he believed effectively reduced the size of the park.

Staff Response: Residents of the new subdivision will access Wesley Lynn Park via Leland Road and Jessie Avenue. While Jessie Avenue was constructed in the 1960s without sidewalks, it is a local street. The stretch of Leland Road below has either sidewalk or protected shoulder access along much of its frontage. The Transportation Advisory Committee (TAC) will continue to monitor this intersection for a future crosswalk as they have done at Leland and Reddaway to see when adequate street lights and street conditions make a controlled crossing a safe option.

The zone change and subdivision criteria do not provide an avenue for requiring onsite private parks. Each new housing unit will pay parks System Development Charges (SDCs) for future park improve and expansions throughout the city as an impact fee.



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 17.12 - "R-6" SINGLE-FAMILY DWELLING DISTRICT

Title 17 - ZONING
Chapter 17.12 - R-6 SINGLE-FAMILY DWELLING DISTRICT
17.12.020 Permitted uses.
Permitted uses in the R-6 district are:
A. Single-family detached residential units;
Finding: Complies as Conditioned. This application includes 28 lots in the City's R-6 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. However, this application is still subject to the approval of AN 17-03. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.12.040 Dimensional standards.
Dimensional standards in the R-6 district are:
A. Minimum lot areas, six thousand square feet;
B. Minimum lot width, fifty feet;
C. Minimum lot depth, seventy feet;
D. Maximum building height, two and one-half stories, not to exceed thirty-five feet;
Finding: Complies as conditioned. The preliminary plans show that the minimum average lot area in this project exceeds 6,000 square feet. In the responses to Section 16.12.050, several of the planned lots are shown to be less than 6,000 square feet, but the average lot area across the project exceeds 6,000 square feet. Lot width and depth of each lot appear to meet the criteria. However, prior to platting, the applicant shall receive approval of AN 17-03 and demonstrate that the subdivision complies with the lot width and lot depth dimensional standards of the zone. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

E. Minimum required setbacks:
1. Front yard, ten feet minimum setback,
2. Front porch, five 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; five 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.
Finding: Complies as conditioned. 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. The applicant has not indicated if the existing house will remain as a lot in the subdivision. 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-6 Single-Family Dwelling District or have been relocated. **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.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 Hillendale/Tower Vista Neighborhood Association meeting held on June 6, 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-6 zoning designation. This represents an increase in density while still remaining in a single-family zone. Densities corresponding to the R-6 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-6 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-6 and R-10). Therefore, the R-6 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: Not applicable. According to City maps, the Natural Resource Overlay District (NROD) does not impact the subject property. 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.
Finding: Complies as proposed. The planned R-6 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 subject property is located approximately one (±1) mile from Gaffney Lane Elementary School to the east and John McLoughlin Elementary School to the northwest; less than two (±2) miles from Gardiner Middle School to the northeast; roughly four (±4) miles from Oregon City High School, and two and a half (±2½) miles from Clackamas Community College to the east. In addition, the subject property is located approximately one and a half (±1½) miles from commercially zoned properties on Molalla Avenue. Thus, the R-6 zoning strategically increases opportunities for increased populations to walk and bike to places of education, shopping, and employment. The R-6 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 conditioned. The Applicant met with City and School District staff in a pre-application conference and discussed the zone change. A change from Clackamas County's FU-10 to the City's R-6 zoning district meets the City's Low Density Residential Comprehensive Plan Map designation applied to the property, and these impacts have been previously evaluated with the adoption of the City's Comprehensive Plan. Based on a variety of factors (demographic trends, the small size of the property, potential school re-opening, etc.) the potential density of the property will not have a negative impact on school district capacity. The applicant's Public Facilities Memorandum included in the application materials discusses the adequacy of public facilities which staff has elaborated in findings within this report. The Applicant plans to sign a Non-Remonstrance Agreement for the purpose of ensuring sanitary sewer, stormwater drainage, water, and/or street improvements are extended in the future that benefit the subject property. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

Goal 12: Transportation
Goal 12.6: Develop and maintain a transportation system that has enough capacity of meet users' needs.
Policy 12.6.1
Provide a transportation system that serves existing and projected travel demand.
Policy 12.6.2
Identify transportation system improvements that mitigate existing and projected areas of congestion.
Policy 12.6.3
Ensure the adequacy of travel mode options and travel routes (parallel systems) in areas of congestion.
Policy 12.6.4
Identify and prioritize improved connectivity throughout the city street system.

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-6 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 county FU10 zoning to R-6 zone. The TIS provides estimates of the number of lots that could be developed under R-6 (28 lots) and R-10 (17 lots). R-6 zoning represents the worst-case development scenario from a transportation impact perspective. The engineer states that 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. Furthermore, even with the increase in trips from the zone change to R-6, all study area intersections will operate acceptably through the planning horizon. The report concludes that the TPR is satisfied, since the proposed zone change does not significantly affect the transportation system. I concur with his conclusions and agree the subdivision and zone change does not change the functional classification of any existing or planned transportation facility."*

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-6 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. The applicant has provided additional findings showing that the sewer capacity can be met (Exhibit 2). The applicant's engineer has provided a memorandum dated November 13, 2017 evaluating the capacity of the City's sanitary system per the 2014 master plan flow demand methodology. Staff has reviewed the evaluation and concurs that there is adequacy in the system to serve the proposed development. No comments were received from the Oregon City School district. ORS 195.110(13) limits a local government's ability to deny an application for "residential development based on a lack of school capacity" to only those cases where it is raised by the school district, among other things. School capacity concerns were not raised by the school district,

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-6 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 applicant's assertion that the requested zone change is consistent with the TPR. (Exhibit 4)

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.

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 2)

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. No portion of the site is in the Natural Resource Overlay District.

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. The applicant states that "The subject property is currently located within the Clackamas River Water (CRW) District and served by CRW's 6-inch water main located in the S Leland Road right-of-way. A separate 12-inch City water main is also located within the S Leland Road right-of-way southeast of the subject property. As part of this application, the applicant plans to abandon the existing connection to the CRW water main and extend the City's 12-inch water main along the subject property's S Leland Road frontage. In addition, a new 8-inch water main extended from in S Leland Road and the extension of the existing 8-inch water mains in both Cedarwood Way and Cherrywood Way abutting the project site to the southeast are planned to be extended through the project to create a looped system. Individual water connections for each of the new lots within the project are planned to connect to the extended water mains. If required by CRW and/or the City, additional service laterals can be provided to off-site properties along the project site fronting on S Leland Road to the extent the costs associated with these improvements are reimbursed to the applicant by the City or CRW." Staff concurs with the proposal, and CRW has provided a memorandum indicating they will be financially responsible for connection of the off-site properties located at 19634, 19646, 19658, and 19717 S Leland Road. Staff will apply a condition of approval to ensure these off-site properties are provided with water services. CRW has indicated that 19695 S Leland Road has an existing CRW water service from Leland Road, which will be interrupted by the proposed construction. This service will need to be maintained throughout construction, and will need to be replaced by a service from the new City water line constructed in Miller Road. **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. The applicant states that, "The existing residence is served by a private septic system (to be removed). Sanitary sewer service is available to the subject property from the existing 8-inch sewer mains located in Cedarwood Way and Cherrywood Way from the adjoining Lindsay Anne Estate Subdivision to the southeast. An existing 8-inch sanitary sewer main is also located within the S Leland Road right-of-way, which is planned to be extended along the subject property's S Leland Road frontage as part of this application. Appropriate extension of sanitary sewer mains through the project is planned. Each of the lots within the project is planned to be provided an individual service lateral from the extended sanitary sewer mains. The property is planned to annex to the Tri-City Service District for these services."

In the accompanying Annexation/Zone Change application, the applicant has provided a statement that public facilities are adequate to serve the development. Additionally, the applicant's engineer has provided a memorandum dated November 13, 2017 evaluating the capacity of the City's sanitary system per the 2014 master plan flow demand methodology. Staff has reviewed the evaluation and concurs that there is adequacy in the system to serve the proposed development.

The applicant indicated the existing septic system on the subject property (which serves 19701 S Leland Road) will be abandoned. Staff has added a clarifying condition to ensure it is abandoned per Oregon DEQ requirements prior to issuance of building permits. **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. The applicant states that "On-site stormwater is planned to be collected and routed to new stormwater facilities located within the project's future rights-of-way, and Tract A prior to being conveyed to the existing stormwater conveyance system abutting the project in S Leland Road, Cedarwood Way and Cherrywood Way. For additional information, please refer to the Preliminary Stormwater Report and preliminary plans included in the application materials."

The proposed preliminary stormwater plan appears to be in conformance with applicable standards. 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. 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. **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 for future park development in the area is planned to be assessed and paid at the time building permits are issued. This ensures the required funding for parks.

16.08.030.B.5. Traffic and Transportation

Finding: Complies as proposed. A Transportation Study (TIS), under the direction of Todd E. Mobley, P.E. of Lancaster Engineering, dated August 3, 2017. The TIA was reviewed by John Replinger of Replinger and Associates, City Transportation consultant, who wrote:

> "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." proposal can be evaluated for transportation impacts."

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).

16.08.030.B.6. Schools

Finding: Complies as Proposed. The Oregon City School District provides educational services for the children of future residents. School funding comes from a variety of sources including construction excise taxes assessed with the issuance of future building permits, and future property taxes. No comments were received from the Oregon City School district. ORS 195.110(13) limits a local government's ability to deny an application for "residential development based on a lack of school capacity" to only those cases where it is raised by the school district, among other things. School capacity concerns were not raised by the school district, although its representatives attended the Pre-Application Conference and were provided notice of the application.

16.08.030.B.7. Fire and Police Services

Finding: Complies as Proposed. Clackamas Fire District No. 1 provides 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 proposed plan shows fire hydrants in accordance with spacing standards.

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.

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: Complies with Condition. The applicant states that all public facilities and services are, or are planned to be available to accommodate this project. No additional description of financing and construction of adequate capacity is required. However, as described in 16.08.030.B.2, the sanitary sewer master plan methodology supports 25 lots on this parcel. It is recognized that the calculations used in the master plan are based on high-level planning figures and not precise engineering of specific developments. Therefore, staff will apply a condition that affords the applicant an opportunity to provide engineering computations demonstrating adequate capacity for three additional lots on this parcel, to be reviewed and approved by the City Engineer at time of construction plan review. **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.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. The subject property totals approximately ±6.33 acres of land. The site is subject to a zone change that, upon approval, designates the site with the City's R-6 zoning district. The Lindsay Anne Estates Too Subdivision is planned to include 28 lots for the future construction of single-family detached homes spread over the majority of the subject site (±6.33 acres). On a gross acreage basis, the 28-lot subdivision (on ±6.33 acres) equates to ±4.4 dwelling units per acre. Based on the site's net developable area (±4.16 acres – after deduction of public facilities/right-of-way), the density included in the subdivision is equal to ±6.7 dwelling units per acre.

Lot sizes in new subdivisions are permitted to be within 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-6 zone, the minimum average lot size is greater than 6,000 square feet. Based on the site's net developable area (±4.16 acres or ±181,644 square feet), the maximum number of lots that can be included in the subdivision is 30. Based on the site's net developable area, the minimum number of lots that are required is 24. Based upon the above, the 28-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 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. Blocks created by this project do not exceed the maximum block length spacing standard of 530 feet, as addressed under Subsection 12.04.195 Spacing Standards.

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 are planned to generally allow for two tiers of lots.

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-6 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 28 lots intended for the future construction of single-family detached homes in the R-6 zoning district. As permitted above, a number of the planned lots are less than 6,000 square feet. The smallest of the future lots is approximately ±4,860 square feet, which is within the maximum 20% reduction allowed by this standard. A number of the lots are also larger than 6,000 square feet, with the largest lot being ±29,075 square feet. The average lot area is 6,487 square feet which exceeds the minimum average lot size of 6,000 square feet required in the R-6 zoning district. 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.

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: Complies with Condition. As shown on the preliminary plans, three of the planned lots (Lots 1, 2, and 28) have frontage on S Leland Road, a minor arterial. The future building orientation of Lots 1 and 2 are planned toward S Leland Road. The portion of Lot 28 located along S Leland Road falls within the 125-foot wide PGE transmission line easement running through the property. The PGE transmission line easement limits any future building to the southwest portion of Lot 28, away from S Leland Road, which is addressed in greater detail in the response to Subsection 16.12.070.E. The Community Development Director supports the applicant's proposal to front Lot 28 on Miller Street rather than Leland Road due to the odd lot shape and PGE easement. Prior to plating a covenant shall be placed on Lot 28 that allows the house to front Miller Street with a requirement for a maximum 3.5 foot front yard fence height limit on the whole Miller Street and Leland Road frontage of lot 28. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

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, Lot 3 is large enough to be re-divided, however, the majority of Lot 3 is located within the 125-foot wide PGE transmission line easement running through the property. The PGE easement limits future building placement to area outside of the easement. Based on the size on the PGE easement, Lot 3 is not planned to be divided for the construction of additional single-family homes. 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.**

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. Applicant is also proposing 10-foot private storm drain easement between lots 24, 25, and 27. All existing and proposed utilities and easements shall be indicated on the construction plans. The R-6 zoning district allows front porches to be within 5 feet of the property line. For this subdivision, the PUE restrictions are overlaid on top of this requirement and the stricter requirement shall control the development setbacks.

The applicant will be required to provide written approval from the easement owner allowing street trees, street lights, and fences within the 125-foot PGE transmission 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 Conditioned. Clackamas County will not allow driveway access off of S Leland Road (Minor Arterial) for Lot 1, Lot 2, and Lot 28 if access from Miller Road (Local Street) is possible. Applicant will be required to provide an access easement on Lot 2 for benefit of Lot 1 off from Miller Road. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

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. No natural or historic features have been identified on the site.

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 as Conditioned. A Transportation Impact Study (TIS), under the direction of Todd E. Mobley, P.E. of Lancaster Engineering, dated August 3, 2017. The TIS was reviewed by John Replinger of Replinger and Associates, City Transportation consultant, who wrote:

"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."

Applicant indicates 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.

County will not allow driveway access off of S Leland Road (Minor Arterial) for Lots 1, 2, and 28 if access from Miller Road (Local Street) is possible. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

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: Refer to Section 16.08.030. B.3 of this report.

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 Leland Road 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. Street lights are planned to be installed along new and continued streets to conform with applicable regulations, as required. 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 specified by the City Engineer. 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.

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.

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 prior to plat recordation. **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

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 project. However, Clackamas County has jurisdictional management over S Leland Road. Therefore, planned improvements to S Leland Road will be coordinated with Clackamas County staff.

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.
A. The modification meets the intent of the standard;
B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;
C. The modification is consistent with an adopted plan; and
D. The modification is complementary with a surrounding street design; or, in the alternative;
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: Complies as conditioned. Per Clackamas County Staff, the applicant shall construct half-street improvement for Leland Road in accordance with the Clackamas County Roadway Standards and the Oregon City design standards. Where the standards do not match, the more conservative standard shall prevail and

a modification to city standards shall be allowed. The improved street portion the applicant is required to provide includes, but is not to be limited to, base rock, half-street pavement width of 26 feet from centerline with 7.5 inches of asphalt; curb and gutter, 5-foot-wide planter strip (not including curb), 7-foot-wide sidewalk behind the planter strip, curb ramps, centerline monumentation in monument boxes, traffic control devices, street lights, and street trees. There shall be temporary asphalt ramps at the end of the sidewalk, and tapers at both ends of the pavement per Clackamas County Roadway Standards. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

A. The modification meets the intent of the standard;
Finding: **Complies as Proposed.** The transition of ownership and design standards for roads between Clackamas County and Oregon City is a balance of two codes. In this instance, Clackamas County recognizes Oregon City's curbed street design for Minor Arterials with wider sidewalks but if there is a requirement such as street width or depth that is more than Oregon City's requirements, Clackamas County requirements should prevail to ensure a smooth transition.

B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;
Finding: Complies as Proposed. Nothing in this modification request, reduces safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight options. The modification will retain vehicular lanes as well as sidewalks.

C. The modification is consistent with an adopted plan; and
Finding: **Complies as Proposed.** The Oregon City Municipal Code and Transportation System Plan allows for context sensitive design. This modification request is compatible with the TSP for Leland Road and existing agreements from Oregon City and Clackamas County on transition of ownership and maintenance for roads inside the city limits. Furthermore, the adopted plans result in the mobility of the public through various modes, which the modification retains.

D. The modification is complementary with a surrounding street design; or, in the alternative;
Finding: Complies as Proposed. This request allows development along the Leland Road frontage of Lindsey Anne Too to be consistent with adjacent subdivision development on Leland Road.

E. If a modification is requested for constitutional reasons
Finding: Complies as Proposed. The modification is not requested 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.
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: Not Applicable. No unimproved streets are associated with this project.

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 future homeowner will be responsible for maintaining 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: Not Applicable. The applicant has not proposed a constrained local street and/or rights-of-way.

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. If, for any reason, retaining walls should fail, they are to be repaired to their original state.

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: Not Applicable. The applicant has not proposed a retaining wall.

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 Leland Road, Cherrywood Way, and Cedarwood Way to connect to existing utilities. The applicant shall obtain all permits as required for any work within the right-of-way. Work in Leland Road right-of-way shall be permitted by Clackamas County. **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, and the proposed plan demonstrates compliance.

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.

12.04.120 Obstructions – Permit Required
Finding: Not Applicable. The application is not for an obstruction permit.

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: Not Applicable. No obstruction violation has been identified.

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.

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.

***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. The proposed plan has been designed in consideration of development potential of adjacent properties. Leland Road is under Clackamas County jurisdiction, which will issue permits for 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.**

12.04.175 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 Proposed. Public streets are planned in the project 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 plans to extend Cedarwood Way and Cherrywood Way from the adjoining Lindsay Anne Estates Subdivision to the southeast to the adjoining property to the northwest. The planned east/west local street extending though the project from S Leland Road is planned to stub to the adjoining property to the southwest. Streets stubbed within the project are planned to facilitate potential future development of adjacent properties. 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 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 submitted plan demonstrates conformance to this standard; a condition will be applied to ensure the appropriate street sections are designed and constructed.

Leland Road is identified as a Minor Arterial in the Transportation System Plan, though is under the jurisdiction of Clackamas County. Per Clackamas County staff, the applicant shall construct half-street improvement for Leland Road in accordance with the Clackamas County Roadway Standards and the Oregon City design standards. Where the standards do not match, the more conservative standard shall prevail and a modification to city standards shall be allowed. The improved street portion the applicant is required to provide includes, but is not to be limited to, base rock, half-street pavement width of 26 feet from centerline with 7.5 inches of asphalt; curb and gutter, 5-foot-wide planter strip (not including curb), 7-foot-wide sidewalk behind the planter strip, curb ramps, centerline monumentation in monument boxes, traffic control devices, street lights, and street trees. There shall be temporary asphalt ramps at the end of the sidewalk, and tapers at both ends of the pavement per Clackamas County Roadway Standards. **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 for access to adjoining properties will be placed on the final plat prior to recording for the future extension of Miller Road, Cedarwood Way, and Cherrywood Way at the project's southwest and west 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 willalign with centerlines of other streets in or abutting the project.

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. As shown on the preliminary plans, planned streets within the project have been designed as local streets. No blocks created by this project exceed the maximum block length spacing standard of 530 feet requiring a midblock pedestrian accessway.

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*	*175 ft.*

Table 12.04.195.B Minimum Driveway Spacing Standards		
Street Functional Classification	***Minimum Driveway Spacing Standards***	***Distance***
	Minimum distance between driveways for uses other than single and two-family dwellings	
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 Conditioned. 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. The applicant is proposing a joint driveway for Lots 1 and 2 accessing Leland Road.

Clackamas County has indicated that driveway access off of S Leland Road (Minor Arterial) for Lot 1, Lot 2, and Lot 28 will not be permitted if access from Miller Road is possible. Applicant will be required to provide an access easement on Lot 2 for benefit of Lot 1 from Miller Road. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

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: Not Applicable. As demonstrated on the preliminary plans, the planned street system includes public sidewalks on both sides of the project's interior streets. The project's sidewalks provide convenient pedestrian and bicycle access and connectivity for residents in the area. As indicated in the response to Section 12.04.195, the project does not create blocks that exceed 530 feet. Therefore, no pedestrian and bicycle accessways are included in the project.

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 October 27, 2017 concurs with this conclusion:

"., the proposal involves rezoning from county FU10 zoning to R-6 zone. The TIS provides estimates of the number of lots that could be developed under R-6 (28 lots) and R-10 (17 lots). R-6 zoning represents the worst-case development scenario from a transportation impact perspective. The engineer states that 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. Furthermore, even with the increase in trips from the zone change to R-6, all study area intersections will operate acceptably through the planning horizon. The (report) concludes that the TPR is satisfied, since the proposed zone change does not significantly affect the transportation system. I concur with his conclusions and agree the subdivision and zone change does not change the functional classification of any existing or planned transportation facility."

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.

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 conform
Finding: See discussion in section 12.04.180.

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: Not Applicable. As shown on the preliminary plans, no half streets exist or are planned within or adjacent to the project. This standard does not apply.

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. As shown on the preliminary plans, cul-de-sacs and permanent dead-end streets are not included in the application. Temporary turnarounds for emergency vehicles are not required due to the short distances involved with the planned stub streets. This standard does not apply.

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 conditioned . This project includes the extension of two existing streets (Cedarwood Way and Cherrywood Way) from the adjacent Lindsay Anne Estates Subdivision to the southeast.
The new east/west local street planned to extend through the project from S Leland Road is planned to be named in accordance to this subsection and submitted to the City and Clackamas County for approval. Per Oregon City's street naming policy, street names that are a duplicate of an existing street in Oregon City are prohibited, and duplications of streets in Clackamas County shall be avoided. Further, similar sounding names shall also be avoided. Prior to final plat, the applicant shall coordinate with City staff to ensure the name of the proposed new street meets City requirements. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

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 Proposed. As shown on the preliminary plans, grade lines and center line radii are planned to comply with the City's street design standards and specifications.

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: Complies as Conditioned. Applicant indicates the project site abuts S Leland Road, which is classified as a minor arterial. Lots 1, 2, are planned to take access from S Leland Road by way of joint access, as allowed by Section 16.12.070.D addressed further in this narrative. The use of a joint access for said lots meets the intent of this section in that "joint access" is type of access control. Additionally, Lot 28 also has frontage on S Leland Road. However, due to the existing 125-foot PGE transmission line easement running through Lot 28, any future building on Lot 28 is limited to the southeast portion of the lot, which is planned to access the project's new east/west local street. An access covenant, screening, or similar treatment can be provided for Lot 28, should the City require it.

Clackamas County will not allow driveway access off of S Leland Road (Minor Arterial) for Lot 1, Lot 2, and Lot 28 if access from Miller Road (Local Street) is possible. Applicant will be required to provide an access easement on Lot 2 for benefit of Lot 1 from Miller Road. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

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.

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.

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. Leland Road has not been identified as a Transit Street. The need for additional transit facilities and bus stops have not been identified and are not warranted.

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: 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.

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

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 35 feet of frontage, which requires 81 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. The preliminary stormwater design demonstrates compliance with the standards. 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. 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.**

13.12.100 - 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 Proposed. The proposal appears to be in accordance with the Stormwater and Grading Design Standards adopted August 18, 2015, which are in effect at time of application.

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: Applicable. Grading activities will exceed ten cubic yards or earth; therefore, a grading permit is required.

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 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.**

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, which will cause measurable erosion.

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, which will cause measurable erosion. The applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval, and obtain City and DEQ permits. **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: Applicable.** The applicant is not requesting an exemption.

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. The applicant proposed tree removal and mitigation per Option 1, or in lieu of planting, be paid per Option 4. The preliminary tree removal plan has been prepared and reviewed by a certified arborist. As shown on the preliminary plans, a total of 40 trees are located on the project site. Of the 40 trees located on-site, a total of 27 trees have been deemed diseased, hazardous, or invasive by the project's arborist. Therefore, 13 trees are subject to the mitigation standards of Table 17.41.060-1 above and discussed below: Of the 13 trees subject to mitigation, a total of 8 trees are located within the construction area. Of the 8 trees, 4 trees have a DBH between 13 inches and 18 inches, 1 tree has a DBH between 19 inches and 24 inches, and 3 trees have a DBH of 31 inches and over. Of the remaining 5 trees located outside the construction area, 2 trees have a DBH between 13 inches and 18 inches, 1 tree has a DBH between 19 inches and 24 inches, 1 tree has a DBH between 25 inches and 30 inches, and 1 tree has a DBH of 31 inches and over. Therefore, 74 mitigation trees are required. These trees are planned to be planted per Option 1, or in lieu of planting, be paid per Option 4. The preliminary tree removal plan has been prepared and reviewed by a certified arborist. **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. As shown on the preliminary plans, a total of 40 trees are located on the project site. Of the 40 trees located on-site, a total of 27 trees have been deemed diseased, hazardous, or invasive by the project's arborist. Therefore, 13 trees are subject to the mitigation standards of Table 17.41.060-1 above and discussed below: Of the 13 trees subject to mitigation, a total of 8 trees are located within the construction area. Of the 8 trees, 4 trees have a DBH between 13 inches and 18 inches, 1 tree has a DBH between 19 inches and 24 inches, and 3 trees have a DBH of 31 inches and over. Of the remaining 5 trees located outside the construction area, 2 trees have a DBH between 13 inches and 18 inches, 1 tree has a DBH between 19 inches and 24 inches, 1 tree has a DBH between 25 inches and 30 inches, and 1 tree has a DBH of 31 inches and over. Therefore, 74 mitigation trees are required. These trees are planned to be planted per Option 1, or in lieu of planting, be paid per Option 4. The preliminary tree removal plan has been prepared and reviewed by a certified arborist. **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. 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. **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 mitigation plan.

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 February 15, 2017, 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 March 8, 2017. The pre-application conference summary, provided by Oregon City Planning and Development Services, is included in the application materials. This 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 Hillendale/Tower Vista Neighborhood Associations via email, the Applicant's consultant sent an email to the Hillendale Chair Roy Harris on May 5, 2017, describing the planned project. Mr. Harris responded on May 8, 2017 indicating that the applicant would be included on the June 6, 2017 meeting agenda. The Applicant's consultant attended the Hillendale/Tower Vista neighborhood meeting, presented the project, and answered questions from the neighbors in attendance.

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.

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 August 11, 2017. The application was deemed complete on September 11, 2017. The City has until December 9, 2017 to make a final determination.

17.50.080 Complete Application--Required Information.
Finding: Complies as Proposed. This land use application was submitted on August 11, 2017. The application was deemed complete on September 11, 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, Citizen Involvement 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:

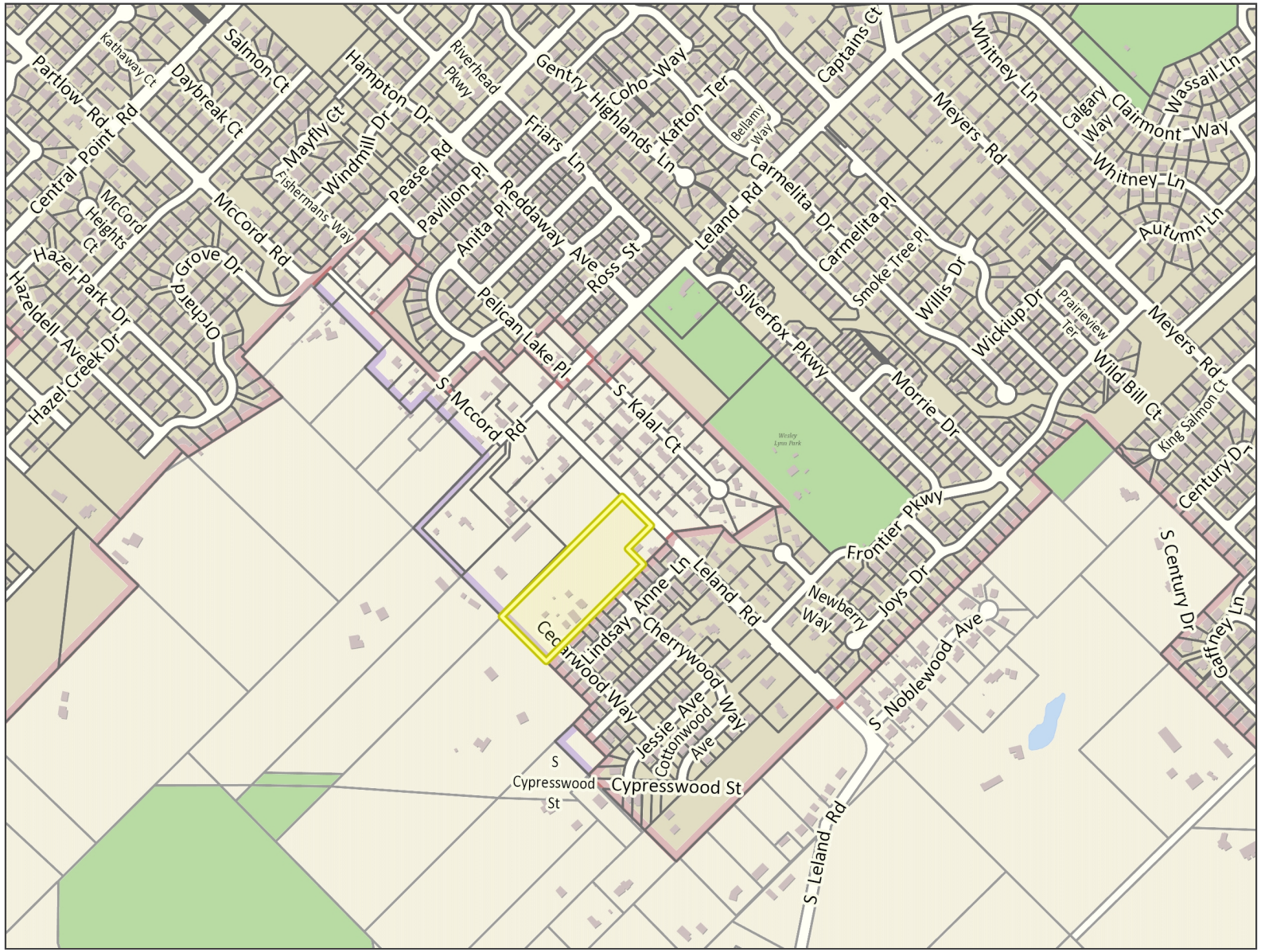
Based on the analysis and findings as described above, Staff concludes that the Zone Change from Clackamas County Future Urban 10-Acre (FU-10) Zone to "R-6" Single-Family Dwelling District and Subdivision of 28 lots for a parcel located at 19701 S Leland Road, Oregon City, OR 97045 -Map: 32E18, Tax Lot 1400 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 files TP 17-07 and ZC 17-03 with conditions, based upon the findings and exhibits contained in this staff report.

EXHIBITS:

1. Vicinity Map
2. Applicant's Narrative and Plans
    a. An 17-03 findings
    b. ZC 17-03 & TP 17-07 plans and findings.
3. Clackamas River Water (CRW) comments
4. Clackamas County Comments
5. TCSD Comments
    a. Tri City Service District (TCSD) Annexation Packet
6. Replinger and Associates Comments
7. November 13, 2017 letter from Monty Hurley-Sanitary Sewer Service Capacity addendum

8. Public comments
    a. Mysha Angell (November 13, 2017 PC Meeting, oral testimony)
    b. Jamin More

AN- 17-03 Annexation/ ZC 17-03 Zone Change/ TP-17-07 Subdivision



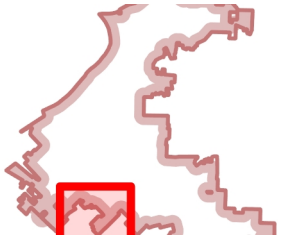
Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- City Limits
- UGB
- Basemap

Notes

Subject Site

Overview Map



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 9/28/2017

N

0 800 1,600 Feet

1: 9,600

Subject Site

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

Annexation and Zone Change Application For 19701 S Leland Road

Date: August 2017

Submitted to:
City of Oregon City
Planning Division
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

Property Owners:
Bruce Raymond Miller and Shelly Alane Miller
Trustees of the Bruce and Shelly Miller Revocable Living Trust
19701 S Leland Road
Oregon City, OR 97045

Applicant:
PDX Development, Inc.
P.O. 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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Exhibit E: Certified Legal Description and Map

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Exhibit G: Traffic Impact Study

Exhibit H: Public Facilities Memorandum

Exhibit I: Neighborhood Meeting Documentation

Exhibit J: City Pre-Application Conference Notes

Exhibit K: Clackamas County Assessor's Map

Exhibit L: Mailing Labels

Annexation and Zone Change Application For 19701 S Leland Road

Submitted to:	City of Oregon City Planning Division 221 Molalla Avenue, Suite 200 Oregon City, OR 97045
Owners:	Bruce Raymond Miller and Shelly Alane Miller Trustees of the Bruce and Shelly Miller Revocable Living Trust 19701 S Leland Road Oregon City, OR 97045
Applicant:	PDX 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:	Assessor's Map: 32E18, Tax Lot 1400
Site Size:	±6.33 Acres (without S Leland Road R-O-W) ±6.63 Acres (with S Leland Road R-O-W)
City Comprehensive Plan Map Designation:	LR – Low Density Residential
Existing Zoning Designation:	Clackamas County (holdover) Future Urban 10-Acre (FU-10)
Planned Zoning Designation:	R-6 Single-Family Dwelling District

I. Executive Summary

The Miller property has been within the Urban Growth Boundary (UGB) since it was established by Metro in 1979. Based on the Urban Growth Management Agreement (UGMA) in place between Clackamas County and Oregon City, the property has a Low Density Residential Comprehensive Plan designation, where it is presumed that the property will ultimately annex to the City for low density residential use. The property owners have observed annexations occurring in the area over time as well as the recent creation of new residential neighborhoods adjacent to their property. This application is being submitted to emulate and follow this process by: 1) Annexing to the City, and 2) apply the City's R-6 zoning designation to the property.

A few of the factors that support approval of this application are as follows:

- The petition for annexation has been signed by 100% of the land owners
- The property is located within the Metro UGB and is contiguous to the City of Oregon City
- Annexation to the City is consistent with the County/City UGMA
- Annexation and application of the R-6 zoning district is consistent with the City's Low Density Residential Comprehensive Plan designation
- The property is mapped by the City as unconstrained vacant land, free of natural hazards, flood plains or other similar impediments to future residential use
- The property has convenient access to and is efficiently served by all necessary public services and utilities including water, sanitary sewer, storm drainage, schools, access/transportation, police, fire protection, etc.

This written narrative describes how the application is consistent with the applicable portions of the City Comprehensive Plan, Metro Code, and explains how the applicable approval criteria found in the City's Municipal Code are satisfied. The narrative is complemented by other documentation that is required for the annexation and zone change application. Considered together, this information is substantial and supports the City's approval of the application.

II. Site Description / Setting

The subject property is approximately ±6.33 acres of generally flat underdeveloped land currently located within the jurisdiction of Clackamas County and zoned FU-10. The property is occupied by an existing single-family detached home and outbuildings situated adjacent to other underdeveloped land to the northwest also located in Clackamas County. Abutting properties to the southwest are located outside of the UGB. Properties adjacent to the subject site to the southeast are within Oregon City, and have been redeveloped as residential subdivisions under the City's R-6 zoning designation (Lindsay Anne Estates, Ellis Estates, and Marlo Farms). The subject property has direct frontage on S Leland Road, which the property currently takes access. Existing street stubs (Cedarwood Way and Cherrywood Way) from the adjoining Lindsay Anne Estates Subdivision abut the property's southeast boundary, which were required as part of the Lindsay Anne Estates land use approval in order to facilitate future development patterns of the area.

III. Applicable Review Criteria

City staff's March 8, 2017 pre-application conference notes outline the review criteria that are relevant to this application. Those criteria are addressed below.

CITY OF OREGON CITY MUNICIPAL CODE

Title 14 – ANNEXATIONS

Chapter 14.04: CITY BOUNDARY CHANGES AND EXTENSION OF SERVICES

14.04.050 Annexation procedures.

A. Application Filing Deadlines. Annexation elections shall be scheduled for March, May, September and November of each year. Each application shall first be approved by the city commission, which shall provide a valid ballot title in sufficient time for the matter to be submitted to the voters as provided by the election laws of the state of Oregon.

Response: In accordance with Senate Bill 1573, which went into effect March 16, 2016 and, "applies to a city whose laws require a petition proposing annexation of territory to be submitted to the electors of the city," the following criteria found in Section 2 and 3 of Senate Bill 1573 have been addressed to determine the territory's support for annexation.

Section 2. (2)
Notwithstanding a contrary provision of the city charter or a city ordinance, upon receipt of a petition proposing annexation of territory submitted by all owners of land in the territory, the legislative body of the city shall annex the territory without submitting the proposal to the electors of the city if:

(a) The territory is included within an urban growth boundary adopted by the city or Metro, as defined in ORS 197.015

Response: 100% of the land owners have signed the annexation petition. This petition is included in the application materials, which has been certified by the Clackamas County Assessor's Office. The territory is included within the Portland Metropolitan UGB.

(b) The territory is, or upon annexation of the territory into the city will be, subject to the acknowledged comprehensive plan of the city.

Response: The subject property currently has an Oregon City Comprehensive Plan designation of Low Density Residential (LR), which includes the R-10, R-8, and R-6 zoning districts. Upon approval of this annexation and zone change application, the subject property is to be rezoned from the County's FU-10 zone to the City's R-6 zone, which is consistent with the City's LR Comprehensive Plan designation.

(c) At least one lot or parcel within the territory is contiguous to the city limits or is separated from the city limits only by a public right of way or a body of water.

Response: As shown on the preliminary plans, and the certified legal description and map included in the application materials, the subject property's southeast property line is contiguous to City limits.

(d) The proposal conforms to all other requirements of the city's ordinances.

Response: All required information, forms, and documents found in Oregon City's "Annexation Application Submittal Checklist" have been included in the application materials.

Section 2. (3)
The territory to be annexed under this section includes any additional territory described in ORS 222.111 (1) that must be annexed in order to locate infrastructure and right of way access for services necessary for development of the territory described in subsection (2) of this section at a density equal to the average residential density within the annexing city.

Response: The territory to be annexed includes territory that must be annexed in order to locate future infrastructure and right-of-way access for services necessary for the territory to meet density equal to the average residential density within Oregon City per the R-6 zoning designation. Access is available from S Leland Road and abutting street stubs (Cedarwood Way and Cherrywood Way), and City services are available.

Section 2. (4)
When the legislative body of the city determines that the criteria described in subsection (2) of this section apply to territory proposed for annexation, the legislative body may declare that the territory described in subsections (2) and (3) of this section is annexed to the city by an ordinance that contains a description of the territory annexed.

Response: A legal description and map for the subject property planned for annexation prepared by a Professional Land Surveyor and certified by the Clackamas County Assessor's Office is included in the application materials.

Section 3
This 2016 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2016 Act takes effect on its passage.

Response: Senate Bill 1573 was signed by the Governor and became effective on March 15, 2016.

B. Preapplication Review. Prior to submitting an annexation application, the applicant shall confer in the manner provided by Section 17.50.050(A) with the representative of the planning division appointed by the city manager.

Response: A pre-application conference was held by the City March 8, 2017. Copies of the City's Pre-Application Conference Meeting Notes have been included in the application materials. This standard is met.

C. Neighborhood Contact. Prior to filing an annexation application, the applicant is encouraged to meet with the city-recognized neighborhood association or associations within which the property proposed to be annexed is located. If the city manager deems that more than one such association is affected, the applicant is encouraged to meet with each such association, as identified by the city manager. Unwillingness or unreasonable unavailability of a neighborhood association to meet shall not be deemed a negative factor in the evaluation of the annexation application.

Response: A neighborhood meeting with the Hillendale and Tower Vista Neighborhood Association was held on June 6, 2017. The required neighborhood meeting materials have been included in the application materials. This standard is met.

D. **Signatures on Consent Form and Application. The applicant shall sign the consent form and the application for annexation. If the applicant is not the owner of the property proposed for annexation, the owner shall sign the consent form and application in writing before the city manager may accept the same for review.**

Response: The appropriate consent form and annexation application have been signed by 100% of the property owners, a copy of which has been included in the application materials. This standard is met.

E. **Contents of Application. An applicant seeking to annex land to the city shall file with the city the appropriate application form approved by the city manager. The application shall include the following:**

1. **Written consent form to the annexation signed by the requisite number of affected property owners, electors or both, provided by ORS 222, if applicable;**

Response: The appropriate consent form and annexation application have been signed by 100% of the property owners. Copies of the signed consent form and application have been included in the application materials. This standard is met.

2. **A legal description of the territory to be annexed, meeting the relevant requirements of the Metro Code and ORS Ch. 308. If such a description is not submitted, a boundary survey may be required. A lot and block description may be substituted for the metes and bounds description if the area is platted. If the legal description contains any deed or book and page references, legible copies of these shall be submitted with the legal description;**

Response: A copy of the certified legal description and map for the subject property to be annexed has been included in the application materials. This standard is met.

3. **A list of property owners within three hundred feet of the subject property and, if applicable, those property owners that will be "islanded" by the annexation proposal, on mailing labels acceptable to the city manager;**

Response: A list of property owners within a 300-foot radius of the subject property, including appropriate mailing labels have been included in the application materials. This standard is met.

4. **Two full quarter-section county tax assessor's maps, with the subject property(ies) outlined;**

Response: Two full quarter-section County Tax Assessor's Maps with the subject property outlined on each map have been included in the application materials. This standard is met.

5. **A site plan, drawn to scale (not greater than one inch = fifty feet), indicating:**

a. **The location of existing structures (if any);**

b. **The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed;**

c. The location and direction of all water features on and abutting the subject property. Approximate location of areas subject to inundation, stormwater overflow or standing water. Base flood data showing elevations of all property subject to inundation in the event of one-hundred-year flood shall be shown;

d. Natural features, such as rock outcroppings, marshes or wetlands (as delineated by the Division of State Lands), wooded areas, identified habitat conservation areas, isolated preservable trees (trees with trunks over six inches in diameter—as measured four feet above ground), and significant areas of vegetation;

e. General land use plan indicating the types and intensities of the proposed, or potential development;

Response: Preliminary Plans containing the information required by these criteria have been included in the application materials. These criteria are met.

6. If applicable, a double-majority worksheet, certification of ownership and voters. Certification of legal description and map, and boundary change data sheet on forms provided by the city.

Response: This application is using the Petition of Owners of 100% of Land Area method of annexation, not the double majority method. Valid forms contained in Oregon City's Annexation Application Packet certifying the petition, legal description, and map have been included in the application materials. A boundary data sheet has also been included in the application materials. This standard is met.

7. A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:

a. Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;

Response: **Water Facilities**

Availability

The subject property is currently within Clackamas River Water (CRW) District and served by the CRW's 6-inch water main located in the S Leland Road right-of-way. A separate 12-inch City water main is also located within the S Leland Road right-of-way approximately 120 feet southeast of the subject property. In addition, existing 8-inch water mains are located in both Cedarwood Way and Cherrywood Way abutting the subject property to the southeast from the existing Lindsay Anne Estates Subdivision.

Capacity

Based upon discussions with City staff, the City's Water Master Plan, and the Public Facilities Memorandum included in the application materials, no known capacity or pressure issues exist in the vicinity.

Status

The subject property is currently within the Clackamas River Water (CRW) District and is served by the CRW's 6-inch water main located in the S Leland Road right-of-way. The subject property is also easily served by City water as described above. The Public Facilities Memorandum included in the application materials discusses adequacy of public facilities.

Sanitary Sewer Facilities

Availability

The existing residence located on the subject property is served by a private septic system. Tri-City Service District provides wastewater treatment for the City of Oregon City. The Applicant plans to file the appropriate documents for annexation into the Tri-City Service District following successful annexation of the property to the City, however, sewer connections are not planned with this application.

The City of Oregon City currently operates the sanitary sewer collection system in this area, which connects to the Tri-City Service District interceptor. An existing 8-inch sanitary sewer main is located within the S Leland Road right-of-way approximately 120 feet southeast of the subject property. Additionally, existing 8-inch sanitary sewer mains are located in Cedarwood Way and Cherrywood Way of the adjoining Lindsay Anne Estate Subdivision to the southeast.

Capacity

Based upon discussions with City staff, the City's Sanitary Sewer Master Plan, and the Public Facilities Memorandum included in the application materials, no known capacity or pressure issues exist in the vicinity.

Status

As noted above, the Applicant plans to file the appropriate documents for annexation into the Tri-City Service District, following successful annexation of the subject property into the City.

Storm Drainage Facilities

Availability

Existing 12-inch storm lines are located directly to the southeast within the rights-of-way of Cedarwood Way and Cherrywood Way, the two separate stub streets located within the abutting Lindsay Anne Estates Subdivision. An existing 12-inch storm line is also located within the S Leland Road right-of-way approximately 120 feet southeast of the subject property.

Capacity

Based upon comments received from City staff, and the Public Facilities Memorandum included in the application materials, no known stormwater capacity issues exist in the vicinity.

Status

Upon annexation, the property will be subject to the City's Stormwater and Grading Design Standards.

Transportation Facilities

Availability

The subject property is currently accessed by way of an existing private driveway from S Leland Road. S Leland Road is classified as a minor arterial street controlled by Clackamas County. Cedarwood Way and Cherrywood Way (local streets) are stubbed to the subject property from the adjacent Lindsay Anne Subdivision to the southeast.

Capacity

Successful annexation of the subject property will not create any increase in service demands to transportation facilities. A Traffic Impact Study (TIS), which includes a Transportation Planning Rule (TPR) analysis, has been prepared by a registered professional traffic engineer based upon a scope of work provided by the City's traffic engineering consultant. The TIS includes trip generation estimates for the existing FU-10 zoning designation, the planned R-6 zoning designation, 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). The TIS concludes that study area intersections operate acceptably through the planning horizon, and that the annexation and zone change of the subject property will not significantly affect the City's transportation system. No mitigation has been recommended, and the Transportation Planning Rule is therefore satisfied. Please see the TIS included in the application materials for additional information.

Park Facilities

Availability

The closest park to the subject property is Wesley Lynn Park, approximately ±540 feet to the northeast. The annexation application, by itself, will not impact the existing parks in the area.

Capacity

Annexation of the subject property will not affect the capacity of park facilities.

Status

The subject property is not adjacent to existing park facilities, and the annexation application will not impact the existing parks in the area.

School Facilities

Availability

The subject property is currently served by the Oregon City School District. Annexation of the subject property to the City would have no impact on the School District. The subject property is located within approximately one (±1) mile of Gaffney Lane Elementary School to the east, and John McLoughlin Elementary School to the northwest; less than two (±2) miles from Gardiner Middle School to the northeast; roughly four (±4) miles from Oregon City High School, and two and a half (±2½) miles from Clackamas Community College to the east.

Capacity

Oregon City School District Superintendent, Wes Rogers attended the pre-application conference for this application. The annexation/zone change application was discussed along with potential future re-development of the subject property at R-6 residential densities. Mr. Rogers concluded that based on a variety of factors (demographic trends, the small size of the property, potential school re-opening, etc.) that this project would not negatively impact school capacity.

Status

The responses to the availability, capacity, and status of existing water, sewer, storm drainage, transportation, park, and school facilities of the annexation of the subject property meet the above standard.

b. Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;

Response:

Water Facilities

Annexation to the City as provided for in this application will not create an increased demand for water facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public water system at R-6 residential densities.

Sanitary Sewer Facilities

Annexation to the City as provided for in this application will not create an increased demand for sanitary sewer facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public sanitary sewer system at R-6 residential densities.

Storm Drainage Facilities

Annexation to the City as provided for in this application will not create an increased demand for storm drainage facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and

experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public storm drainage system at R-6 residential densities.

Transportation Facilities

Annexation to the City as provided for in this application will not create an increased demand for transportation facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public transportation system at R-6 residential densities.

Park Facilities

Annexation to the City as provided for in this application will not create an increased demand for park facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public parks system at R-6 residential densities.

School Facilities

Annexation to the City as provided for in this application will not create an increased demand for school facilities. That said, it anticipates the potential redevelopment of the property at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public school system at R-6 residential densities.

c. Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;

Response: **Water Facilities**

The subject property is currently within the Clackamas River Water (CRW) District. Annexation of the subject property to the City of Oregon City would not cause increased demand on water services. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff and CRW at the pre-application conference required for this application. Based on this conversation, written information provided by City and CRW staff, and previous experience with recent projects in the area, it is understood that the City of Oregon City will be the ultimate provider of water service in this area and that sufficient capacity exists to serve the property at R-6 residential densities. This is summarized in the Public Facilities Memorandum that is included in the application materials.

It is also understood that potential future water main extensions are subject to compliance with applicable City design standards (and necessary permits), and that service connections to the City system are also subject to payment of required City fees (that fund plan review and inspections) and SDC's which provide funding for necessary City water system infrastructure capacity improvements.

Sanitary Sewer Facilities

The existing residence located on the subject property is served by an on-site private septic system. It is understood that the ultimate provider for public sanitary sewer service is the City of Oregon City, whose system transports wastewater to the Tri-City Service District treatment plant (operated by Clackamas County Water Environment Services). Annexation of the subject property to the City of Oregon City would not cause increased demand on the existing septic system or the City Sanitary Sewer System. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on this conversation, written information provided by City staff, and previous experience with recent projects in the area, it is understood that sufficient capacity exists to serve the property at R-6 residential densities. This is summarized in the Public Facilities Memorandum that is included in the application materials.

It is also understood that potential future sanitary sewer system infrastructure improvements would be subject to compliance with applicable City design standards (and necessary permits), and that service connections to the City system are also subject to payment of required City fees (that fund plan review and inspections) and SDC's which provide funding for necessary City sanitary sewer system infrastructure capacity improvements.

Storm Drainage Facilities

The property is over 6 acres, there is limited impervious areas, and the existing home was built in 1909. It is understood that the ultimate provider for public stormwater management service is the City of Oregon City. Annexation of the subject property to the City of Oregon City would not cause increased demand on the City stormwater management system. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on this conversation, the written information provided by City staff, and previous experience with recent projects in the area, it is understood that sufficient capacity exists to serve the property at R-6 residential densities. This is summarized in the Public Facilities Memorandum that is included in the application materials.

It is also understood that potential future stormwater management system infrastructure improvements would be subject to compliance with applicable City design standards (and necessary permits), and that service connections to the City system are also subject to payment of required City fees (that fund plan review and inspections) and SDC's which provide funding for necessary City stormwater management system infrastructure capacity improvements.

Transportation Facilities

The subject property fronts on S Leland Road, which is a Clackamas County arterial roadway. Annexation of the subject property to the City of Oregon City would not cause increased demand on the County/City management system. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on that conversation, a Traffic Impact Analysis has been prepared and is included in the application materials. The Traffic Impact Analysis includes a Transportation Planning Rule Analysis which analyzes capacity at certain intersections for the 20-year planning horizon as required by Oregon State Administrative Rule (OAR) 660-012-060). The analysis found that study area intersections operate acceptably through the planning horizon with the annexation and zone change.

It is also understood that potential future transportation management system infrastructure improvements would be subject to compliance with applicable City and County design standards (and necessary permits), and are also subject to payment of required City fees (that fund plan review and inspections) and SDC's which provide funding for necessary transportation system infrastructure capacity improvements.

Park Facilities

Wesley Lynn Park, is located approximately ±540 feet to the northeast of the subject property. It is understood that the ultimate provider for park services is the City of Oregon City. Annexation of the subject property to the City of Oregon City would not cause increased demand on the City's parks system. In fact, once the property is annexed, taxes (including those that support parks) would be assessed and collected by the City. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on this conversation, the written information provided by City staff, and previous experience with recent projects in the area, it is understood that sufficient capacity exists to serve the property at R-6 residential densities. It is also understood that potential future SDC's and property taxes would provide funding for necessary City parks system improvements.

School Facilities

The subject property is located within the Oregon City School District. Annexation of the subject property to the City of Oregon City would not cause increased demand on the school district. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Wes Rogers, Oregon City School District Superintendent attended the pre-application conference for this application. The annexation/zone change application was discussed and Mr. Rogers concluded that based on a variety of factors (i.e. demographic trends, the small size of the property) that sufficient capacity exists to serve the property at R-6 residential densities. It is also understood that potential future construction excise taxes and property taxes would provide funding for necessary school district improvements.

Additional Facilities

The subject property is currently within and served by Clackamas Fire District #1. Annexation of the subject property to the City of Oregon City would not cause increased demand on the fire district's resources. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on this conversation, the written information provided by City staff, and previous experience with recent projects in the area, it is understood that the fire district has sufficient resources to serve the property at R-6 residential densities. It is also understood that potential future property taxes, potential district bonds, etc. provide necessary funding for the fire district.

The subject property is currently within and served by the Clackamas County Sheriff's Office. It is understood that the ultimate provider of police service is the City of Oregon City Police Department. Annexation of the subject property to the City of Oregon City would not create a negligible demand on the City's Police Department resources. Therefore, additional facilities or phased facilities are not required or relevant to the annexation and zone change application.

Potential future redevelopment of the property at R-6 residential densities was discussed with City staff at the pre-application conference required for this application. Based on this conversation, the written information provided by City staff, and previous experience with recent projects in the area, it is understood that the Police Department has sufficient resources to serve the property at R-6 residential densities. It is also understood that potential future property taxes, potential district bonds, etc. will provide necessary funding for the Police Department.

Phasing of Facilities

As discussed above, phasing of facilities is not necessary for any necessary service.

d. Statement outlining method and source of financing required to provide additional facilities, if any;

Response: Annexation of the subject property to the City of Oregon City would not cause increased demand on City or service provider resources. Therefore, additional facilities requiring financing are not required or relevant to the annexation and zone change application. That said, to the extent potential future redevelopment of the subject property at R-6 residential densities is relevant to this application, such financing mechanisms were described in Section c. above.

e. **Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced;**

Response: Annexation of the subject property to the City of Oregon City will not affect a physical change of the property. That said, a conceptual shadow plat is included in the application materials that illustrates a potential vision for the property given the City's R-6 Low Density Residential designation to be applied upon annexation. The plan features a continuation of the adjacent low density residential development pattern with critical connections to adjacent developed streets. Assumed with the plan are the types of features that accompany new residential communities such as frontage improvements on S Leland Road, public sanitary sewer and stormwater management infrastructure, new public streets with sidewalks and street trees, areas to build new homes, plant landscaping, etc.

f. **Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;**

Response: Annexation of the subject property to the City of Oregon City will not affect a physical, aesthetic, or discernable social change of the property. That said, a conceptual shadow plat is included in the application materials that illustrates a potential vision for the property given the City's R-6 Low Density Residential designation to be applied upon annexation. The plan features a continuation of the adjacent low density residential development pattern with critical connections to adjacent developed streets. Assumed with the plan are the types of features that accompany new residential communities such as frontage improvements on S Leland Road, public sanitary sewer and stormwater management infrastructure, new public streets with sidewalks and street trees, areas to build new homes, plant landscaping, etc. Therefore, negative effects are not anticipated. That said, this annexation/zone change application does not authorize any physical changes to the property. The City of Oregon City has established standards, requirements, and review procedures by which development applications are considered. That process involves a neighborhood meeting and public notice by which members of the community may provide input on the application, potential issues can be identified, and remedies created.

g. **Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;**

Response: In accordance with the Clackamas County/Oregon City UGMA, the subject property already exhibits an Oregon City Comprehensive Plan designation of Low Density Residential (LR). Consistent with that designation, this application includes placing the City's R-6 zoning designation on the subject property on the City zoning map. Because the R-6 designation is identified as a Low Density Residential zone, a comprehensive plan map amendment is not relevant to this application.

8. The application fee for annexations established by resolution of the city commission and any fees required by metro. In addition to the application fees, the city manager shall require a deposit, which is adequate to cover any and all costs related to the election;

Response: The required application fee has been included with this application submittal. That said, pursuant to Senate Bill 1573, approval of the application will not involve an election.

9. Paper and electronic copies of the complete application as required by the community development director.

Response: The appropriate number of application packets, and electronic copies of the application packet have been submitted.

14.04.060 Annexation factors.

A. When reviewing a proposed annexation, the commission shall consider the following factors, as relevant:

1. Adequacy of access to the site;

Response: The subject property has direct access onto S Leland Road, a minor arterial controlled by Clackamas County. Local streets (Cedarwood Way and Cherrywood Way) are stubbed to the subject property from the adjacent Lindsay Anne Estates Subdivision. Therefore, the subject property has excellent site access.

2. Conformity of the proposal with the city's comprehensive plan;

Comprehensive Plan Section 2: Land Use

Goal 2.1: Efficient Use of Land
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 subject property is located within the UGB, and has an existing Low Density Residential Comprehensive Plan designation. That said, the future anticipated use of the property is low density residential at R-6 densities as envisioned and consistent with other projects in the area, which is consistent with the City's Comprehensive Plan designation, and ensures an adequate supply of housing in an area that can be provided with urban services in an efficient and timely manner.

Goal 2.7: Oregon City Comprehensive Plan Land-Use Map
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 annexation/zone change of the subject property is consistent with and maintains the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide

for development within the area of the property. This application has no impact on this policy.

Comprehensive Plan Section 14: Urbanization

Goal 14.1: Urban Growth Boundary
Establish, and amend when appropriate, the Urban Growth Boundary in the unincorporated area around the city that contains sufficient land to accommodate growth during the planning period for a full range of city land uses, including residential, commercial, industrial, and institutional.

Response: The subject property is located within the UGB and greater than 6 acres in size, which is sufficient to accommodate future residential growth at R-6 densities as envisioned and consistent with other projects in the area.

Policy 14.1.1
The Urban Growth Boundary shall conform to Title 11 of the Code of the Metropolitan Service District and will provide sufficient land to accommodate 20-year urban land needs, resulting in efficient urban growth and a distinction between urban uses and surrounding rural lands, and promoting appropriate infill and redevelopment in the city.

Response: The subject property has been within the UGB since it was established by Metro in 1979. Based on the property size (greater than 6 acres), it is included in the Metropolitan Service District's inventory of sufficient land to accommodate 20-year urban land needs. The annexation/zone change of the subject property to the City's R-6 zoning designation promotes appropriate infill and redevelopment in the City consistent with the City's Comprehensive Plan.

Policy 14.1.2
Concept plans that provide more detail than the city's Comprehensive Plan will be required prior to development of lands within the Urban Growth Boundary.

Response: Although no physical alterations of the subject property are included with this application, an Aerial Photo and Conceptual Shadow Plat of the property has been included in the application materials to show how the property can conceptually be redeveloped in the future.

Goal 14.3: Orderly Provision of Services to Growth Areas
Plan for public services to lands within the Urban Growth Boundary through adoption of a concept plan and related Capital Improvement Program, as amendments to the Comprehensive Plan.

Response: The subject property is located within the UGB; however, no concept plan has been adopted for the area. That said, the future anticipated use of the property is low density residential at R-6 densities as envisioned and consistent with other projects in the area. The City's Capital Improvement Program includes utility master plans that have been updated in anticipation of serving additional properties annexed in the area. The availability, capacity, and status of existing and planned services and facilities (water, sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative.

Policy 14.3.1
Minimize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.

Response: Annexation of the subject property will not affect current public facilities or services in the area. The zone change of the property to the City's R-6 zone is consistent with this policy as it allows compatible residential density within the Low Density Residential Comprehensive Plan designation of the property.

Policy 14.3.2
Ensure that the extension of new services does not diminish the delivery of those same services to existing areas and residents in the city.

Response: Annexation of the subject property will not affect existing utility services. That said, and as addressed above, the City's utility master plans have been updated to account for the extension of services to annexed properties within the area without diminishing the delivery of those same services to existing areas and residents within the City.

Policy 14.3.3
Oppose the formation of new urban services districts and oppose the formation of new utility districts that may conflict with efficient delivery of city utilities within the Urban Growth Boundary.

Response: Annexation of the subject property will not create a new service district or affect the future delivery of City utilities to the subject property or the area.

Policy 14.3.4
Ensure the cost of providing new public services and improvements to existing public services resulting from new development are borne by the entity responsible for the new development to the maximum extent allowed under state law for Systems Development Charges.

Response: Annexation of the subject property will not create any new service connections, therefore, no costs borne by the Applicant for new connections are required. Utility connection fees, SDC's, and ongoing user fees, are planned to be paid for by private parties with the future redevelopment of the property.

Goal 14.4: Annexation of Lands to the City
Annex lands to the city through a process that considers the effects on public services and the benefits to the city as a whole and ensures that development within the annexed area is consistent with the Oregon City Comprehensive Plan, City ordinances, and the City Charter.

Response: This application is required by the City to be reviewed through a Type IV land use process, which ensures consideration of the effects of annexed properties on public services and the City as a whole. Future anticipated use of the property is low density residential at R-6 densities as envisioned and consistent with other projects in the area, and the Oregon City's Low Density Comprehensive Plan designation applied to the property.

Policy 14.4.1
Promote compact urban form and support efficient delivery of public services by ensuring that lands to be annexed are within the City's Urban Growth Boundary, and contiguous with the city limits. Do not consider long linear extensions, such as cherry stems and flag lots, to be contiguous with the city limits.

Response: Annexation of the subject property would support compact urban form and support efficient delivery of public services as the property is within the UGB and contiguous to City limits. No physical alterations to the property are included with this application.

Policy 14.4.2
Include an assessment of the fiscal impacts of providing public services to unincorporated areas upon annexation, including the costs and benefits to the city as a whole as a requirement for concept plans.

Response: The City of Oregon City does not currently have a concept plan for this area. That said, the annexation of the subject property will have no fiscal impacts on providing public services because no physical alterations to the property are included with this application. The City's various public facilities master plans include analyses of the costs associated with providing adequate levels of service in the area, which can be assessed at the time of future land application submittal for the property.

Policy 14.4.3
Evaluate and in some instances require that parcels adjacent to proposed annexations be included to:

- *avoid creating unincorporated islands within the city;*
- *enable public services to be efficiently and cost-effectively extended to the entire area; or*
- *implement a concept plan or sub-area master plan that has been approved by the Planning and City Commissions.*

Response: As shown on the preliminary plans, annexation of the subject property will not create unincorporated islands within the City, or interfere with the timely or efficient extension of public services to the area in the future. No concept plan or sub-area mater plan currently exists.

Policy 14.4.4
Expedite the annexation of property as provided by state law in order to provide sewer service to adjacent unincorporated properties when a public health hazard is created by a failing septic tank sewage system.

Response: The subject property is currently on a private septic system. However, the property is not subject to a public health hazard associated with a failing septic system.

3. Adequacy and availability of public facilities and services to service potential development;

Response: As described in the preceding sections of this narrative, adequate public facilities and services are available to support potential future development of the subject property.

4. Compliance with applicable sections of ORS Ch. 222, and Metro Code Section 3.09;

Response: ORS Chapter 222 provides several options for annexing land into a City, and requires that property to annexed be contiguous to City limits. The process by which the subject property is being annexed is in accordance with Senate Bill 1573 which, "applies to a city whose laws require a petition proposing annexation of territory to be submitted to the electors of the city." That said, the planned annexation of the subject property meets ORS Ch. 222, as it includes a petition signed by 100% of the land owners in the territory, is

within the adopted UGB, is within an area subject to the adopted and acknowledged Oregon City Comprehensive Plan, and is contiguous to existing City limits. In addition, this application is consistent with the applicable boundary change criteria of Metro's Code Section 3.09, more specifically Section 3.09.045 D, which has been addressed below.

Metro Code 3.09.045.D: To approve a boundary change through an expedited process, the city shall:

1. Find that the change is consistent with expressly applicable provisions in:

a. Any applicable urban service agreement adopted pursuant to ORS 195.065

Response: The subject property is currently within the CRW service district, which upon annexation the property will be included in the City's service districts. The property will annex into the Tri-City Service District.

b. Any applicable annexation plan adopted pursuant to ORS 195.205;

Response: No applicable annexation plan for the area currently exists.

c. Any applicable cooperative planning agreement adopted pursuant to ORS 195.020 (2) between the affected entity and a necessary party;

Response: Annexation of the subject property is consistent with the applicable UGMA in place between Clackamas County and Oregon City.

d. Any applicable public facility plan adopted pursuant to a statewide planning goal on public facilities and services;

Response: Annexation of the subject property is consistent with the City's Capital Improvement Program, which includes utility master plans that have been updated in anticipation of serving additional properties annexed in the area.

e. Any applicable comprehensive plan;

Response: Annexation of the subject property is consistent with the City's Comprehensive Plan, which designates the property as Low Density Residential.

f. Any applicable concept plan; and

Response: No applicable concept plan for the area currently exists.

2. Consider whether the boundary change would:

a. Promote the timely, orderly and economic provisions of public facilities and services;

Response: The subject property is within the UGB, contiguous to City limits, and adjacent to properties currently receiving City services. Therefore, the application promotes the timely, orderly, and economic provision of public facilities.

b. Affect the quality and quantity of urban services; and

Response: Annexation of the subject property will not affect the quality and quantity of urban services in the area.

c. Eliminate or avoid unnecessary duplication of facilities or services.

Response: As part of the annexation process, the City will notify applicable service providers as to the annexation or withdrawal of the property to or from their district to avoid duplication of facilities and/or services.

5. Natural hazards identified by the city, such as wetlands, floodplains and steep slopes;

Response: The subject property is not on or near any natural hazards identified by the City (such as wetlands, floodplains, and steep slopes).

6. Any significant adverse effects on specially designated open space, scenic, historic or natural resource areas by urbanization of the subject property at time of annexation;

Response: The annexation of the subject property will not have an effect on designated open space, scenic, historic, or natural resource areas.

7. Lack of any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.

Response: The annexation of the subject property will have no adverse effects on the economic, social, and/or physical environment of the community. Public services are available to support future land uses of the property.

Title 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.

Response: The planned zone change from Clackamas County's FU-10 to the City of Oregon City's R-6 zone meets the following applicable goals and policies of the City of Oregon City Comprehensive Plan, as described in the following responses.

Section 1: Citizen Involvement

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.

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 Hillendale/Tower Vista Neighborhood Association meeting held on June 6, 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 for the subject property involve additional public processes. The application is consistent with this Goal.

Section 2: Land Use

Goal 2.1: Efficient Use of Land

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 Clackamas County's FU-10 zone to the City of Oregon City's R-6 zone. This represents an increase in density while still remaining in a single-family zone. Densities corresponding to the R-6 zone represent sustainable development in a 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. The application is consistent with this Goal.

Goal 2.7: Oregon City Comprehensive Plan Land-Use Map

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 property is 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 Clackamas County's FU-10 zoning designation to the City's R-6 zoning designation. A change to the Comprehensive Plan designation of the property is not necessary. The subject property is adjacent to other properties within the City's R-6 zoning district. Therefore, the R-6 zone 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.

Section 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

Goal 5.4: Natural Resources

Policy 5.4.4: **Consider natural resources and their contribution to quality of life as key community value when planning, evaluating and assessing costs of City actions.**

Response: According to City maps, the Natural Resource Overlay District (NROD) does not impact the subject property. Therefore, the application is consistent with this Goal.

Section 6: Quality of Air, Water, and Land Resources

Goal 6.1: Air Quality

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 planned R-6 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 subject property is located approximately one (±1) mile from Gaffney Lane Elementary School to the east and John McLoughlin Elementary School to the northwest; less than two (±2) miles from Gardiner Middle School to the northeast; roughly four (±4) miles from Oregon City High School, and two and a half (±2½) miles from Clackamas Community College to the east. In addition, the subject property is located approximately one and a half (±1½) miles from commercially zoned properties on Molalla Avenue. Thus, the R-6 zoning strategically increases opportunities for increased populations to walk and bike to places of education, shopping, and employment. The R-6 zoning designation is consistent with this Goal.

Goal 6.2: Water Quality

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.

Section 10: Housing

Goal 10.1: Diverse Housing Opportunities

Provide for the planning, development and preservation of a variety of housing types and lot sizes.

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.**

Response: The R-6 zoning district preserves 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-6 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-6 zone. Those types of uses would require a Comprehensive Plan Map Amendment, which is not included in this application. It is clear that R-6 densities allow for a greater number of residential units on the property, thereby increasing the number and variety of housing choices in the area. Therefore, the application is consistent with this Goal.

Section 11: Public Facilities

Goal 11.1: Provisions of Public Facilities

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 (sanitary sewer, storm drainage, water, streets) were identified. This is in part because a change from Clackamas County's FU-10 to the City's R-6 zoning district meets the City's Low Density Residential Comprehensive Plan Map designation applied to the property, and these impacts have been previously evaluated with the adoption of the City's Comprehensive Plan. Based on a variety of factors (demographic trends, the small size of the property, potential school re-opening, etc.) the potential density of the property will not have a negative impact on school district capacity. Please refer to the Public Facilities Memorandum included in the application materials discussing the adequacy of public facilities for further information.

As a part of any future application (including subdivision review), detailed preliminary plans are planned to be submitted for review by the City and Clackamas Fire District #1, as well as the School District. The Applicant plans to sign a Non-Remonstrance Agreement for the purpose of ensuring sanitary sewer, stormwater drainage, water, and/or street improvements are extended in the future that benefit the subject property. This Goal is met.

Section 12: Transportation

Goal 12.6: Capacity

Develop and maintain a transportation system that has enough capacity to meet users' needs.

Response: A TPR analysis has been included in the attached 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 FU-10 zone and the planned R-6 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). The TIS concludes that study area intersections operate acceptably through the planning horizon, and that this application will not significantly affect the City's transportation system. No mitigation has been recommended, and the Transportation Planning Rule is therefore satisfied. Please see the TIS included in the application materials for additional information.

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

Clackamas County's FU-10 to the City's R-6 zoning designation. At the pre-application conferences and in subsequent correspondence with City staff, no deficiencies in terms of the adequacy of public facilities (sanitary sewer, storm drainage, water, streets) were identified. This is in part because a change from Clackamas County's FU-10 to the City's R-6 zoning district is consistent with the City's Low Density Residential Comprehensive Plan Map designation, and these impacts have been previously evaluated with the adoption of the City's Comprehensive Plan. Based on a variety of factors (demographic trends, the small size of the property, potential school re-opening, etc.) the potential density of the property will not have a negative impact on school district capacity. Please refer to the Public Facilities Memorandum included in the application materials discussing the adequacy of public facilities for further information.

As part of any future application (including subdivision review), detailed preliminary plans are planned to be submitted for review by the City and Clackamas Fire District #1, as well as the School District. The Applicant plans to sign a Non-Remonstrance Agreement for the purpose of ensuring sanitary sewer, stormwater drainage, water, and/or street improvements are extended in the future that benefit the subject property. 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 traffic engineering consultant. The TIS includes trip generation estimates for the existing FU-10 zone and the planned R-6 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). The TIS concludes that study area intersections operate acceptably through the planning horizon, and that the annexation and zone change of the subject property will not significantly affect the City's transportation system. No mitigation has been recommended, and the Transportation Planning Rule is therefore satisfied. Please see the TIS included in the application materials for additional information.

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.

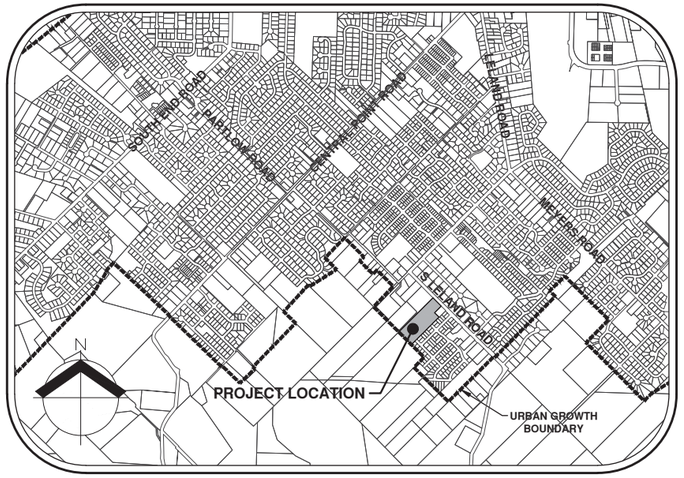
IV. Conclusion

The above listed findings and accompanying documentation demonstrate that the planned annexation and zone change application complies with 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 annexation and zone change of the subject property to the City of Oregon City and its R-6 zoning district. The City can rely upon this information in its approval of the application.

Exhibit A: Preliminary Plans

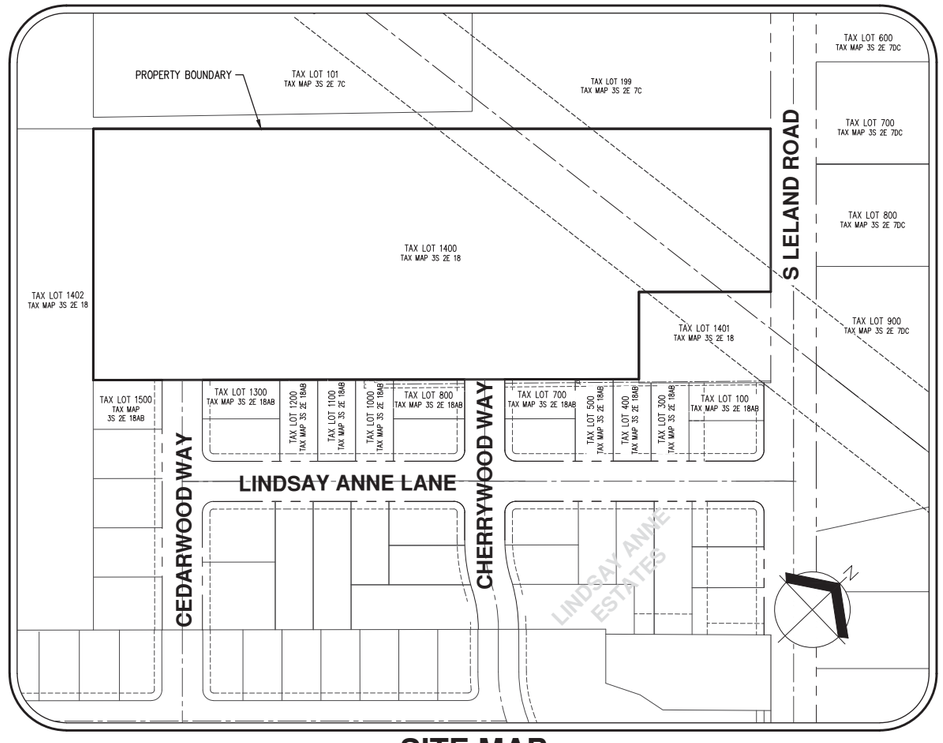
19701 S LELAND ROAD

ANNEXATION / ZONE CHANGE PLANS



VICINITY MAP

NOT TO SCALE



SITE MAP

SCALE: 1"=100'

OWNERS:

BRUCE RAYMOND MILLER AND
SHELLY ALANE MILLER
TRUSTEES OF THE BRUCE AND SHELLY
MILLER REVOCABLE LIVING TRUST
19701 S LELAND ROAD
OREGON CITY, OR 97045

APPLICANT:

PDX DEVELOPMENT, INC
PO BOX 2559
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

PROPERTY LOCATION:

19701 S LELAND ROAD
OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION:

TAX LOT 1400 CLACKAMAS COUNTY ASSESSOR'S MAP NUMBER 3-2E-18 WILLAMETTE MERIDIAN, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON.

EXISTING LAND USE:

EXISTING HOME AND OUTBUILDINGS/ FARM LAND

PROJECT PURPOSE:

ANNEXATION/ZONE CHANGE OF TAX LOT 1400

VERTICAL DATUM:

ELEVATIONS ARE BASED ON THE ELEVATION OF THE SOUTHWEST INVERT OF THE SANITARY SEWER MANHOLE ON JESSIE AVENUE PER CITY OF OREGON CITY AS-BUILT CONSTRUCTION PLANS. AS-BUILT PLANS BY SISUL ENGINEERING, SANITARY PLAN AND PROFILE (LINE 'C') SHEET, MAY 2004. RIM ELEVATION 437.01', SW INVERT ELEVATION 419.96'.

SHEET INDEX

1 COVER SHEET WITH VICINITY AND SITE MAPS
2 EXISTING CONDITIONS PLAN
3 AERIAL PHOTO AND CONCEPTUAL SHADOW PLAT

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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

19701 S LELAND ROAD
OREGON CITY
OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18
TAX LOT 1400

COVER SHEET WITH VICINITY AND SITE MAPS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SCALE: AS NOTED
DATE: 08/01/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
MAY 9, 2006
MONTGOMERY B. HURLEY
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5837

SHEET
1

AKS DRAWING FILE: 5837 C010 COVER [ANNEX].DWG | LAYOUT: 1

NOTES:

1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PER UTILITY LOCATE TICKET NUMBERS 17084633, 17084644, 17084717, AND 17094430. 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 APRIL 19-27, 2017.

SCALE: 1"=50 FEET

50 0 20 30 40 50

OUTSIDE OF CITY LIMITS

OUTSIDE OF URBAN GROWTH BOUNDARY

URBAN GROWTH BOUNDARY/CITY LIMITS

TAX LOT 101
TAX MAP 3S 2E 7C

TAX LOT 199
TAX MAP 3S 2E 7C

TAX LOT 1400
TAX MAP 3S 2E 18

TAX LOT 1402
TAX MAP 3S 2E 18

TAX LOT 1401
TAX MAP 3S 2E 18

TAX LOT 600
TAX MAP 3S 2E 7DC

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 800
TAX MAP 3S 2E 7DC

TAX LOT 900
TAX MAP 3S 2E 7DC

TAX LOT 1500
TAX MAP 3S 2E 18AB

TAX LOT 1300
TAX MAP 3S 2E 18AB

TAX LOT 1200
TAX MAP 3S 2E 18AB

TAX LOT 1100
TAX MAP 3S 2E 18AB

TAX LOT 1000
TAX MAP 3S 2E 18AB

TAX LOT 800
TAX MAP 3S 2E 18AB

TAX LOT 700
TAX MAP 3S 2E 18AB

TAX LOT 500
TAX MAP 3S 2E 18AB

TAX LOT 400
TAX MAP 3S 2E 18AB

TAX LOT 300
TAX MAP 3S 2E 18AB

TAX LOT 100
TAX MAP 3S 2E 18AB

S LELAND ROAD

LINDSAY ANNE LANE

CEDARWOOD WAY

CHERRYWOOD WAY

CITY LIMITS

4' WIRE FENCE
4' ELECTRIC FENCE
ASPHALT DRIVEWAY
GRAVEL DRIVE
ELECTRIC FENCE
PGE POWER LINE TOWER
125' PGE TRANSMISSION LINE EASEMENT BOOK 276 PAGE 308
OUTHOUSE
EX BASKETBALL HOOP
BARN
STONE PATIO
4' CHAIN LINK FENCE
CHICKEN COOP
POLE WITH LIGHT AND DROP
GATE
SHED
SHOP
HOUSE
COVERED PORCH
SEPTIC TANK
10' ELECTRIC LINE EASEMENT PER DOC. NO. 2014-049319
ELECTRICAL LINE EASEMENT PER DOC. NO. 2014-049319
DEER CROSSING SIGN
BARRICADE 3' WIRE
COMM MH
GAS LOCATE RISER
POWER CONDUIT STUB
6' WOOD FENCE
ADA RAMP
STREET SIGN
STOP SIGN
6' CHAIN LINK FENCE
5' VINYL FENCE
EX STONE RETAINING WALL
CATV
DRIVEWAY

11540 11539 11537 11530 11528 11523 11521 11516 11689 11698 11687 11665 11680 11691 11659 11684 11694 11460 11467 11474 11436 11404 11405 11829 11830 11832 11818 11831 11834 11816 11813 11812 11811 11852 11886 11741 11738 11803 11804 11155 10803 10750 10745 10744 10739 10634 10633 10128 10186 10185 10177 10049 10047 10037 10034

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

19701 S LELAND ROAD

OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18

OREGON CITY
TAX LOT 1400

EXISTING CONDITIONS PLAN

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SCALE: AS NOTED
DATE: 08/01/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 2002
MONTGOMERY B. HURLEY
RENEWAL DATE: 6/30/19

NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER
5837

SHEET
2

AKS DRAWING FILE: 5837 C020 EXCOND [ANNEX].DWG | LAYOUT: 2

AERIAL PHOTO AND CONCEPTUAL SHADOW PLAT

19701 S LELAND ROAD

OREGON CITY — TAX LOT 1400

OREGON — CLACKAMAS COUNTY TAX MAP 3-2E-18

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

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SCALE: AS NOTED
DATE: 08/10/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON JANUARY 9, 2002
BRENDON B. HURLEY
RENEWAL DATE: 6/30/19
PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER 5837

SHEET 3

Exhibit B: City Land Use Application Form and Checklists

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 17-07 (Pre-Application Conference)

Proposed Land Use or Activity: Annexation /Zone Change (Clackamas County holdover FU-10 to Oregon City R-6).

Project Name: 19701 S. Leland Road Annexation/Zone Change Number of Lots Proposed (If Applicable): N/A

Physical Address of Site: 19701 S. Leland Road, Oregon City, OR 97045

Clackamas County Map and Tax Lot Number(s): Map: 32E18 Tax Lot: 1400

Applicant(s):

Applicant(s) Signature: _____

Applicant(s) Name Printed: PDX Development, Inc. Date: 7/17/17

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: Bruce Raymond Miller and Shelly Alane Miller (Trustee) Date: _____

Mailing Address: 19701 S. Leland Road, Oregon City, OR 97045

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: July 2017

Mailing Address: 12965 SW Herman Road, Suite 100

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

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)
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Clackamas County Map and Tax Lot Number(s): Map: 32E18 Tax Lot: 1400

Applicant(s):

Applicant(s) Signature:

Applicant(s) Name Printed: PDX 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: Shelly Alane Miller, Trustee
Bruce Raymond Miller (Trustee)

Property Owner(s) Name Printed: Bruce Raymond Miller and Shelly Alane Miller (Trustee) Date: 7/25/17

Mailing Address: 19701 S. Leland Road, 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: July 2017

Mailing Address: 12965 SW Herman Road, Suite 100

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.

CITY OF OREGON CITY

Community Development Department, 320 Warner-Milne Road
P.O. Box 3040, Oregon City, OR 97045 (503) 657-0891
www.ci.oregon-city.or.us

ANNEXATION APPLICATION SUBMITTAL CHECKLIST

Quoted from OCMC 14.04.050.

Contents of Application. An applicant seeking to annex land to the city shall file with the city the appropriate application form approved by the city manager. The application shall include the following:

1. ✓ Written consent form to the annexation signed by the requisite number of affected property owners, electors or both, provided by ORS 222, if applicable;

2. ✓ A legal description of the territory to be annexed, meeting the relevant requirements of the Metro Code and ORS Ch. 308. If such a description is not submitted, a boundary survey may be required. A lot and block description may be substituted for the metes and bounds description if the area is platted. If the legal description contains any deed or book and page references, legible copies of these shall be submitted with the legal description;

3. ✓ A list of property owners within three hundred feet of the subject property and if applicable, those property owners that will be "islanded" by the annexation proposal, on mailing labels acceptable to the city manager (equal to 30 labels per 8.5-inch by 11-inch sheet);

4. ✓ Two full quarter-section county tax assessor's maps, with the subject property(ies) outlined;

5. ✓ Twenty-five copies of a site plan, drawn to scale (not greater than one inch = fifty feet), indicating:

a. The location of existing structures (if any),

b. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed,

c. The location and direction of all water features on and abutting the subject property. Approximate location of areas subject to inundation, stormwater overflow or standing water. Base flood data showing elevations of all property subject to inundation in the event of one hundred year flood shall be shown,

d. Natural features, such as rock outcroppings, marshes or wetlands (as delineated by the Division of State Lands) wooded areas, isolated preservable trees (trees with trunks over six inches in diameter--as measured four feet above ground), and significant areas of vegetation,

e. General land use plan indicating the types and intensities of the proposed, or potential development;

6. ✓ If applicable, a double-majority worksheet, certification of ownership and voters. Certification of legal description and map, and boundary change data sheet on forms provided by the city.

7. ✓ A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:

a. Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities,

b. Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time,

c. Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand,

d. Statement outlining method and source of financing required to provide additional facilities, if any,

e. Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced,

f. Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any,

g. Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;

8. ✓ The application fee for annexations established by resolution of the city commission and any fees required by Metro. In addition to the application fees, the city manager shall require a deposit, which is adequate to cover any and all costs related to the election. (Ord. 99-1030 §5, 1999)

OREGON CITY

Community Development – Planning

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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. ✓ **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. N/A **Additional Information or Reports**

Exhibit C: Property Ownership Information

Fidelity National Title
Company of Oregon

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein Fidelity National Title Company of Oregon hereby reports that it is prepared to issue, or cause to be issued, as of the specified date, a policy or policies of title insurance describing the land and the estate or interest hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.

The printed Exceptions and Exclusions from the coverage of said policy or policies are set forth in Exhibit One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a/an California corporation.

Please read the exceptions shown or referred to herein and the Exceptions and Exclusions set forth in Exhibit One of this report carefully. The Exceptions and Exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

This preliminary report is for the exclusive use of the parties to the contemplated transaction, and the Company does not have any liability to any third parties nor any liability until the full premium is paid and a policy is issued. Until all necessary documents are placed of record, the Company reserves the right to amend or supplement this preliminary report.

Countersigned

Fidelity National Title
Company of Oregon

12809 SE 93rd Avenue, Clackamas, OR 97015
(503)786-0340 FAX (503)786-0424

PRELIMINARY REPORT

ESCROW OFFICER: Melissa McSperitt
melissa.mcsperitt@fnf.com
TITLE OFFICER: David Boutin

ORDER NO.: 45141703211
Supplement 2nd - removing #'s 6, 7 and 9

TO: Fidelity National Title Company of Oregon
12809 SE 93rd Avenue
Clackamas, OR 97015

ESCROW LICENSE NO.: 900400383

OWNER/SELLER: Bruce Raymond Miller Trustee and Shelly Alane Miller Trustee

BUYER/BORROWER: PDX Development, Inc., an Oregon Corporation

PROPERTY ADDRESS: 19701 S Leland Road, Oregon City, OR 97045

EFFECTIVE DATE: March 3, 2017, 08:00 AM

1. THE POLICY AND ENDORSEMENTS TO BE ISSUED AND THE RELATED CHARGES ARE:

	AMOUNT	PREMIUM
ALTA Owner's Policy 2006 **Owner's Standard (Builder's Rate)**	$ 1,000,000.00	$ 1,365.00

2. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A Fee

3. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   Bruce Raymond Miller and Shelly Alane Miller, Trustees of the Bruce and Shelly Miller Revocable Living Trust dated the 4th day of February, 1997

4. THE LAND REFERRED TO IN THIS REPORT IS SITUATED IN THE COUNTY OF CLACKAMAS, STATE OF OREGON, AND IS DESCRIBED AS FOLLOWS:

   SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

EXHIBIT "A"

Legal Description

Parcel 1, PARTITION PLAT NO. 1992-78, County of Clackamas and State of Oregon.

AS OF THE DATE OF THIS REPORT, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN THE POLICY FORM WOULD BE AS FOLLOWS:

GENERAL EXCEPTIONS:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.

4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.

5. Any lien or right to a lien for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.

SPECIFIC ITEMS AND EXCEPTIONS

6. [Intentionally Deleted]

7. [Intentionally Deleted]

8. Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document:

In favor of:	Portland General Electric Company, an Oregon Corporation
Purpose:	Electric transmission line
Recording Date:	March 21, 1963
Recording No.:	Book 619, Page 42
Affects:	Reference is hereby made to said document for full particulars

9. [Intentionally Deleted]

10. The search did not disclose any open mortgages or deeds of trust of record, therefore the Company reserves the right to require further evidence to confirm that the property is unencumbered, and further reserves the right to make additional requirements or add additional items or exceptions upon receipt of the requested evidence.

11. Any invalidity or defect in the title of the vestees in the event that the trust referred to herein is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

    If title is to be insured in the trustee(s) of a trust (or if their act is to be insured), this Company will require a copy of said Trust Agreement or a Trust Certification pursuant to ORS Chapter 130.860.

    The Company reserves the right to make additional requirements or add additional items or exceptions after review of the requested documentation.

12. If requested to issue an extended coverage ALTA loan policy, the following matters must be addressed:

    a) The rights of tenants holding under unrecorded leases or tenancies
    b) Matters disclosed by a statement as to parties in possession and as to any construction, alterations or repairs to the Land within the last 75 days. The Company must be notified in the event that any funds are to be used for construction, alterations or repairs.
    c) Any facts which would be disclosed by an accurate survey of the Land

ADDITIONAL REQUIREMENTS/NOTES:

A. Property taxes for the fiscal year shown below are paid in full.

Fiscal Year:	2016-2017
Amount:	$2,413.48
Levy Code:	062-084
Account No.:	00885625
Map No.:	32E18 01400

Prior to close of escrow, please contact the Tax Collector's Office to confirm all amounts owing, including current fiscal year taxes, supplemental taxes, escaped assessments and any delinquencies.

B. In addition to the standard policy exceptions, the exceptions enumerated above shall appear on the final 2006 ALTA policy unless removed prior to issuance.

C. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance by the corporation named below.

Name of Corporation: PDX Development, Inc.

a) A Copy of the corporation By-laws and Articles of Incorporation

b) An original or certified copy of a resolution authorizing the transaction contemplated herein.

c) If the Articles and/or By-laws require approval by a "parent" organization, a copy of the Articles and By-laws of the parent.

The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

D. Note: There are no matters against the party(ies) shown below which would appear as exceptions to coverage in a title insurance product:

Parties: PDX Development, Inc., an Oregon Corporation

E. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

F. Note: No search has been made or will be made for water, sewer, or storm drainage charges unless the city/service district claims them as liens (i.e., foreclosable) and reflects them on its lien docket at the date of closing. Buyers should check with the appropriate city bureau or water/service district and obtain a billing cutoff. Such charges must be adjusted outside of escrow.

G. THE FOLLOWING NOTICE IS REQUIRED BY STATE LAW: YOU WILL BE REVIEWING, APPROVING AND SIGNING IMPORTANT DOCUMENTS AT CLOSING. LEGAL CONSEQUENCES FOLLOW FROM THE SELECTION AND USE OF THESE DOCUMENTS. YOU MAY CONSULT AN ATTORNEY ABOUT THESE DOCUMENTS. YOU SHOULD CONSULT AN ATTORNEY IF YOU HAVE QUESTIONS OR CONCERNS ABOUT THE TRANSACTION OR ABOUT THE DOCUMENTS. IF YOU WISH TO REVIEW TRANSACTION DOCUMENTS THAT YOU HAVE NOT SEEN, PLEASE CONTACT THE ESCROW AGENT.

H. Recording Charge (Per Document) is the following:

County	First Page	Each Additional Page
Multnomah	$42.00	$5.00
Washington	$41.00	$5.00
Clackamas	$53.00	$5.00

Note: When possible the company will record electronically. An additional charge of $5.00 applies to each document that is recorded electronically.

I. Note: Effective January 1, 2008, Oregon law (ORS 314.258) mandates withholding of Oregon income taxes from sellers who do not continue to be Oregon residents or qualify for an exemption. Please contact your Escrow Closer for further information.

J. Note: This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances or acreage shown thereon.

EXHIBIT ONE

2006 AMERICAN LAND TITLE ASSOCIATION LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses that arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning) restricting, regulating, prohibiting or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions or location of any improvement erected on the land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed or agreed to by the Insured Claimant;
   (b) not known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with the applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in the Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage.

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the Land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof, water rights, claims or title to water.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land. The term "encroachment" includes encroachments of existing improvements located on the Land onto adjoining land, and encroachments onto the Land of existing improvements located on adjoining land.
5. Any lien for services, labor or material heretofore or hereafter furnished, or for contributions due to the State of Oregon for unemployment compensation or worker's compensation, imposed by law and not shown by the Public Records.

2006 AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses that arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning) restricting, regulating, prohibiting or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions or location of any improvement erected on the land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed or agreed to by the Insured Claimant;
   (b) not known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in the Covered Risk 9 of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage.

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the Land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof, water rights, claims or title to water.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land. The term "encroachment" includes encroachments of existing improvements located on the Land onto adjoining land, and encroachments onto the Land of existing improvements located on adjoining land.
5. Any lien for services, labor or material heretofore or hereafter furnished, or for contributions due to the State of Oregon for unemployment compensation or worker's compensation, imposed by law and not shown by the Public Records.

FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE
Effective: May 1, 2015; Last Updated: March 1, 2017

At Fidelity National Financial, Inc., we respect and believe it is important to protect the privacy of consumers and our customers. This Privacy Notice explains how we collect, use, and protect any information that we collect from you, when and to whom we disclose such information, and the choices you have about the use of that information. A summary of the Privacy Notice is below, and we encourage you to review the entirety of the Privacy Notice following this summary. You can opt-out of certain disclosures by following our opt-out procedure set forth at the end of this Privacy Notice.

Types of Information Collected. You may provide us with certain personal information about you, like your contact information, address demographic information, social security number (SSN), driver's license, passport, other government ID numbers and/or financial information. We may also receive browsing information from your Internet browser, computer and/or mobile device if you visit or use our websites or applications.	**How Information is Collected**. We may collect personal information from you via applications, forms, and correspondence we receive from you and others related to our transactions with you. When you visit our websites from your computer or mobile device, we automatically collect and store certain information available to us through your Internet browser or computer equipment to optimize your website experience.
Use of Collected Information. We request and use your personal information to provide products and services to you, to improve our products and services, and to communicate with you about these products and services. We may also share your contact information with our affiliates for marketing purposes.	**When Information Is Disclosed**. We may disclose your information to our affiliates and/or nonaffiliated parties providing services for you or us, to law enforcement agencies or governmental authorities, as required by law, and to parties whose interest in title must be determined.
Choices With Your Information. Your decision to submit information to us is entirely up to you. You can opt-out of certain disclosure or use of your information or choose to not provide any personal information to us.	**Information From Children**. We do not knowingly collect information from children who are under the age of 13, and our website is not intended to attract children.
Privacy Outside the Website. We are not responsible for the privacy practices of third parties, even if our website links to those parties' websites.	**International Users**. By providing us with you information, you consent to its transfer, processing and storage outside of your country of residence, as well as the fact that we will handle such information consistent with this Privacy Notice.
The California Online Privacy Protection Act. Some FNF companies provide services to mortgage loan servicers and, in some cases, their websites collect information on behalf of mortgage loan servicers. The mortgage loan servicer is responsible for taking action or making changes to any consumer information submitted through those websites.	
Your Consent To This Privacy Notice. By submitting information to us or by using our website, you are accepting and agreeing to the terms of this Privacy Notice.	**Access and Correction; Contact Us**. If you desire to contact us regarding this notice or your information, please contact us at privacy@fnf.com or as directed at the end of this Privacy Notice.

FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE
Effective: May 1, 2015; Last Updated: March 1, 2017

Fidelity National Financial, Inc. and its majority-owned subsidiary companies providing title insurance, real estate- and loan-related services (collectively, "FNF", "our" or "we") respect and are committed to protecting your privacy. We will take reasonable steps to ensure that your Personal Information and Browsing Information will only be used in compliance with this Privacy Notice and applicable laws. This Privacy Notice is only in effect for Personal Information and Browsing Information collected and/or owned by or on behalf of FNF, including Personal Information and Browsing Information collected through any FNF website, online service or application (collectively, the "Website").

Types of Information Collected

We may collect two types of information from you: Personal Information and Browsing Information.

Personal Information. FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- social security number (SSN), driver's license, passport, and other government ID numbers;
- financial account information; and
- other personal information needed from you to provide title insurance, real estate- and loan-related services to you.

Browsing Information. FNF may collect the following categories of Browsing Information:

- Internet Protocol (or IP) address or device ID/UDID, protocol and sequence information;
- browser language and type;
- domain name system requests;
- browsing history, such as time spent at a domain, time and date of your visit and number of clicks;
- http headers, application client and server banners; and
- operating system and fingerprinting data.

How Information is Collected

In the course of our business, we may collect *Personal Information* about you from the following sources:

- applications or other forms we receive from you or your authorized representative;
- the correspondence you and others send to us;
- information we receive through the Website;
- information about your transactions with, or services performed by, us, our affiliates or nonaffiliated third parties; and
- information from consumer or other reporting agencies and public records maintained by governmental entities that we obtain directly from those entities, our affiliates or others.

If you visit or use our Website, we may collect *Browsing Information* from you as follows:

- Browser Log Files. Our servers automatically log each visitor to the Website and collect and record certain browsing information about each visitor. The Browsing Information includes generic information and reveals nothing personal about the user.
- Cookies. When you visit our Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. When you visit a website again, the cookie allows the website to recognize your computer. Cookies may store user preferences and other information. You can choose whether or not to accept cookies by changing your Internet browser settings, which may impair or limit some functionality of the Website.

Use of Collected Information

Information collected by FNF is used for three main purposes:

- To provide products and services to you or any affiliate or third party who is obtaining services on your behalf or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you and to inform you about our, our affiliates' and third parties' products and services, jointly or independently.

When Information Is Disclosed

We may provide your Personal Information (excluding information we receive from consumer or other credit reporting agencies) and Browsing Information to various individuals and companies, as permitted by law, without obtaining your prior authorization. Such laws do not allow consumers to restrict these disclosures. Please see the section "Choices With Your Personal Information" to learn how to limit the discretionary disclosure of your Personal Information and Browsing Information.

Disclosures of your Personal Information may be made to the following categories of affiliates and nonaffiliated third parties:

- to third parties to provide you with services you have requested, and to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to our affiliate financial service providers for their use to market their products or services to you;
- to nonaffiliated third party service providers who provide or perform services on our behalf and use the disclosed information only in connection with such services;
- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to market financial products or services to you;
- to law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoena or court order;
- to lenders, lien holders, judgment creditors, or other parties claiming an interest in title whose claim or interest must be determined, settled, paid, or released prior to closing; and
- other third parties for whom you have given us written authorization to disclose your Personal Information.

We may disclose Personal Information and/or Browsing Information when required by law or in the good-faith belief that such disclosure is necessary to:

- comply with a legal process or applicable laws;
- enforce this Privacy Notice;
- investigate or respond to claims that any material, document, image, graphic, logo, design, audio, video or any other information provided by you violates the rights of a third party; or
- protect the rights, property or personal safety of FNF, its users or the public.

We maintain reasonable safeguards to keep your Personal Information secure. When we provide Personal Information to our affiliates or third party service providers as discussed in this Privacy Notice, we expect that these parties process such information in compliance with our Privacy Notice or in a manner that is in compliance with applicable privacy laws. The use of your information by a business partner may be subject to that party's own Privacy Notice. Unless permitted by law, we do not disclose information we collect from consumer or credit reporting agencies with our affiliates or others without your consent.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of our bankruptcy, reorganization, insolvency, receivership or an assignment for the benefit of creditors. You expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings. We cannot and will not be responsible for any breach of security by a third party or for any actions of any third party that receives any of the information that is disclosed to us.

Choices With Your Information

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you. The uses of your Personal Information and/or Browsing Information that, by law, you cannot limit, include:

- for our everyday business purposes – to process your transactions, maintain your account(s), to respond to law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoenas or court orders, or report to credit bureaus;
- for our own marketing purposes;
- for joint marketing with financial companies; and
- for our affiliates' everyday business purposes – information about your transactions and experiences.

You may choose to prevent FNF from disclosing or using your Personal Information and/or Browsing Information under the following circumstances ("opt-out"):

- for our affiliates' everyday business purposes – information about your creditworthiness; and
- for our affiliates to market to you.

To the extent permitted above, you may opt-out of disclosure or use of your Personal Information and Browsing Information by notifying us by one of the methods at the end of this Privacy Notice. We do not share your personal information with non-affiliates for their direct marketing purposes.

For California Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties, except as permitted by California law. Currently, our policy is that we do not recognize "do not track" requests from Internet browsers and similar devices.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.

For Oregon Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties, except as permitted by Vermont law, such as to process your transactions or to maintain your account. In addition, we will not share information about your creditworthiness with our affiliates except with your authorization. For joint marketing in Vermont, we will only disclose your name, contact information and information about your transactions.

Information From Children

The Website is meant for adults and is not intended or designed to attract children under the age of thirteen (13).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian. By using the Website, you affirm that you are over the age of 13 and will abide by the terms of this Privacy Notice.

Privacy Outside the Website

The Website may contain links to other websites. FNF is not and cannot be responsible for the privacy practices or the content of any of those other websites.

International Users

FNF's headquarters is located within the United States. If you reside outside the United States or are a citizen of the European Union, please note that we may transfer your Personal Information and/or Browsing Information outside of your country of residence or the European Union for any of the purposes described in this Privacy Notice. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection and transfer of such information in accordance with this Privacy Notice.

The California Online Privacy Protection Act

For some FNF websites, such as the Customer CareNet ("CCN"), FNF is acting as a third party service provider to a mortgage loan servicer. In those instances, we may collect certain information on behalf of that mortgage loan servicer via the website. The information which we may collect on behalf of the mortgage loan servicer is as follows:

- first and last name;
- property address;
- user name and password;
- loan number;
- social security number - masked upon entry;
- email address;
- three security questions and answers; and
- IP address.

The information you submit through the website is then transferred to your mortgage loan servicer by way of CCN.

The mortgage loan servicer is responsible for taking action or making changes to any consumer information submitted through this website. For example, if you believe that your payment or user information is incorrect, you must contact your mortgage loan servicer.

CCN does not share consumer information with third parties, other than (1) those with which the mortgage loan servicer has contracted to interface with the CCN application, or (2) law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoenas or court orders. All sections of this Privacy Notice apply to your interaction with CCN, except for the sections titled "Choices with Your Information" and "Access and Correction." If you have questions regarding the choices you have with regard to your personal information or how to access or correct your personal information, you should contact your mortgage loan servicer.

Your Consent To This Privacy Notice

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information by us in compliance with this Privacy Notice. Amendments to the Privacy Notice will be posted on the Website. Each time you provide information to us, or we receive information about you, following any amendment of this Privacy Notice will signify your assent to and acceptance of its revised terms for all previously collected information and information collected from you in the future. We may use comments, information or feedback that you submit to us in any manner that we may choose without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to access or correct your Personal Information, or want to opt-out of information sharing with our affiliates for their marketing purposes, please send your requests to privacy@fnf.com or by mail or phone to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer
(888) 934-3354

Exhibit D: Certified Annexation Petition

CERTIFICATION OF PROPERTY OWNERSHIP OF

100% OF LAND AREA

(City 100% Ownership Method)

I hereby certify that the attached petition for a proposed boundary change involving the territory described in the petition contains the names of the owners* of 100% of the land area within the annexation area described in the petition, as shown on the last available complete assessment roll.

NAME Mary Neigel

TITLE GIS Cartographer II

DEPARTMENT Assessment + Tax

COUNTY OF Clackamas

DATE 07.26.17

* "Owner" means the legal owner of record or, where there is a recorded land contract which is in force, the purchaser thereunder. If there is a multiple ownership in a parcel of land each consenting owner shall be counted as a fraction to the same extent as the interest of the owner in the land bears in relation to the interest of the other owners and the same fraction shall be applied to the parcel's land mass and assessed value for purposes of the consent petition. If a corporation owns land in territory proposed to be annexed, the corporation shall be considered the individual owner of that land.

CITY OF OREGON CITY

ANNEXATION PETITION

By signing below I indicate my consent to and support of being annexed into the City of Oregon City, and my consent for having my signature (below) used for any application form required for the annexation, including but not limited to the City of Oregon City's Land Use Application Form.

NOTE: This petition may be signed by qualified persons even though they may not know their property description or precinct number.

SIGNATURE	PRINTED NAME	I AM A *			ADDRESS	PROPERTY DESCRIPTION				PRECINCT #	DATE
		PO	RV	OV		LOT #	1/4 SEC	TWNSHP	RANGE		
Bruce Raymond Miller Trustee	Bruce Raymond Miller Trustee	X			19701 S. Leland Road	1400	18	3S	2E	510	7/25/17
Shelly Alane Miller Trustee	Shelly Alane Miller Trustee	X									7/25/17

* PO = Property Owner
RV = Registered Voter
OV = Owner and Registered Voter

Exhibit E: Certified Legal Description and Map

CERTIFICATION OF LEGAL DESCRIPTION AND MAP

I hereby certify that the description of the property included within the attached petition (located on Assessor's Map 3 2E 18) has been checked by me and it is a true and exact description of the property under consideration, and the description corresponds to the attached map indicating the property under consideration.

NAME Mary Neigel

TITLE GIS Cartographer II

DEPARTMENT Assessment & Tax

COUNTY OF Clackamas

DATE 08.01.2017

AKS ENGINEERING & FORESTRY, LLC
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 F: (503) 563-6152
AKS Job #5837
ENGINEERING & FORESTRY
OFFICES IN: TUALATIN, OR - VANCOUVER, WA - SALEM-KEIZER, OR

EXHIBIT A

Annexation Description

Parcel 1 of Partition Plat 1992-078, Clackamas County Plat Records, and a portion of right-of-way, located in the Southeast One-Quarter and Southwest One-Quarter of Section 7, Township 3 South, Range 2 East, Willamette Meridian, City of Oregon City, Clackamas County, Oregon, and being more particularly described as follows:

Beginning at the westerly corner of said Parcel 1; thence along the northwesterly line of said Parcel 1 and the northeasterly extension thereof, North 42°58'00" East 954.00 feet to the northeasterly right-of-way line of Leland Road (30.00 feet from centerline); thence along said northeasterly right-of-way line, South 47°02'28" East 214.90 feet to the northeasterly extension of the northwesterly line of Document Number 98-015612; thence leaving said northeasterly right-of-way line along said northeasterly extension and the northwesterly line of said deed, South 42°51'53" West 234.00 feet to the southwesterly line of said deed; thence along said southwesterly line, South 47°02'28" East 115.00 feet to the southeasterly line of said Parcel 1 and the City of Oregon City city limits line; thence along said southeasterly line and said city limits line, South 42°51'53" West 720.00 feet to the southwesterly line of said Parcel 1; thence leaving said city limits line along said southwesterly line, North 47°02'28" West 331.59 feet to the Point of Beginning.

The above tract of land contains 6.63 acres, more or less.

08-01-17

REGISTERED
PROFESSIONAL
LAND SURVEYOR

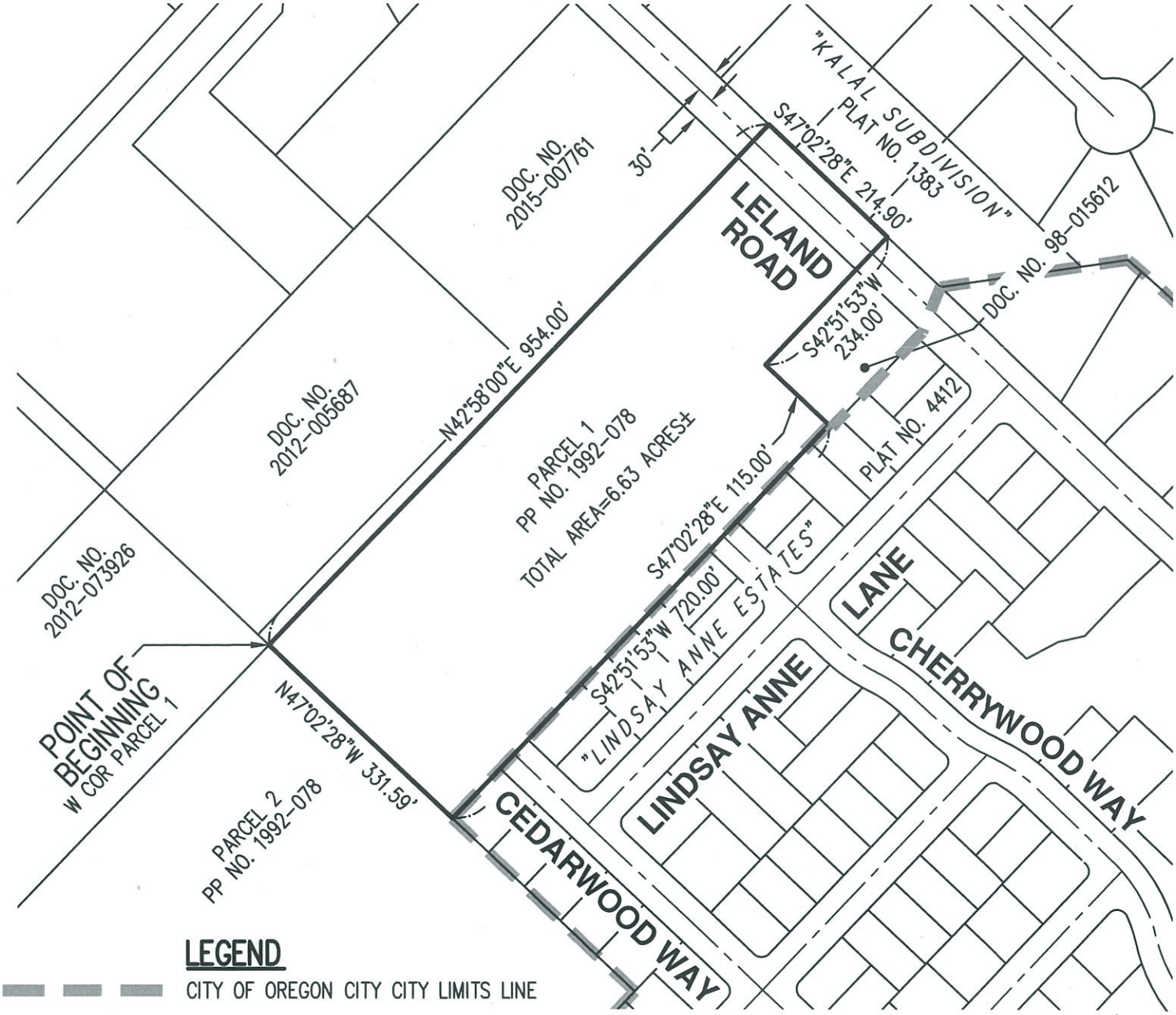
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/18

MN

RECEIVED
AUG 2017
CLACKAMAS COUNTY ASSESSOR

EXHIBIT B

PARCEL 1 OF PARTITION PLAT 1992-078, AND A PORTION OF RIGHT-OF-WAY, LOCATED IN THE SOUTHEAST 1/4 AND SOUTHWEST 1/4 OF SECTION 7, TOWNSHIP 3 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON



LEGEND

CITY OF OREGON CITY CITY LIMITS LINE

08-01-17

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS

RENEWS: 12/31/18

PREPARED FOR

PDX DEVELOPMENT, INC.
P. O. BOX 2559
OREGON CITY, OR 97045

SCALE: 1"= 200 FEET

200 0 80 120 160 200

N

MAP OF ANNEXATION	EXHIBIT B
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 P: 503.563.6151 F: 503.563.6152 aks-eng.com	DRWN: WCB CHKD: RDR AKS JOB: 5837

Exhibit F: Boundary Change Information Sheet

BOUNDARY CHANGE INFORMATION SHEET

I. EXISTING CONDITIONS IN AREA TO BE ANNEXED

A. General location 19701 S Leland Road

B. Land Area: Acres ±6.33 acres (without R-O-W) / ±6.63 acres (with R-O-W) or Square Miles _____

C. General description of territory. (Include topographic features such as slopes, vegetation, drainage basins, floodplain areas, which are pertinent to this proposal).

Generally flat property with existing single-family residence and associated outbuildings. Vegetation consists of pasture grasses and a number of trees used as landscaping.

D. Describe land uses on surrounding parcels. Use tax lots as reference points.

North: Abutting properties to the northwest are underdeveloped with a single-family residence, outbuilding, and pasture land located within Clackamas County's (holdover) Future Urban 10-Acre (FU-10) zone.

East: Properties to the northeast of the subject property are part of a single-family residential subdivision within Clackamas County's (holdover) FU-10 zone.

South: Abutting properties to the southeast were created as part of the Lindsay Anne Estates Subdivision and are located in the City of Oregon City's R-6 zone.

West: Abutting property to the southwest is occupied by single-family residences and outbuildings, and are located outside the Urban Growth Boundary.

E. Existing Land Use:

Number of single-family units 1 Number of multi-family units 0

Number commercial structures 0 Number industrial structures 0

Public facilities or other uses N/A

What is the current use of the land proposed to be annexed: Single-family residential.

F. Total current year Assessed Valuation $ 162,140

G. Total existing population N/A

II. REASON FOR BOUNDARY CHANGE (See attached written narrative)

A. The City Code (Section 6) and the Metro Code (3.09.050 (d) & (e)) spell out criteria for consideration (see copies attached). Please provide a narrative which addresses these criteria. With regard to the City criteria, please provide a narrative statement explaining the conditions surrounding the proposal and addressing the factors in Section 6, as relevant, including:

1. Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;
2. Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;
3. Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;
4. Statement outlining method and source of financing required to provide additional facilities, if any;
5. Statement of overall development concept and methods by which physical and related social environment of the site, surrounding area and community will be enhanced;
6. Statement of potential physical, aesthetic and related social effects of the proposed or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;
7. Statement indicating the type and nature of any Comprehensive Plan text or map amendments or Zoning text or map amendments that may be required to complete the proposed development.

B. Please submit 25 copies of a site plan, drawn to scale (not greater than 1" = 50') indicating:

1. The location of existing structures (if any);
2. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed.
3. The location and direction of all water features on and abutting the subject property. Approximate location of areas subject to inundation, stormwater overflow or standing water. Base flooding data showing elevations of all property subject to inundation in the event of one-hundred year flood shall be shown;
4. Natural features, such as rock outcroppings, marshes or wetlands (as delineated by the Division of Sate Lands) wooded areas, isolated preservable trees (trees with trunks over 6" in diameter- - -as measured 4 feet above the ground) and significant areas of vegetation.
5. General land use plan indicating the types and intensities of the proposed or potential development;

III. LAND USE AND PLANNING

A. What is the applicable County Planning Designation? Future Urban
What City Planning Designation is being sought? LR - Low Density Residential

B. What is the zoning on the territory to be served?
Clackamas County Future Urban 10-Acre (FU-10)

What zoning designation is being sought? City of Oregon City R-6 Single-Family Dwelling District

C. Is the subject territory to be developed at this time? No (A future application would need to be submitted)

D. Generally describe the anticipated development (building types, facilities, number of units).
Although development is not included in this annexation application, single-family detached homes are consistent with the LR (Low Density Residential) and the R-6 zoning designation, and anticipated.

E. Can the proposed development be accomplished under current county zoning?
☐ Yes ☑ No (Development not included with this application)

If No,---has a zone change been sought from the county either formally or informally.

☐ Yes ☑ No (City of Oregon City zone change application included)

Please describe outcome of zone change request if answer to previous questions was Yes. Zone change application submitting concurrently with annexation application.

F. Is the proposed development compatible with the city's comprehensive land use plan for the area? (Development not included with this application. Requested zone change to City of Oregon City R-6 zoning designation is compatible with City's Comprehensive Plan designation of Low Density Residential (LR)
☑ Yes ☐ No ☐ City has no Plan for the area.

Has the proposed development been discussed either formally or informally with any of the following? (Please indicate)

☐ City Planning Commission ☑ City Planning Staff
☐ City Council ☐ City Manager
☑ Neighborhood Association

Please describe the reaction to the proposed development from the persons or agencies indicated above.
Positive and supportive.

G. Please indicate all permits and/or approvals from a City, County, or Regional Government which will be needed for the proposed development. If already granted, please indicate date of approval and identifying number:

APPROVAL	PROJECT FILE #	DATE OF APPROVAL	FUTURE REQUIREMENT
Metro UGB Amendment			N/A
City or County Plan Amendment			N/A
Pre-Application Hearing (City or County)	PA 17-07	05/10/16 03/08/17	
Preliminary Subdivision Approval			✓
Final Plat Approval			✓
Land Partition			N/A
Conditional Use			N/A
Variance			N/A
Sub-Surface Sewage Disposal			N/A
Building Permit			✓

Please submit copies of proceedings relating to any of the above permits or approvals which are pertinent to the annexation.

H. Does the proposed development comply with applicable regional, county or city comprehensive plans? Please describe.

Future residential development. Annexation and zone change are consistent with the applicable County and City Comprehensive Plans. Both recommend low density residential use of the property.

I. If a city and/or county-sanctioned citizens' group exists in the area of the annexation, please list its name and address of a contact person.

HIllendale Neighborhood Association - Roy Harris - royandanna@centurylink.net

Tower-Vista Neighborhood Association - Vern Johnson - verndonnajohnson@yahoo.com

IV. SERVICES AND UTILITIES

A. Please indicate the following:

1. Location and size of nearest water line which can serve the subject area.

The subject property is currently within and served by the Clackamas River Water (CRW) District's 6-inch water main located in S Leland Road. A separate 12-inch City water main is also located in S Leland Road. Additional City water mains are located in abutting Cedarwood Way and Cherrywood Way to the southeast.

As part of a future land use application, the CRW water main will be abandon and extension and new connections to the City's water main would be established.

2. Location and size of nearest sewer line which can serve the subject area.

The existing residence located on the subject property is served by private septic system. Existing 8-inch sanitary sewer mains are located in the abutting Cedarwood Way and Cherrywood Way rights-of-way to the southeast. Additionally an existing 8-inch sanitary sewer main is also located in the S Leland Road right-of-way, which will be required to be extended with future land use applications.

3. Proximity of other facilities (storm drains, fire engine companies, etc.) which can serve the subject area An existing public stormwater system exists directly to the southeast within the abutting Cedarwood Way and Cherrywood Way and S Leland rights-of-way. The closest park is Wesley Lynn Park, approximately ±540 feet to the northeast. The property is within the Oregon City School District, and the property is served by the Clackamas Fire District No. 1. and Clackamas County Sheriff's Office. Future development of this property would continue to use these same services, except that the property will receive service from the City of Oregon City Police Department.

4. The time at which services can be reasonably provided by the city or district. Services are able to be extended to serve the future land use of the property. Existing services will continue to serve the property until such time as the property is subject to additional land use actions.

5. The estimated cost of extending such facilities and/or services and what is to be the method of financing. (Attach any supporting documents.) The estimated cost of extending services will be determined once additional land use applications are submitted for the subject property.

6. Availability of the desired service from any other unit of local government. (Please indicate the government.)

N/A

B. If the territory described in the proposal is presently included within the boundaries of or being served extraterritorially or contractually by, any of the following types of governmental units, please so indicate by stating the name or names of the governmental units involved.

City	N/A	Rural Fire Dist	Clackamas Fire District No.1
County Service Dist.	Clackamas County Sheriff's Office	Sanitary District	N/A
Hwy. Lighting Dist.	N/A	Water District	Clackamas River Water
Grade School Dist.	Oregon City School District	Drainage District	N/A
High School Dist.	Oregon City School District	Diking District	N/A
Library Dist.	N/A	Park & Rec. Dist.	N/A
Special Road Dist.	N/A	Other Dist. Supplying Water Service	N/A

C. If the territory is proposed to be served by any of the above units or any other units of government please note. Oregon City Police Department, Oregon City School District, Clackamas Fire District No.1, Tri-City Service District, City of Oregon City Water Division

D. If any of the above units are presently servicing the territory (for instance, are

residents in the territory hooked up to a public sewer or water system), please so describe.

The subject property currently benefits from from Clackamas River Water, Clackamas Fire District No.1, Clackamas County Sheriff's Office, and the Oregon City School District.

APPLICANT'S NAME: PDX Development, Inc.

MAILING ADDRESS: P.O. Box 2559
Oregon City, OR 97045

TELEPHONE NUMBER: Applicant's Consultant: (503) 563-6151 (Work)
(Res.)

REPRESENTING: Applicant's Consultant: AKS Engineering & Forestry, LLC (Monty Hurley)

DATE: August, 2017

Exhibit G: Traffic Impact Study

Lindsay Anne Estates Too
Annexation and Zone Change

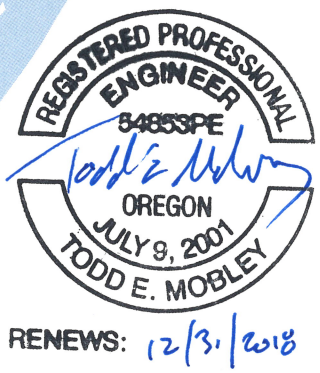
Traffic Impact Study

Oregon City, Oregon

Date:
August 3, 2017

Prepared for:
PDX Development, Inc.

Prepared by:
Todd Mobley, PE
Richard Martin, EI



LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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Executive Summary

1. A 6.32-acre property south and west of S Leland Road between S McCord Road and S Jessie Avenue is proposed for annexation into the City of Oregon City. Upon annexation, the property will be rezoned from FU-10 to R-6 zoning. A subdivision is proposed under the R-6 zoning that would accommodate 28 lots for construction of single-family homes.
2. Based on trip generation for the proposed development, the new subdivision could result in up to 20 additional trips during the morning peak hour, with 5 entering and 15 exiting the site. During the evening peak hour, 27 additional site trips are projected, with 17 entering and 10 exiting the site.
3. The operational analysis shows that the study area intersections are projected to meet the relevant operational standards of Oregon City under year 2019 (build out) and 2037 (planning horizon) traffic conditions either with or without the addition of site trips from the proposed subdivision.
4. Since all study area intersections will operate acceptably through the planning horizon either with or without the proposed rezone and development, the Transportation Planning Rule is satisfied, and the proposed zone change does not significantly affect the transportation system.

Introduction

A 6.32-acre property south and west of S Leland Road between S McCord Road and S Jessie Avenue is proposed for annexation into the City of Oregon City. Upon annexation, the property will be rezoned to R-6 zoning for the purpose of developing a subdivision, in conformance with the city's Comprehensive Plan.

The purpose of this study is to assess the potential impacts of the proposed annexation and address the transportation analysis requirements of Oregon City, the Oregon Department of Transportation (ODOT), and Oregon's Transportation Planning Rule. The report will identify the potential net increase in traffic and examine the transportation impacts of the added trips at the planning horizon. The report will include level of service calculations and volume-to-capacity calculations for existing conditions as well as year 2037 traffic conditions both with and without the proposed annexation. The analysis will also include a detailed examination of crash history at the study intersections.

This report addresses the impacts of the proposed project on the traffic and transportation conditions in the vicinity of the project site. The report includes safety and capacity analyses at three intersections:

- Leland Road at S McCord Road
- Leland Road at Lindsay Anne Lane
- Leland Road at the proposed site access

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 mitigations that might be necessary to do so.

Detailed information on traffic counts, crash data, and level of service calculations are included in the appendix to this report.

Location Description

The proposed development is in the southern part of Oregon City on the southwest side of Leland Road. Access to Leland Road will be available via a planned new roadway to be named Miller Road that intersects Leland Road approximately 330 feet northwest of its intersection with Lindsay Anne Lane. Further access will be provided by extensions to Cherrywood Way and Cedarwood Way. The configuration of these new streets is shown in the site plan in the appendix. In addition, lots 1 & 2 on the proposed site plan are proposed to take access directly to Leland Road. Based on preliminary conversations with the City of Oregon City, it is understood that these two driveways may need to share a common curb cut and be coordinated with Clackamas County. The final configuration of these driveways will be examined in further detail at the time of subdivision plan review.

Leland Road is classified as a Minor Arterial in the Oregon City Transportation System Plan. It is a two-lane facility with a posted speed limit of 35 mph. There are no bike lanes or sidewalks along Leland Road in the

vicinity of the site, although sidewalks and bike lanes exist on the more developed parts of Leland Road north of the project site.

A vicinity map showing the project site and the study area intersections is shown in Figure 1 on page 4.

Study Intersections

McCord Road, which is classified as a collector, intersects Leland Road northwest of the subject site. The intersection is three-legged, and controlled with a stop sign along McCord Road, which approaches the intersection from the southwest. Leland Road bends 90 degrees at the intersection, and so approaches the intersection from the southeast and northeast. There are no sidewalks or marked crosswalks, and each approach has one lane for all movements.

Lindsay Anne Lane, which is classified as a Local Road, creates a three-legged intersection with Leland Road. The northeast bound approach of Lindsay Anne Lane is stop controlled at the through road of Leland Road running southeast. There is an unmarked intersection available at the intersection across the Lindsay Anne Lane approach. Along this section of Leland Road there is on-street parking available on the southwest side of the road.

The proposed primary site access at Leland Road will occur along the new Miller Road. Miller Road will be classified as a Local Road and will create a three-legged intersection with Leland Road. The northeast bound approach of Miller Road will be stop controlled, while Leland Road will be a through movement in both directions. Each leg of the intersection will have one lane for all turning movements. Sidewalks and unmarked pedestrian crossings will be available along the length of Miller Road in the site vicinity.

Existing Traffic Volumes

To determine existing traffic volumes at the study intersections, traffic counts were conducted on Tuesday, April 18, 2017. Traffic was counted from 7:00 to 9:00 AM to obtain data for the morning peak hour and from 4:00 to 6:00 PM to obtain data for the evening peak hour. These existing volumes are shown in Figure 2 on page 5. The raw data is provided in the technical appendix.

Transit

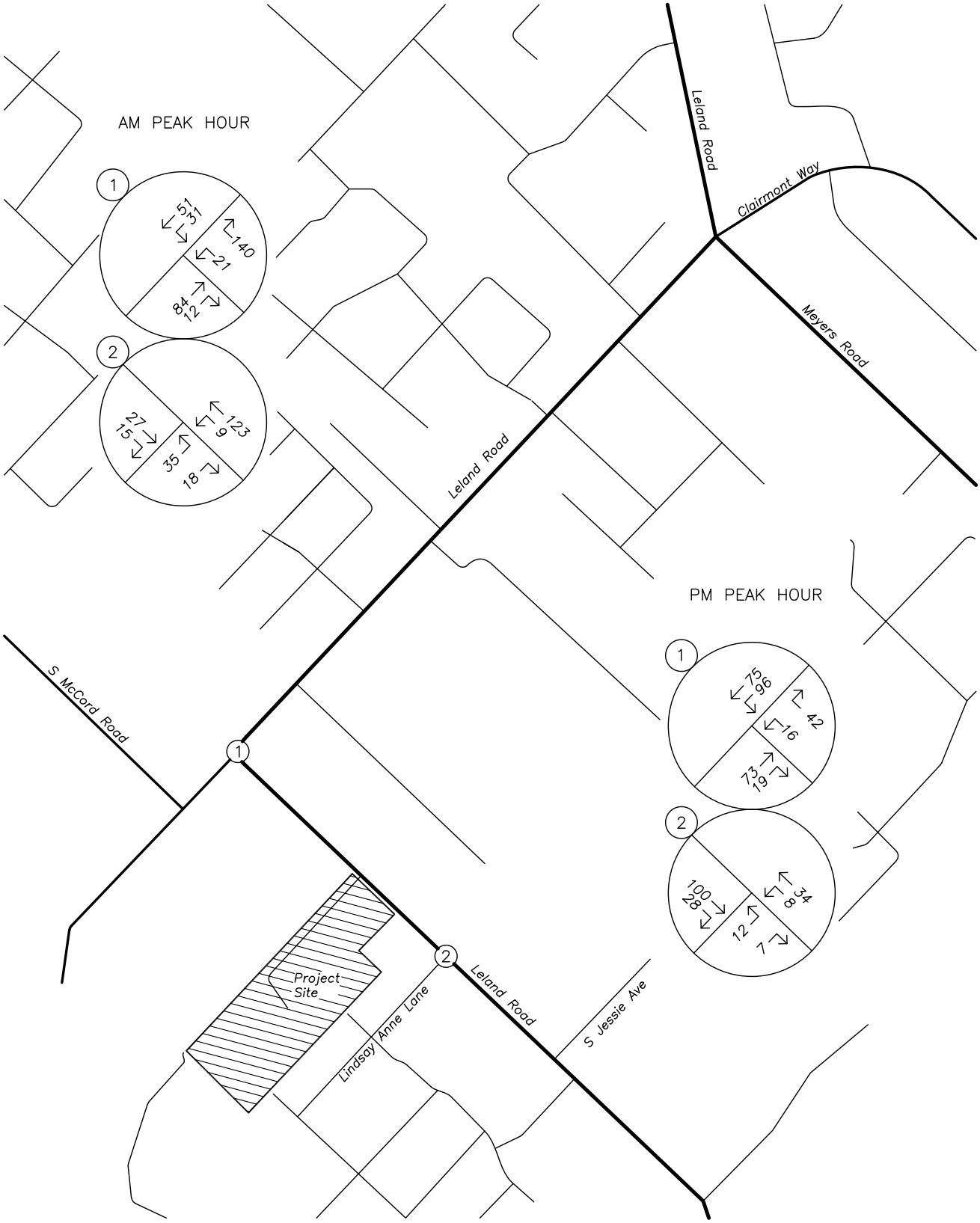
There are no public transit facilities in the site vicinity. The nearest bus facilities run along Warner Milne Road, Molalla Avenue, and Highway 99E.

VICINITY MAP

no scale

FIGURE 1

PAGE 4



TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours

no scale

FIGURE 2

PAGE 5

Site Trips

Trip Generation

To estimate the number of trips that will be generated by the proposed development, trip rates from the manual *TRIP GENERATION*[1] were used. The data utilized are for *Single-Family Detached Housing,* which is based on the number of dwelling units. The trip generation was calculated for the 28 single-family homes.

The trip generation calculations show that the proposed development is projected to result in a total of 20 additional trips during the morning peak hour and 27 additional trips during the evening peak hour. The development will generate 256 new trips each weekday. The trip generation estimates are summarized in Table 1 and detailed trip generation calculations are included in the technical appendix to this report.

Table 1: Trip Generation Calculations: Proposed Subdivision

	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									
Proposed Development	210	28 units	5	16	21	18	10	28	266
Existing House	210	1 unit	0	1	1	1	0	1	10
Potential Net Increase in Trips		**27 units**	**5**	**15**	**20**	**17**	**10**	**27**	**256**

Because a change in zoning is proposed for the site, a comparison of the reasonable worst-case development potential under both the R-10 zoning currently proposed for future development in the Oregon City TSP and the proposed R-6 zoning. Under the R-10 zoning, a total of 17 single-family dwelling units could be constructed. Under the proposed R-6 zoning, a total of 28 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.

Table 2: Trip Generation Comparison: Worst-Case Development

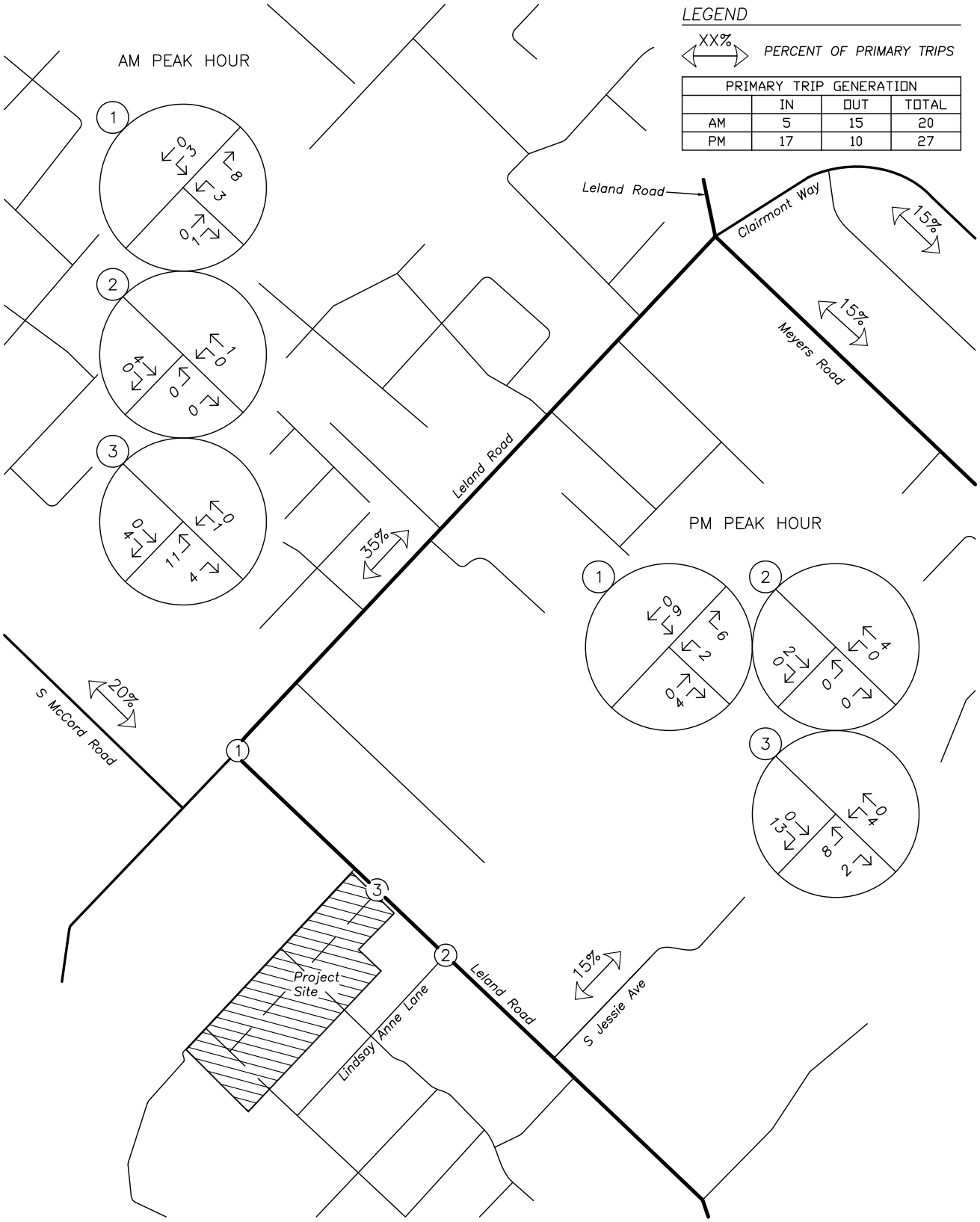
	ITE Code	Size	Morning Peak Hour In	Morning Peak Hour Out	Morning Peak Hour Total	Evening Peak Hour In	Evening Peak Hour Out	Evening Peak Hour Total	Weekday Total
Single-Family Detached Housing									
R-6 Zoning Potential	210	28 units	5	16	21	18	10	28	266
R-10 Zoning Potential	210	17 units	3	10	13	11	6	17	162
Potential Net Increase in Trips		**11 units**	**2**	**6**	**8**	**7**	**4**	**11**	**104**

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION, 9th Edition,* 2012.

Trip Distribution and Assignment

It is expected that 20% of site trips will utilize McCord Road to access Central Point Road and other connections and destinations to the west of the site. It is expected that 35% of all site trips will arrive from and depart toward the north along Leland Road in the direction of downtown Oregon City, 15% will arrive from and depart toward the northeast along Clairmont Way, and 15% will arrive from and depart toward the northeast along Meyers Road. Another 15% of all site trips will arrive from and depart toward the southeast along Meyers Road by utilizing Jessie Avenue/Frontier Way.

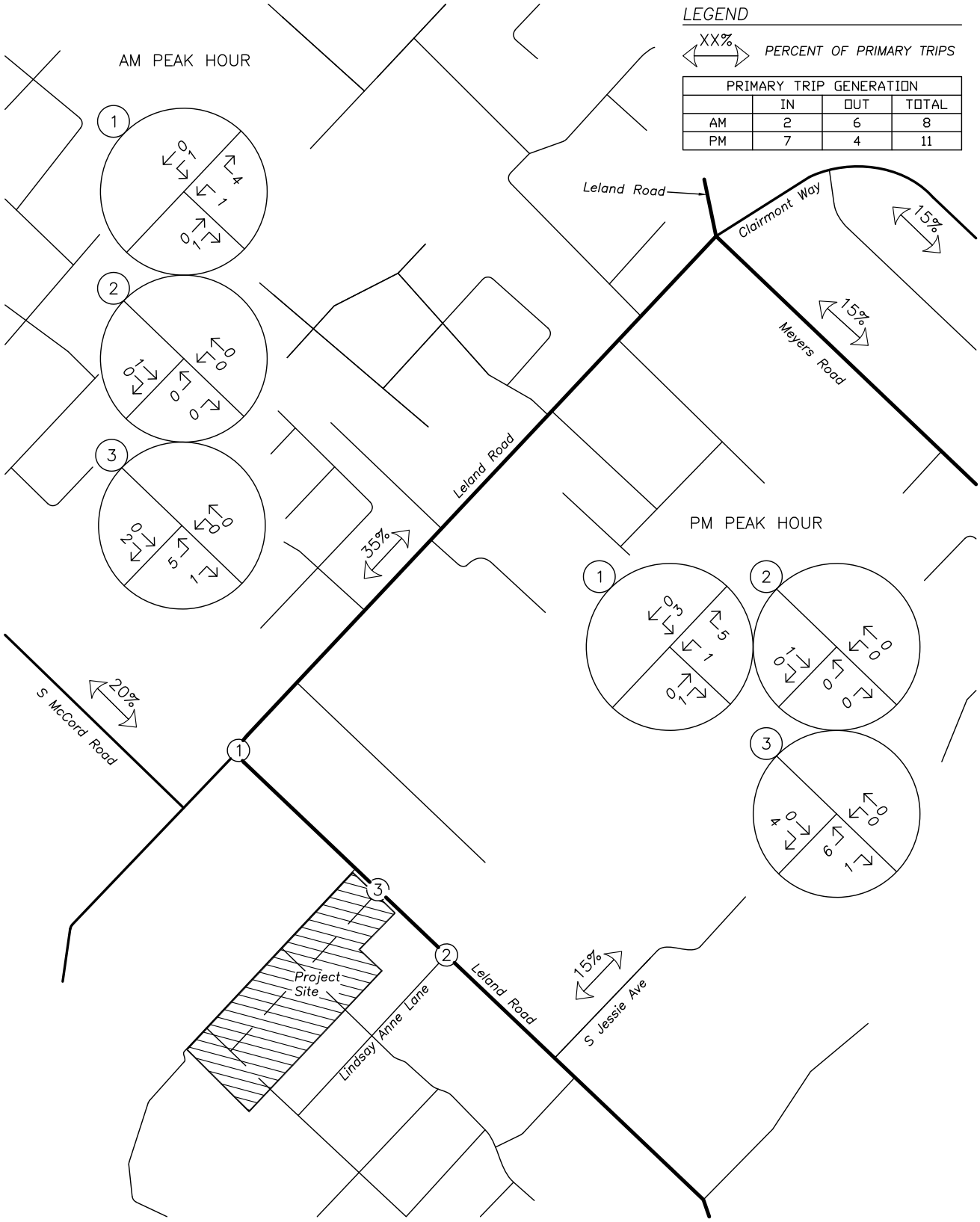
Figure 3 on page 8 shows the trip assignment for site trips generated by the proposed 28-lot development along with the trip distribution assumptions. Figure 4 on page 9 shows the net increase in trips from the zone change.



SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
AM & PM Peak Hours

no scale

FIGURE 3



SITE TRIP DISTRIBUTION & ASSIGNMENT
Net Increase in Trips from Zone Change
AM & PM Peak Hour

no scale

FIGURE 4

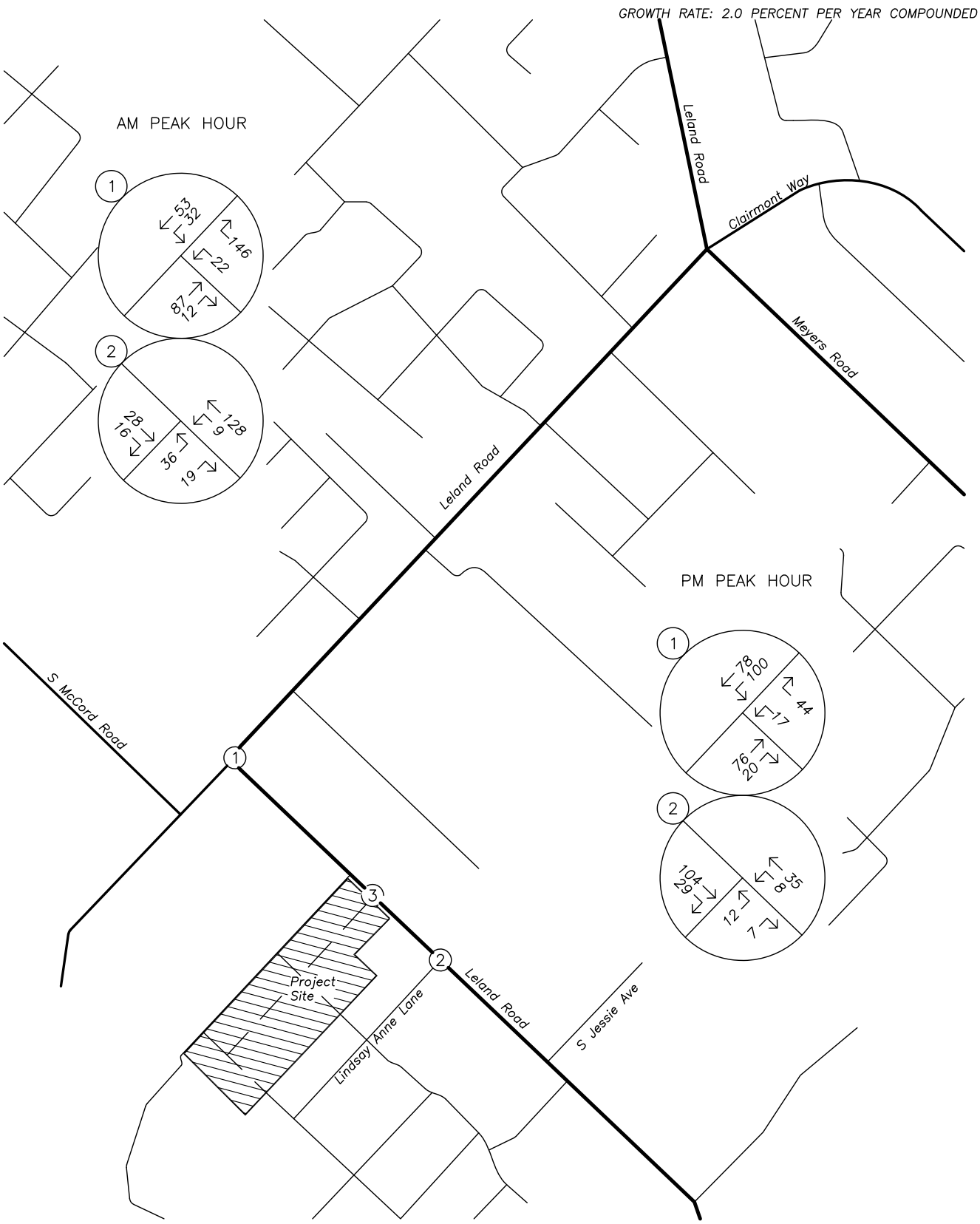
PAGE 9

Operational Analysis

Background Traffic Volumes

To gauge the effect on the proposed development relative to a *no-build* scenario, background volumes were calculated assuming a two-year build-out period and a 2% year-over-year growth in traffic volumes. The 2019 background conditions are represented in Figure 6 on page 12, while the 2019 background plus site trips conditions are represented in Figure 6 on page 12.

Since the proposed project includes a change in zoning, an analysis of conditions at the planning horizon is also required. To estimate growth during the 20-year planning period, the same 2% year-over-year growth assumption was used to estimate 2037 conditions. The 2037 background conditions are represented in Figure 7 on page 13, and the 2037 background plus the net increase in trips conditions are represented in Figure 8 on page 14.

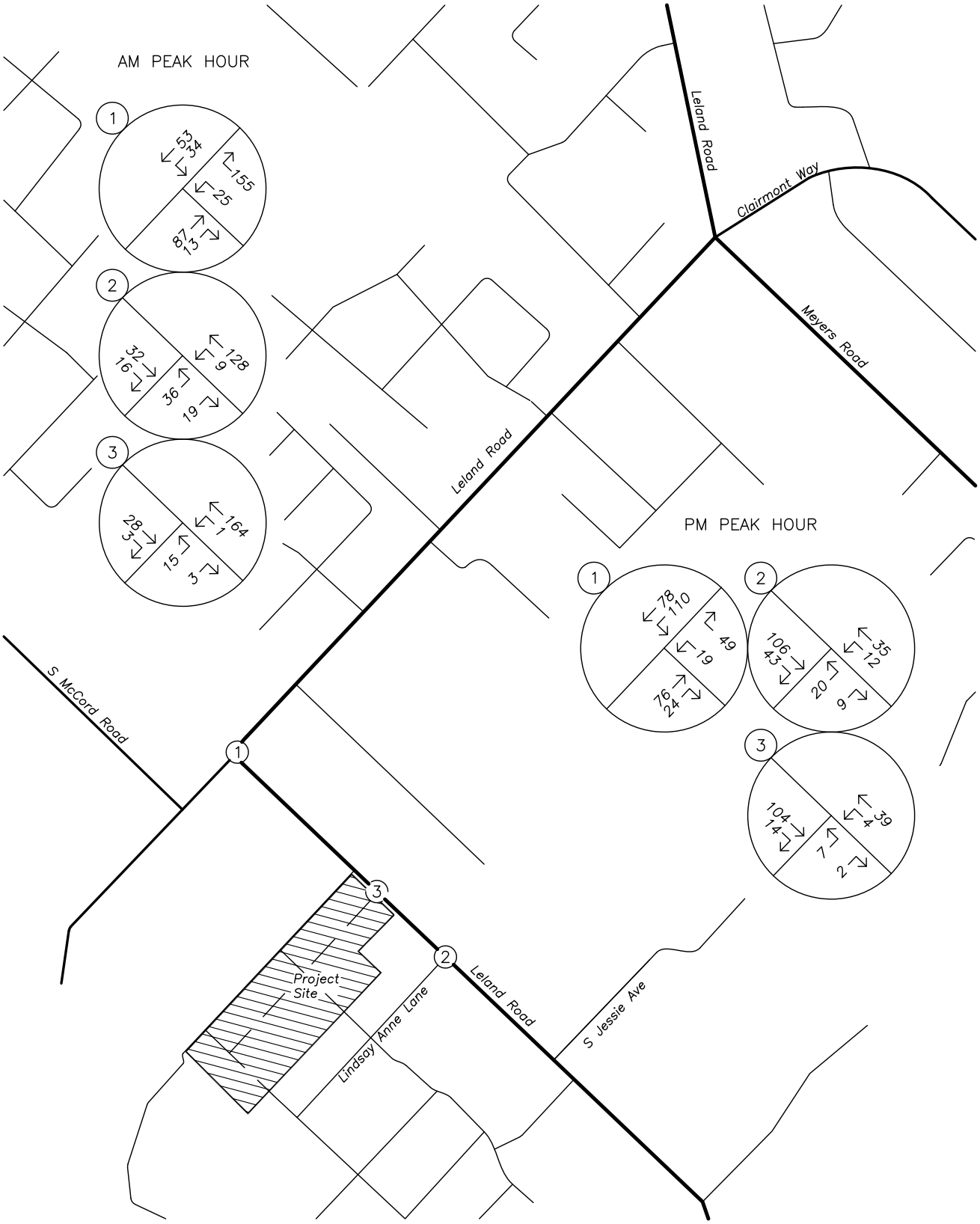


TRAFFIC VOLUMES
Year 2019 Background Conditions
AM & PM Peak Hours

no scale

FIGURE 5

PAGE 11

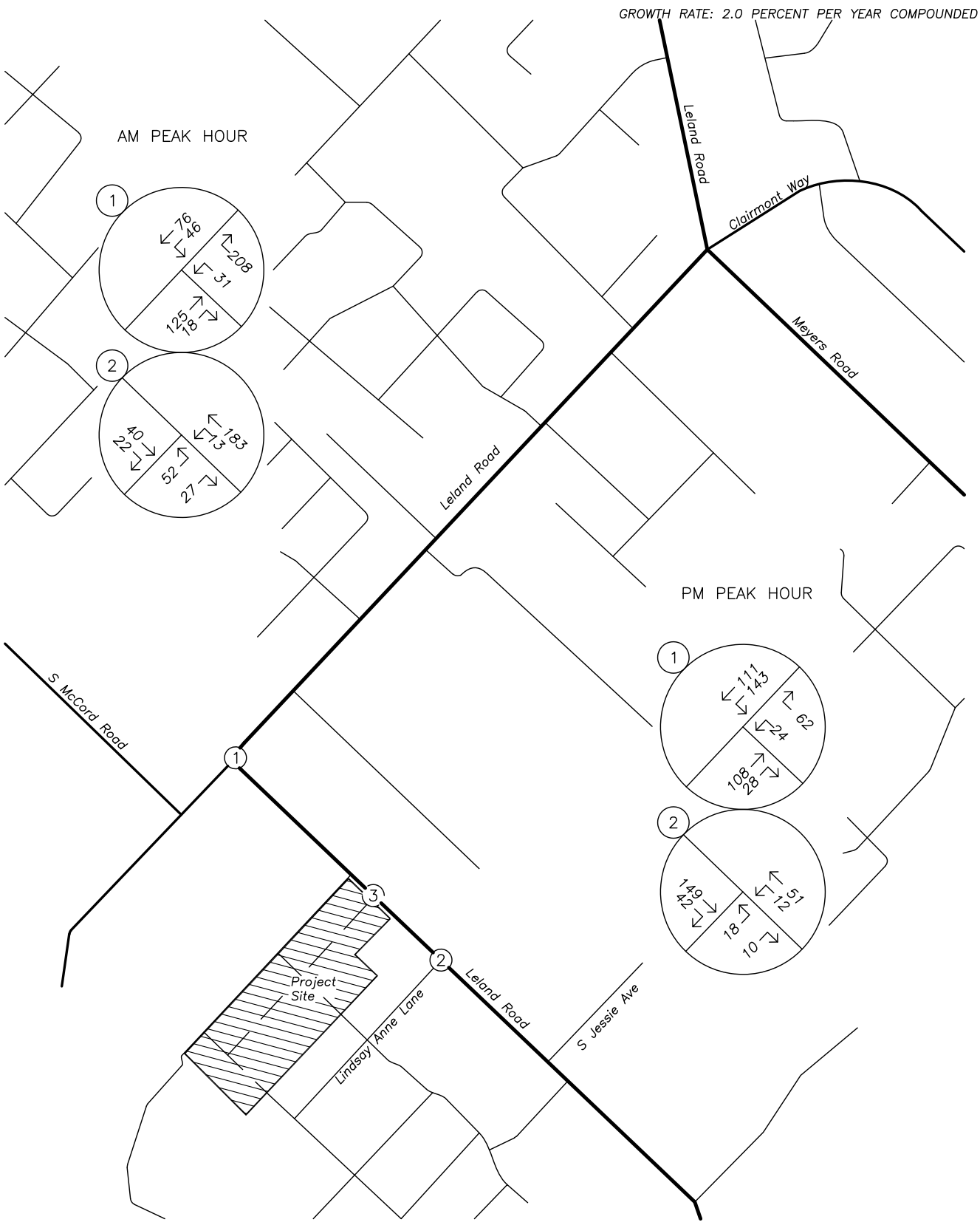


TRAFFIC VOLUMES
Year 2019 Background plus Site Trips
AM & PM Peak Hours

no scale

FIGURE 6

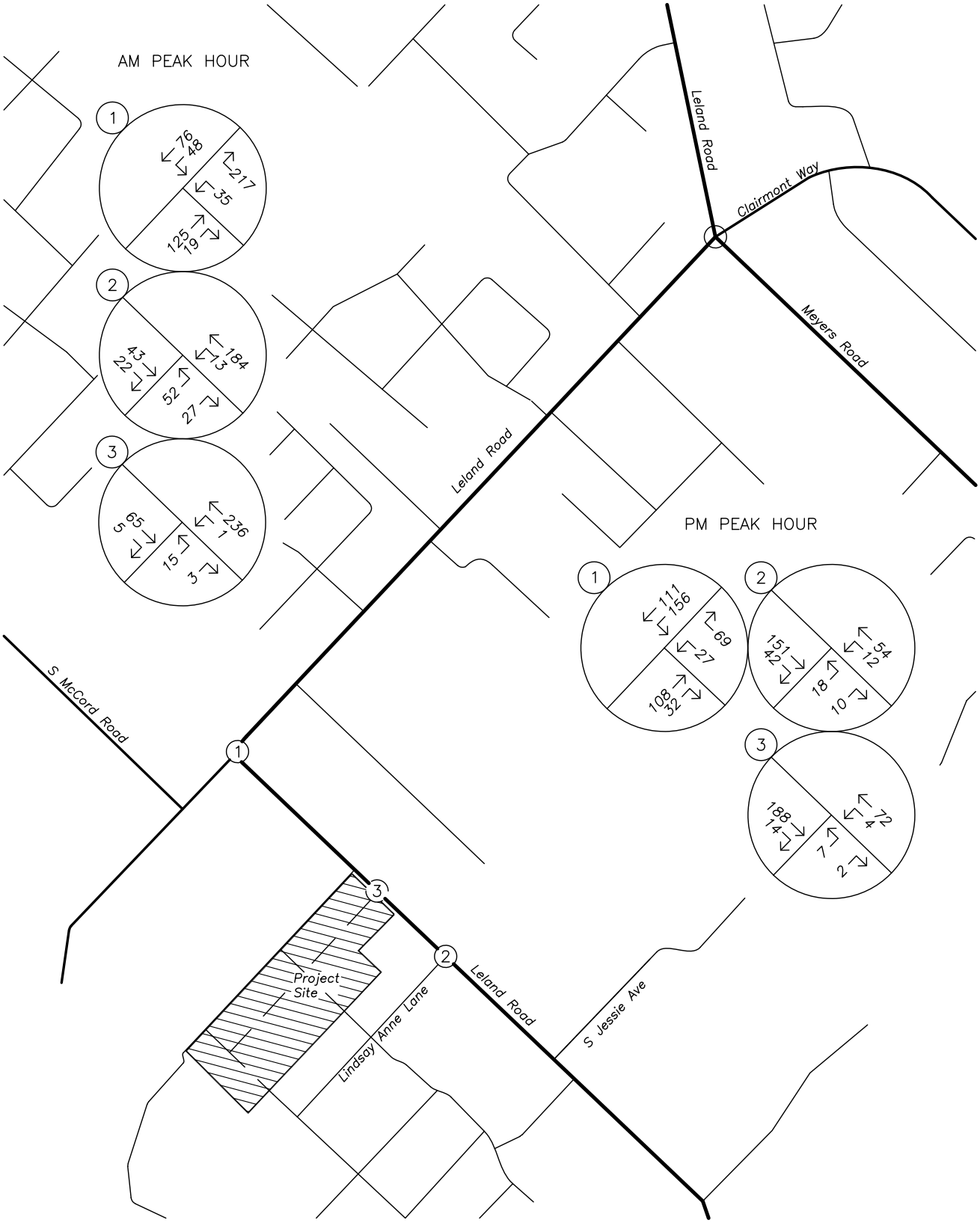
PAGE 12



TRAFFIC VOLUMES
Year 2037 Background Conditions
AM & PM Peak Hour

no scale

FIGURE 7



TRAFFIC VOLUMES
Year 2037 Existing plus Site Trips
AM & PM Peak Hours

no scale

FIGURE 8

Capacity Analysis

To determine the capacity and level-of-service at the study intersections, a capacity analysis was conducted. The analysis was conducted using the intersection analysis methodologies in the *Highway Capacity Manual (HCM)*[2]. Level-of-service (LOS) can range from A, which indicates little or no delay, to F, which indicates a significant amount of congestion and delay. Oregon City's operational standards require LOS D or better at both signalized and unsignalized intersections. Detailed LOS descriptions are included in the appendix to this report.

The results of the capacity analysis show that the intersection of Leland Road at McCord Road is currently operating at LOS A during both the morning and evening peak hours. Following the background growth and the addition of new trips from the proposed development, the intersection will continue to operate at LOS A during both peak hours.

The results of the capacity analysis show that the intersection of Leland Road at Lindsay Anne Lane is currently operating at LOS A during the morning and evening peak hours. Following the background growth and the addition of new trips from the proposed development, the intersection will continue to operate at LOS A during both peak hours.

The addition of site trips will not change the level of service of any study area intersection, which conforms to the operational standards outlined in the Oregon City TSP. As such, no mitigations are recommended.

Table 3 shows a summary of the capacity and level-of-service calculations at the study intersections under each of the scenarios examined. Detailed capacity analysis results are included in the appendix to this report.

[2] Transportation Research Board, *Highway Capacity Manual,* 4th Edition, 2000.

Table 3: Intersection Capacity and LOS Summary

	Morning Peak Hour		Evening Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)
Leland Road at McCord Road				
Existing Conditions	A	9	A	9
2019 Background Conditions	A	9	A	9
2019 Background + Site Conditions	A	9	A	9
2037 Background Conditions	A	9	A	10
2037 Background + Site Conditions	A	9	A	10
Leland Road at Lindsay Anne Lane				
Existing Conditions	A	10	A	9
2019 Background Conditions	A	10	A	9
2019 Background + Site Conditions	A	10	A	10
2037 Background Conditions	B	10	A	10
2037 Background + Site Conditions	B	10	B	10
Leland Road at Site Access				
2019 Background + Site Conditions	A	9	A	9
2037 Background + Site Conditions	B	10	B	10

Safety Analysis

Sight Distance

The planned development will take access to the existing street system via the intersection of Leland Road at Miller Road, a new public intersection. To ensure that this intersection can operate safely and efficiently, sight distance measurements were taken according to guidelines specified in *A Policy on Geometric Design of Highways and Streets*[3]. The measurements use driver's eye heights of 3.5 feet above the road for both vehicles exiting the driveway and vehicles on the main roadway, with the driver's eye 14.5 feet behind the edge of the near-side travel lane. The intersection sight distance necessary (ISD) at the driveways is based on the speed of traffic on Leland Road, and represents the sight distance needed such that traffic would not have to slow down excessively on Leland Road to accommodate vehicles entering the roadway from the driveways.

The proposed development will also have two lots taking direct access to Leland Road. During review of the application for the development that includes the access road, Clackamas County identified a necessary ISD of 445 feet at any site access to, and based upon the travel speeds along, Leland Road. Following construction of the site access as planned, the line of site available will exceed the required 445 feet. Exhibits showing the available lines of site at the access along with the grade of Leland Road in both directions are shown in the appendix.

Crash History

Using data obtained from ODOT's Crash Data System, a review of the most recent available five years of crash history (2011-2015) at the study intersections was performed. Crash rates were calculated under the common assumption that traffic counted during the PM peak period represents 10% of annual average daily traffic (AADT) at the intersection.

There were no reported crashes at the intersections of Leland Road at McCord Road and Leland Road at Lindsay Anne Lane during the analysis period.

Crash rates greater than 1.0 CMEV are generally indicative of a need for further investigation and possible mitigation. Since both study intersections have a crash rate well below this threshold, with one of the study intersections having no reported crashes during the analysis period, there are no apparent safety deficiencies at any study intersection, and on-site observations and available data suggest that all intersections will continue to operate safely in the future.

Detailed crash reports for the study intersections are included in the appendix to this report.

[3] American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.

Jessie Avenue & Frontier Parkway Traffic

The 15% of all site trips expected to arrive from and depart to the southeast along Meyers Road can do so by utilizing either of two routes: connecting directly to Meyers Road via Leland Road, or utilizing Jessie Avenue / Frontier Parkway. Jessie Avenue intersects Leland Road southeast of the site access, and becomes Frontier Parkway before intersecting with Meyers Road northeast of the intersection of Leland Road at Jessie Avenue. Both Jessie Avenue and Frontier Parkway are classified as Local Streets by Oregon City's Transportation System Plan.

The Jessie Avenue/Frontier Parkway route provides a more direct connection to traffic arriving from and departing to the southeast along Meyers, reducing the total travel distance by approximately 2,200 feet. However, the slower speed limits, culture, geometry and traffic-calming features of Jessie Avenue and Frontier Parkway serve to increase travel times and reduce cut-through traffic to Meyers Road along this route. Assuming that drivers travel at the legal speed limits on each road (except when slowing and stopping), the route utilizing Jessie Avenue and Frontier Parkway would result in a negligible difference in travel time. However, Jessie Avenue and Frontier Parkway have traffic calming measures including several horizontal curves and two speed humps, likely limiting average speeds to below the legal speed limit. While the average total travel time is expected to be similar along both routes, the Jessie Avenue/Frontier Parkway route will have a greater variation in control delay due to the fact that it is controlled by two-way (rather than four way) stop signs. Thus, travel times are likely to be more reliable along the Leland Road route.

Based on the geometry and travel speeds, it is anticipated that three site trips will utilize Jessie Avenue/Frontier Parkway during the morning peak hour, and four site trips will utilize this route during the evening peak hour.

As described above, Jessie Avenue and Frontier Way feature traffic calming, so the small number of new trips added to these roads would be expected to travel at safe and reasonable streets. Further, since the subject site is very close to these roads, these trips are local trips which is consistent with the classification of the streets.

The proposed development is not projected to adversely affect the safety, culture, or operation of Jessie Avenue or Frontier Parkway, and no mitigations are needed or 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 even with the addition of the net increase in trips from the zone change, all study area intersections will operate acceptably through the planning horizon.

The TPR is satisfied, since the proposed zone change does not significantly affect the transportation system.

Conclusions

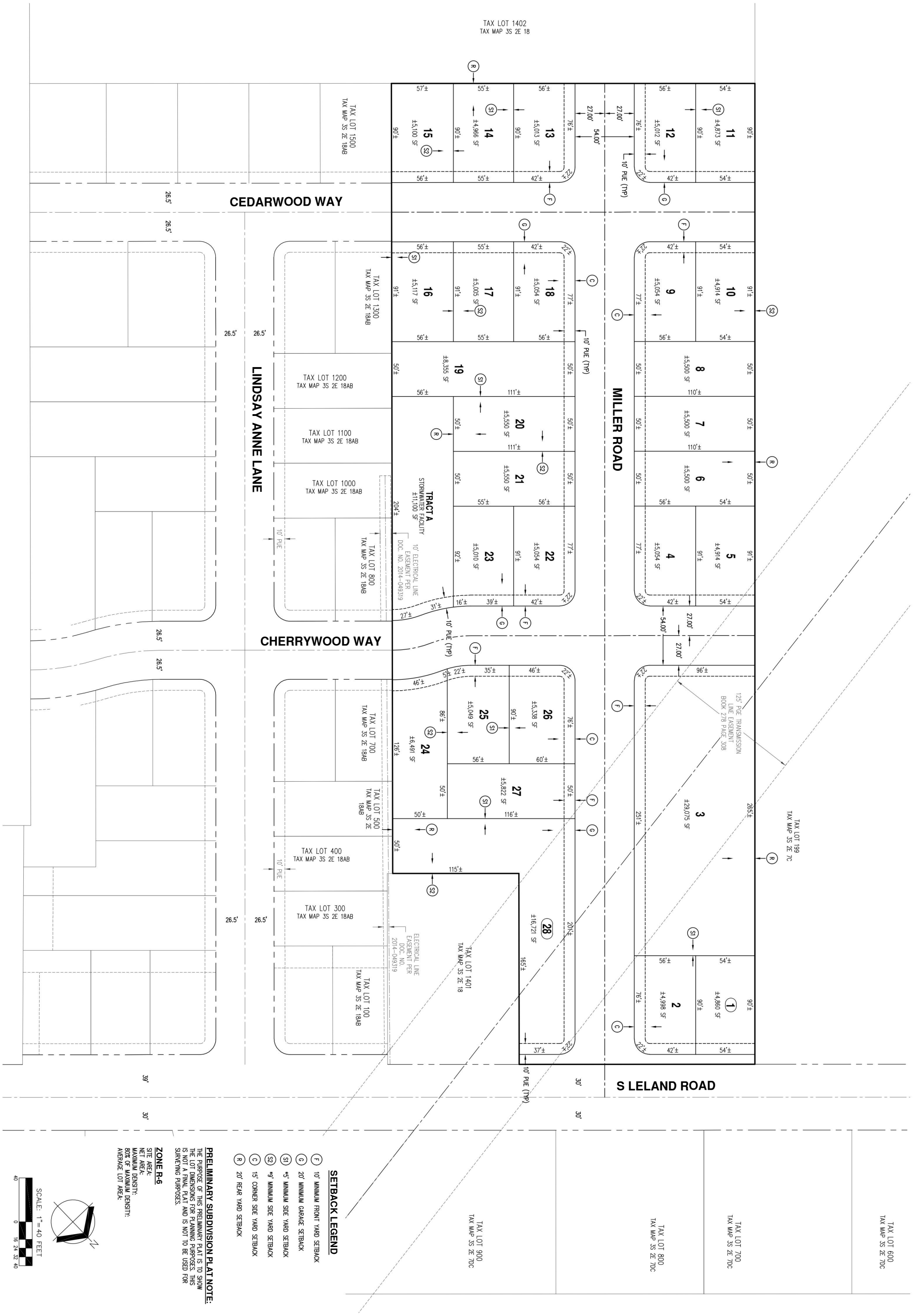
A 28-lot development is proposed at tax lot #1400, on the south side of Leland Road between the intersections with McCord Road and Lindsay Anne Lane in Oregon City, Oregon. When fully built-out, the development will generate 20 new trips during the morning peak hour, and 27 new trips during the evening peak hour.

The intersections of Leland Road at McCord Road, Leland Road at Lindsay Anne Lane, and the planned intersection of Leland Road at the proposed site access between Lindsay Anne Lane and McCord Road, and other facilities in the vicinity were found to have ample capacity to support the proposed development. No safety deficiencies were identified within the nearby transportation system, and none arise as a result of the proposed development.

The Transportation Planning Rule was analyzed and found to be satisfied, as the proposed zone change does not significantly affect the transportation system. The Oregon City Transportation System Plan accounts for growth as developments zoned FU-10 are rezoned for development.

The transportation system in the vicinity of the subject site can safely and efficiently accommodate the proposed development. No mitigations are needed or recommended.

Appendix



SETBACK LEGEND

- (F) 10' MINIMUM FRONT YARD SETBACK
- (G) 20' MINIMUM GARAGE SETBACK
- (S1) *5' MINIMUM SIDE YARD SETBACK
- (S2) *9' MINIMUM SIDE YARD SETBACK
- (C) 15' CORNER SIDE YARD SETBACK
- (R) 20' REAR YARD SETBACK

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-6
SITE AREA:
NET AREA:
MAXIMUM DENSITY:
80% OF MAXIMUM DENSITY:
AVERAGE LOT AREA:

SCALE: 1" = 40 FEET
40 0 16 24 32 40

PRELIMINARY SUBDIVISION PLAT

LELAND ROAD SUBDIVISION

OREGON CITY OREGON

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

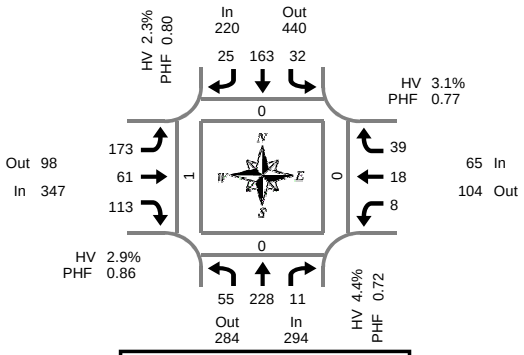
DESIGNED BY: VAN
DRAWN BY: NMC
CHECKED BY:
SCALE: AS NOTED
DATE: 07/11/2017

REVISIONS

JOB NUMBER 5837
SHEET ####

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Leland Rd & Clairmont Way

Tuesday, April 18, 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 Clairmont Way				Westbound Clairmont 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	1	10	1	0	0	4	2	0	4	5	8	0	0	2	2	0	39	0	0	0	0
7:05 AM	4	8	0	0	4	10	0	0	10	7	9	0	2	2	6	0	62	0	0	0	0
7:10 AM	3	10	1	0	2	12	2	0	16	3	11	0	2	1	1	0	64	0	0	0	0
7:15 AM	3	12	0	0	1	14	0	0	10	6	13	0	1	1	5	0	66	0	0	0	0
7:20 AM	1	21	0	0	1	14	3	0	19	4	7	0	1	3	4	0	78	0	0	0	0
7:25 AM	6	14	0	0	3	18	0	0	17	2	12	0	0	0	1	0	73	0	0	0	0
7:30 AM	3	22	0	0	2	21	2	0	9	2	11	0	0	4	2	0	78	0	0	0	0
7:35 AM	5	22	1	0	2	13	7	0	25	6	11	0	0	0	3	0	95	0	0	0	1
7:40 AM	3	25	1	0	5	14	3	0	18	4	12	0	0	1	4	0	90	0	0	0	0
7:45 AM	9	21	4	0	6	9	1	0	17	2	6	0	1	1	6	0	83	0	0	0	0
7:50 AM	5	25	1	0	4	15	3	0	11	6	5	0	0	1	1	0	77	0	0	0	0
7:55 AM	8	27	2	0	1	14	2	0	10	11	9	0	0	2	1	0	87	0	0	0	0
8:00 AM	5	21	1	0	1	9	2	0	11	8	7	0	1	2	5	0	73	0	0	0	0
8:05 AM	2	25	0	0	2	9	0	0	7	5	5	0	0	3	2	0	60	0	0	0	0
8:10 AM	6	28	0	0	0	4	1	0	4	3	3	0	0	1	4	0	54	0	0	0	0
8:15 AM	2	17	0	0	5	11	3	0	13	5	3	0	0	1	2	0	62	0	0	0	0
8:20 AM	3	21	1	0	1	9	3	0	6	3	3	0	0	3	4	1	57	0	0	0	0
8:25 AM	3	18	0	0	3	7	1	0	7	2	2	0	0	3	3	0	49	0	0	0	0
8:30 AM	2	9	1	0	2	18	3	0	10	5	5	0	0	3	2	0	60	0	0	0	0
8:35 AM	4	11	0	0	0	13	1	0	9	3	2	0	0	4	3	0	50	0	0	0	0
8:40 AM	1	23	0	0	0	9	3	0	6	3	6	0	1	4	0	0	56	0	0	0	0
8:45 AM	3	18	1	0	0	15	4	0	3	2	6	0	0	4	5	0	61	0	0	0	0
8:50 AM	1	18	0	0	5	8	2	0	7	4	3	0	0	3	1	0	52	0	0	0	0
8:55 AM	4	9	0	0	2	8	2	0	4	2	4	0	0	6	3	0	44	0	0	0	0
Total Survey	87	435	15	0	52	278	50	0	253	103	163	0	9	55	70	1	1,570	0	0	0	1

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	8	28	2	0	6	26	4	0	30	15	28	0	4	5	9	0	165	0	0	0	0
7:15 AM	10	47	0	0	5	46	3	0	46	12	32	0	2	4	10	0	217	0	0	0	0
7:30 AM	11	69	2	0	9	48	12	0	52	12	34	0	0	5	9	0	263	0	0	0	1
7:45 AM	22	73	7	0	11	38	6	0	38	19	20	0	1	4	8	0	247	0	0	0	0
8:00 AM	13	74	1	0	3	22	3	0	22	16	15	0	1	6	11	0	187	0	0	0	0
8:15 AM	8	56	1	0	9	27	7	0	26	10	8	0	0	7	9	1	168	0	0	0	0
8:30 AM	7	43	1	0	2	40	7	0	25	11	13	0	1	11	5	0	166	0	0	0	0
8:45 AM	8	45	1	0	7	31	8	0	14	8	13	0	0	13	9	0	157	0	0	0	0
Total Survey	87	435	15	0	52	278	50	0	253	103	163	0	9	55	70	1	1,570	0	0	0	1

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	294	284	578	0	220	440	660	0	347	98	445	0	65	104	169	0	926	0	0	0	1
%HV	4.4%				2.3%				2.9%				3.1%				3.2%				
PHF	0.72				0.80				0.86				0.77				0.86				

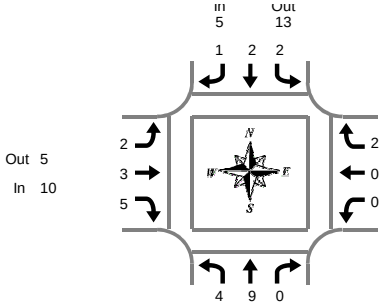
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	55	228	11	294	32	163	25	220	173	61	113	347	8	18	39	65	926
%HV	7.3%	3.9%	0.0%	4.4%	6.3%	1.2%	4.0%	2.3%	1.2%	4.9%	4.4%	2.9%	0.0%	0.0%	5.1%	3.1%	3.2%
PHF	0.63	0.78	0.39	0.72	0.53	0.77	0.52	0.80	0.72	0.61	0.83	0.86	0.40	0.64	0.75	0.77	0.86

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	51	217	11	0	31	158	25	0	166	58	114	0	7	18	36	0	892	0	0	0	1
7:15 AM	56	263	10	0	28	154	24	0	158	59	101	0	4	19	38	0	914	0	0	0	1
7:30 AM	54	272	11	0	32	135	28	0	138	57	77	0	2	22	37	1	865	0	0	0	1
7:45 AM	50	246	10	0	25	127	23	0	111	56	56	0	3	28	33	1	768	0	0	0	0
8:00 AM	36	218	4	0	21	120	25	0	87	45	49	0	2	37	34	1	678	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Clairmont Way

Tuesday, April 18, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	0	0	0	0	0	0	0	0	0	1	0	1	2
7:05 AM	1	0	0	1	1	0	0	1	0	1	0	1	0	0	0	0	3
7:10 AM	0	3	0	3	0	0	0	0	1	0	0	1	0	0	0	0	4
7:15 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
7:20 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:25 AM	1	1	0	2	1	0	0	1	0	0	1	1	0	0	0	0	4
7:30 AM	0	1	0	1	0	1	0	1	1	0	2	3	0	0	0	0	5
7:35 AM	0	0	0	0	0	0	1	1	0	1	1	2	0	0	1	1	4
7:40 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
7:45 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
7:50 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:55 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	1	0	1	4
8:10 AM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	1	1	0	2	0	0	1	1	0	1	1	2	0	0	0	0	5
8:20 AM	1	2	0	3	0	1	0	1	0	0	0	0	0	0	1	1	5
8:25 AM	1	1	0	2	0	1	0	1	1	0	0	1	0	0	1	1	5
8:30 AM	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	3
8:35 AM	0	0	0	0	0	5	0	5	1	0	1	2	0	0	0	0	7
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	1	2	0	2	1	3	0	0	0	0	0	0	0	0	5
8:50 AM	0	2	0	2	0	1	1	2	0	0	0	0	0	0	0	0	4
8:55 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	2
Total Survey	9	19	1	29	2	16	4	22	4	5	8	17	0	2	4	6	74

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	4	0	5	1	0	0	1	1	1	0	2	0	1	0	1	9
7:15 AM	1	3	0	4	1	0	0	1	0	0	2	2	0	0	0	0	7
7:30 AM	0	1	0	1	0	1	1	2	1	2	3	6	0	0	2	2	11
7:45 AM	2	2	0	4	0	1	0	1	0	0	0	0	0	0	0	0	5
8:00 AM	2	2	0	4	0	1	0	1	0	0	0	0	0	1	0	1	6
8:15 AM	3	4	0	7	0	2	1	3	1	1	1	3	0	0	2	2	15
8:30 AM	0	0	0	0	0	7	0	7	1	1	1	3	0	0	0	0	10
8:45 AM	0	3	1	4	0	4	2	6	0	0	1	1	0	0	0	0	11
Total Survey	9	19	1	29	2	16	4	22	4	5	8	17	0	2	4	6	74

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Clairmont Way			Westbound Clairmont Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	13	7	20	5	13	18	10	5	15	2	5	7	30
PHF	0.65			0.42			0.42			0.25			0.58

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	9	0	13	2	2	1	5	2	3	5	10	0	0	2	2	30
PHF	0.50	0.45	0.00	0.65	0.50	0.50	0.25	0.42	0.50	0.38	0.31	0.42	0.00	0.00	0.25	0.25	0.58

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

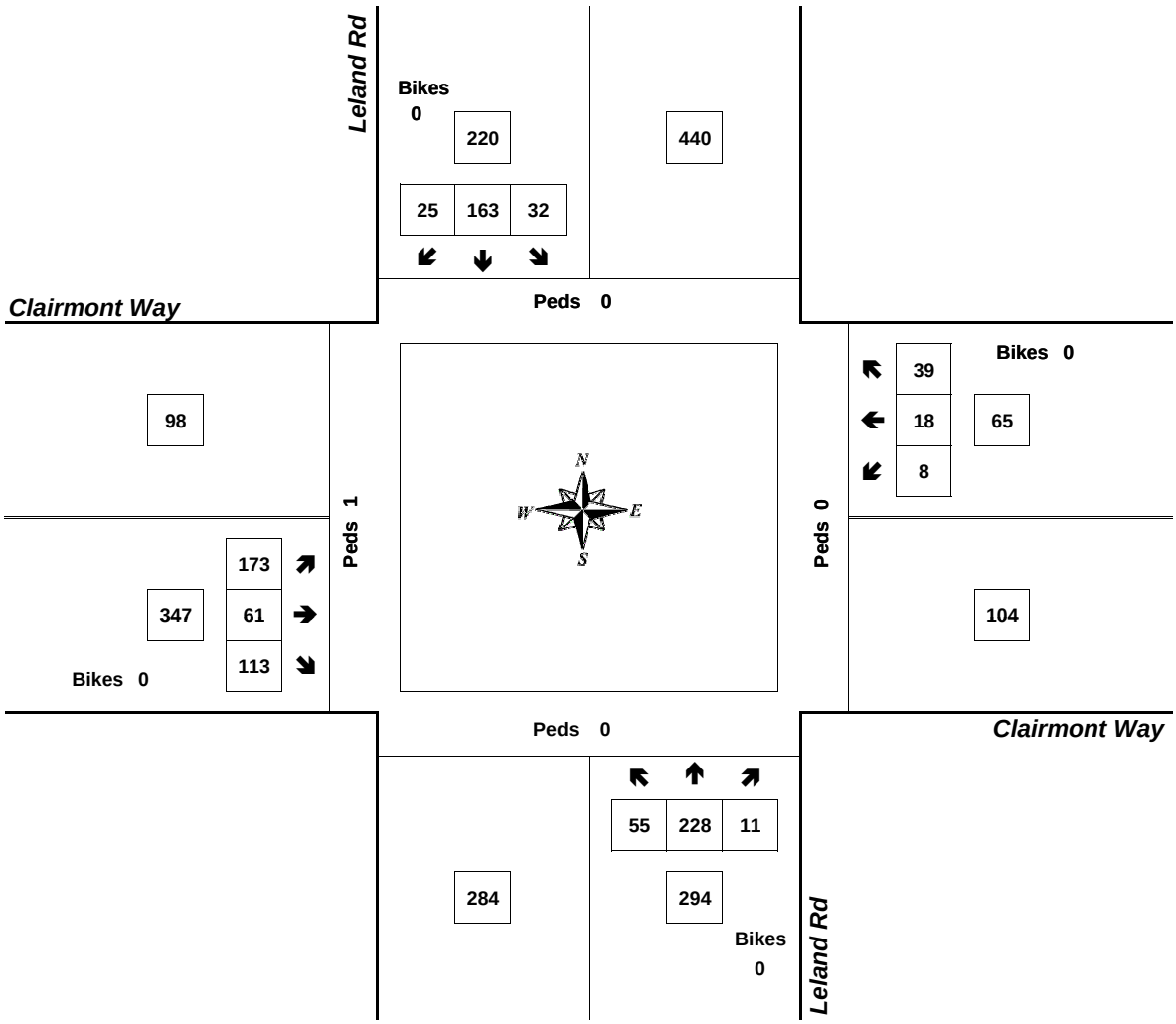
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	4	10	0	14	2	2	1	5	2	3	5	10	0	1	2	3	32
7:15 AM	5	8	0	13	1	3	1	5	1	2	5	8	0	1	2	3	29
7:30 AM	7	9	0	16	0	5	2	7	2	3	4	9	0	1	4	5	37
7:45 AM	7	8	0	15	0	11	1	12	2	2	2	6	0	1	2	3	36
8:00 AM	5	9	1	15	0	14	3	17	2	2	3	7	0	1	2	3	42

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leland Rd & Clairmont Way

7:05 AM to 8:05 AM
Tuesday, April 18, 2017

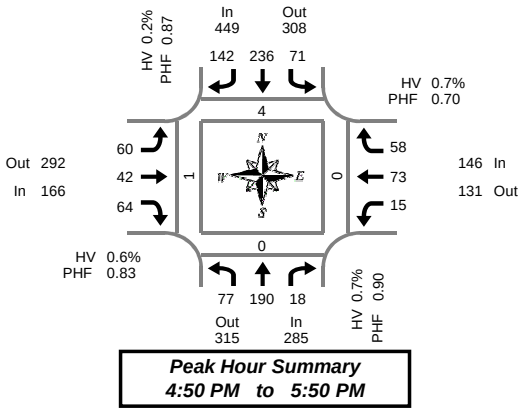


Approach	PHF	HV%	Volume
EB	0.86	2.9%	347
WB	0.77	3.1%	65
NB	0.72	4.4%	294
SB	0.80	2.3%	220
Intersection	0.86	3.2%	926

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
4:50 PM to 5:50 PM

Leland Rd & Clairmont Way

Tuesday, April 18, 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 Clairmont Way				Westbound Clairmont 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	5	11	1	0	4	19	5	0	1	5	2	0	2	6	3	0	64	0	0	0	0
4:05 PM	16	10	1	0	6	18	6	0	3	4	2	0	0	6	3	0	75	0	0	0	0
4:10 PM	2	10	1	0	6	16	2	0	9	10	4	0	1	8	6	0	75	0	0	0	0
4:15 PM	3	14	3	0	7	14	6	0	3	6	3	0	1	12	3	1	75	0	0	0	0
4:20 PM	6	14	0	0	2	18	14	0	5	7	9	0	1	3	4	0	83	0	0	0	0
4:25 PM	4	15	0	0	7	15	4	0	3	3	7	0	1	6	3	0	68	2	0	0	0
4:30 PM	9	12	1	0	3	21	7	0	4	3	6	0	0	12	5	0	83	0	0	0	0
4:35 PM	7	17	1	0	6	23	14	0	4	5	14	0	1	5	5	0	102	0	0	0	0
4:40 PM	5	9	2	0	7	13	10	0	1	6	1	0	0	3	6	0	63	0	0	0	0
4:45 PM	3	18	0	0	7	17	14	0	6	5	6	0	0	10	6	0	92	0	0	0	0
4:50 PM	7	15	1	0	5	14	9	0	6	3	6	0	2	8	2	0	78	0	0	0	0
4:55 PM	6	21	2	0	6	16	17	0	4	4	3	0	2	3	11	0	95	0	0	0	1
5:00 PM	9	16	0	0	3	15	12	0	3	2	5	0	2	4	9	0	80	0	0	0	0
5:05 PM	4	17	0	0	6	15	8	0	6	3	4	0	1	12	8	0	84	0	0	0	0
5:10 PM	6	21	2	0	4	25	9	0	3	2	12	0	0	7	3	0	94	0	0	0	0
5:15 PM	15	11	3	0	11	23	11	0	4	5	6	0	0	1	6	0	96	1	0	0	0
5:20 PM	3	14	2	0	5	28	13	0	8	3	4	0	1	3	4	0	88	0	0	0	0
5:25 PM	6	15	0	0	5	17	12	0	8	2	1	0	1	4	3	0	74	0	0	0	0
5:30 PM	5	11	3	0	8	21	11	0	3	1	5	0	2	10	1	0	81	0	0	0	0
5:35 PM	4	14	2	0	4	17	19	0	3	4	3	0	2	6	1	0	79	0	0	0	0
5:40 PM	8	17	1	0	3	28	10	0	3	5	10	0	0	8	5	0	98	0	0	0	0
5:45 PM	4	18	2	0	11	17	11	0	9	8	5	0	2	7	5	0	99	3	0	0	0
5:50 PM	2	12	1	0	4	22	7	0	6	4	3	0	0	7	3	0	71	0	1	0	0
5:55 PM	11	16	4	0	5	18	4	0	5	3	9	0	1	6	7	0	89	0	0	0	0
Total Survey	150	348	33	0	135	450	235	0	110	103	130	0	23	157	112	1	1,986	6	1	0	1

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	23	31	3	0	16	53	13	0	13	19	8	0	3	20	12	0	214	0	0	0	0
4:15 PM	13	43	3	0	16	47	24	0	11	16	19	0	3	21	10	1	226	2	0	0	0
4:30 PM	21	38	4	0	16	57	31	0	9	14	21	0	1	20	16	0	248	0	0	0	0
4:45 PM	16	54	3	0	18	47	40	0	16	12	15	0	4	21	19	0	265	0	0	0	1
5:00 PM	19	54	2	0	13	55	29	0	12	7	21	0	3	23	20	0	258	0	0	0	0
5:15 PM	24	40	5	0	21	68	36	0	20	10	11	0	2	8	13	0	258	1	0	0	0
5:30 PM	17	42	6	0	15	66	40	0	9	10	18	0	4	24	7	0	258	0	0	0	0
5:45 PM	17	46	7	0	20	57	22	0	20	15	17	0	3	20	15	0	259	3	1	0	0
Total Survey	150	348	33	0	135	450	235	0	110	103	130	0	23	157	112	1	1,986	6	1	0	1

Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	285	315	600	0	449	308	757	0	166	292	458	0	146	131	277	0	1,046	4	0	0	1
%HV	0.7%				0.2%				0.6%				0.7%				0.5%				
PHF	0.90				0.87				0.83				0.70				0.94				

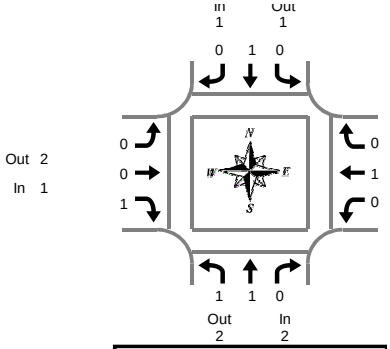
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	77	190	18	285	71	236	142	449	60	42	64	166	15	73	58	146	1,046
%HV	1.3%	0.5%	0.0%	0.7%	0.0%	0.4%	0.0%	0.2%	0.0%	0.0%	1.6%	0.6%	0.0%	1.4%	0.0%	0.7%	0.5%
PHF	0.77	0.88	0.64	0.90	0.85	0.78	0.85	0.87	0.75	0.62	0.73	0.83	0.63	0.76	0.52	0.70	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	73	166	13	0	66	204	108	0	49	61	63	0	11	82	57	1	953	2	0	0	1
4:15 PM	69	189	12	0	63	206	124	0	48	49	76	0	11	85	65	1	997	2	0	0	1
4:30 PM	80	186	14	0	68	227	136	0	57	43	68	0	10	72	68	0	1,029	1	0	0	1
4:45 PM	76	190	16	0	67	236	145	0	57	39	65	0	13	76	59	0	1,039	1	0	0	1
5:00 PM	77	182	20	0	69	246	127	0	61	42	67	0	12	75	55	0	1,033	4	1	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Clairmont Way

Tuesday, April 18, 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 Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	0	2	0	0	0	0	0	0	0	0	2
4:05 PM	1	0	0	1	0	1	0	1	0	1	1	2	0	0	0	0	4
4:10 PM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	2	0	0	1	1	0	0	0	0	4
4:30 PM	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	3
4:35 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	3
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	0	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	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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	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	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	0	1	1	0	0	0	0	1
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	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Survey	2	3	0	5	1	8	1	10	1	2	7	10	0	1	0	1	26

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	0	0	1	0	3	0	3	1	1	2	4	0	0	0	0	8
4:15 PM	0	2	0	2	1	1	0	2	0	0	1	1	0	0	0	0	5
4:30 PM	0	0	0	0	0	2	1	3	0	1	2	3	0	0	0	0	6
4:45 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
5:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	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	2	3	0	5	1	8	1	10	1	2	7	10	0	1	0	1	26

Heavy Vehicle Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Clairmont Way			Westbound Clairmont Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	2	4	1	1	2	1	2	3	1	0	1	5
PHF	0.25			0.25			0.25			0.25			0.63

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	1	0	2	0	1	0	1	0	0	1	1	0	1	0	1	5
PHF	0.25	0.25	0.00	0.25	0.00	0.25	0.00	0.25	0.00	0.00	0.25	0.25	0.00	0.25	0.00	0.25	0.63

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

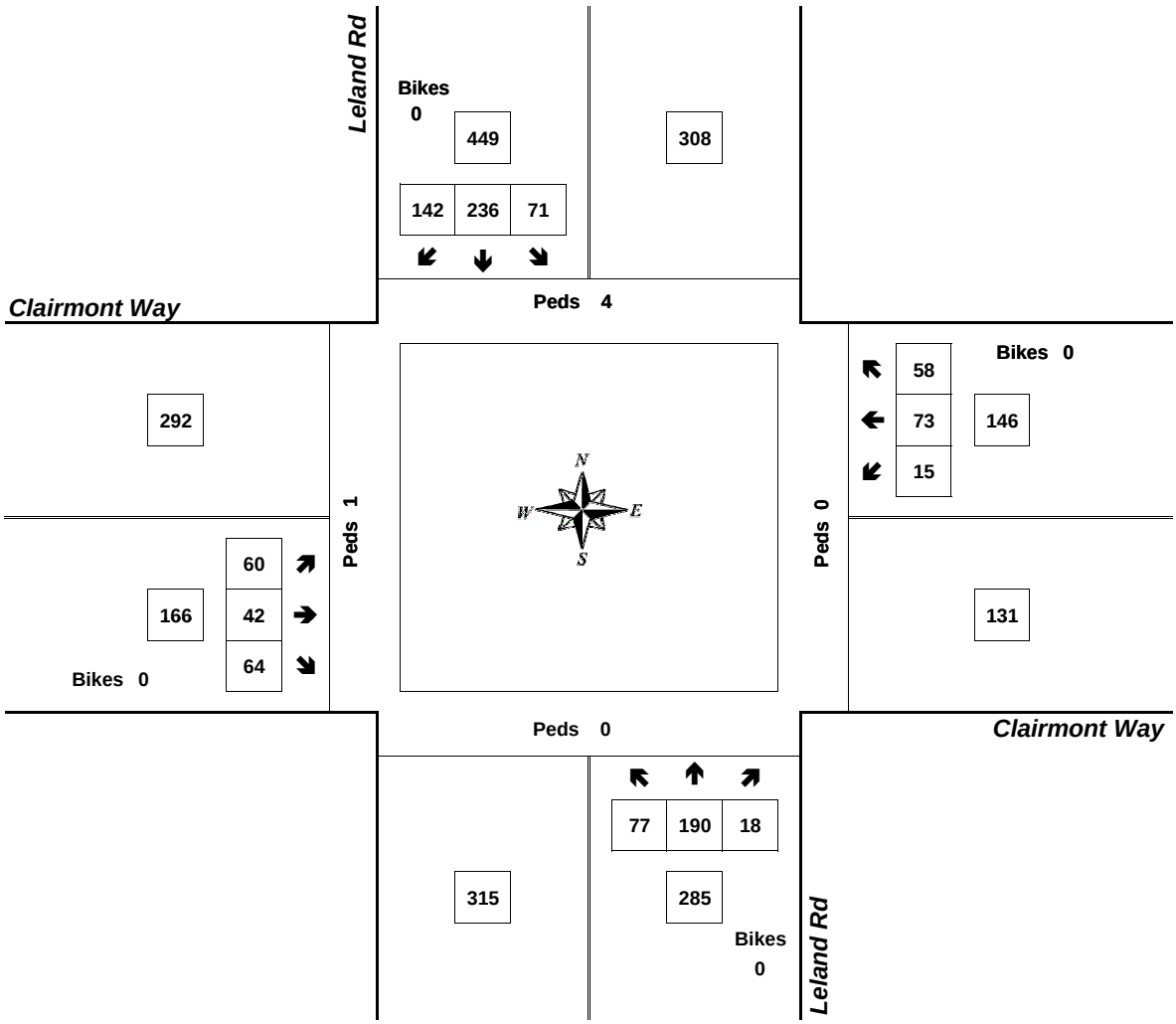
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	3	0	4	1	6	1	8	1	2	6	9	0	0	0	0	21
4:15 PM	1	3	0	4	1	3	1	5	0	1	4	5	0	0	0	0	14
4:30 PM	1	1	0	2	0	3	1	4	0	1	3	4	0	1	0	1	11
4:45 PM	1	1	0	2	0	1	0	1	0	0	2	2	0	1	0	1	6
5:00 PM	1	0	0	1	0	2	0	2	0	0	1	1	0	1	0	1	5

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leland Rd & Clairmont Way

4:50 PM to 5:50 PM
Tuesday, April 18, 2017

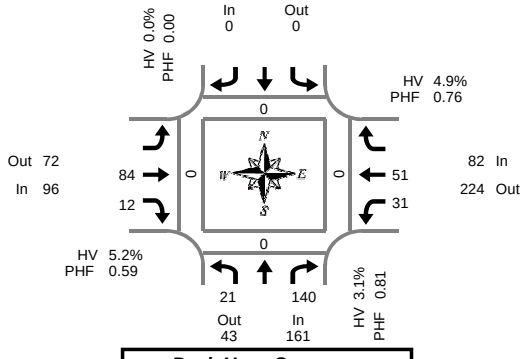


Approach	PHF	HV%	Volume
EB	0.83	0.6%	166
WB	0.70	0.7%	146
NB	0.90	0.7%	285
SB	0.87	0.2%	449
Intersection	0.94	0.5%	1,046

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:00 AM to 8:00 AM

Leland Rd & S Mccord Rd

Tuesday, April 18, 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 S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	2		6	1				0	6	1	0	3	1		0	19		0	0	0	0
7:05 AM	2		8	0				0	11	0	0	0	4		0	25		0	0	0	0
7:10 AM	0		8	0				0	10	1	0	4	4		0	27		0	0	0	0
7:15 AM	3		11	0				0	16	3	0	1	2		0	36		0	0	0	0
7:20 AM	3		17	0				0	11	0	0	4	2		1	37		0	0	0	0
7:25 AM	2		11	0				0	5	1	0	1	7		0	27		0	0	0	0
7:30 AM	1		10	0				0	2	0	0	3	6		0	22		0	0	0	0
7:35 AM	3		16	0				0	6	2	0	2	3		0	32		0	0	0	0
7:40 AM	0		12	0				0	3	0	0	5	6		0	26		0	0	0	0
7:45 AM	5		14	0				0	3	3	0	1	10		0	36		0	0	0	0
7:50 AM	0		10	0				0	5	0	0	1	4		0	20		0	0	0	0
7:55 AM	0		17	0				0	6	1	0	6	2		0	32		0	0	0	0
8:00 AM	1		6	0				0	4	0	0	3	4		0	18		0	0	0	0
8:05 AM	0		7	0				0	3	0	0	0	3		0	13		0	0	0	0
8:10 AM	1		6	0				0	2	1	0	2	6		0	18		0	0	0	0
8:15 AM	0		9	0				0	0	1	0	2	0		0	12		0	0	0	0
8:20 AM	1		7	0				0	4	0	0	3	5		1	20		0	0	0	0
8:25 AM	2		2	0				0	2	2	0	2	2		0	12		0	0	0	0
8:30 AM	1		3	0				0	3	0	0	7	2		0	16		0	0	0	0
8:35 AM	1		6	0				0	4	1	0	1	4		0	17		0	0	0	0
8:40 AM	0		4	0				0	3	2	0	0	5		0	14		0	0	0	0
8:45 AM	1		2	0				0	5	1	0	7	3		0	19		0	0	0	0
8:50 AM	0		8	0				0	2	2	0	1	3		0	16		0	0	0	0
8:55 AM	0		3	0				0	3	1	0	3	4		0	14		0	0	0	0
Total Survey	29		203	1				0	119	23	0	62	92		2	528		0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	4		22	1				0	27	2	0	7	9		0	71		0	0	0	0
7:15 AM	8		39	0				0	32	4	0	6	11		1	100		0	0	0	0
7:30 AM	4		38	0				0	11	2	0	10	15		0	80		0	0	0	0
7:45 AM	5		41	0				0	14	4	0	8	16		0	88		0	0	0	0
8:00 AM	2		19	0				0	9	1	0	5	13		0	49		0	0	0	0
8:15 AM	3		18	0				0	6	3	0	7	7		1	44		0	0	0	0
8:30 AM	2		13	0				0	10	3	0	8	11		0	47		0	0	0	0
8:45 AM	1		13	0				0	10	4	0	11	10		0	49		0	0	0	0
Total Survey	29		203	1				0	119	23	0	62	92		2	528		0	0	0	0

Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord 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	161	43	204	1	0	0	0	0	96	72	168	0	82	224	306	1	339	0	0	0	0
%HV	3.1%				0.0%				5.2%				4.9%				4.1%				
PHF	0.81				0.00				0.59				0.76				0.85				

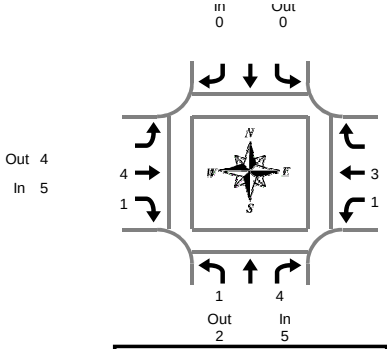
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	21		140	161				0		84	12	96	31	51		82	339
%HV	4.8%	NA	2.9%	3.1%	NA	NA	NA	0.0%	NA	4.8%	8.3%	5.2%	3.2%	5.9%	NA	4.9%	4.1%
PHF	0.66		0.83	0.81				0.00		0.57	0.60	0.59	0.78	0.64		0.76	0.85

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	21		140	1				0	84	12	0	31	51		1	339		0	0	0	0
7:15 AM	19		137	0				0	66	11	0	29	55		1	317		0	0	0	0
7:30 AM	14		116	0				0	40	10	0	30	51		1	261		0	0	0	0
7:45 AM	12		91	0				0	39	11	0	28	47		1	228		0	0	0	0
8:00 AM	8		63	0				0	35	11	0	31	41		1	189		0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & S Mccord Rd

Tuesday, April 18, 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 Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		1	1				0	1	0	1		0	0		0	2
7:05 AM	0		0	0				0	0	0	0		0	0		0	0
7:10 AM	0		0	0				0	1	0	1		0	0		0	1
7:15 AM	0		0	0				0	0	0	0		0	1		1	1
7:20 AM	0		0	0				0	0	0	0		0	0		0	0
7:25 AM	1		1	2				0	0	1	1		0	1		1	4
7:30 AM	0		2	2				0	0	0	0		0	1		1	3
7:35 AM	0		0	0				0	1	0	1		0	0		0	1
7:40 AM	0		0	0				0	0	0	0		1	0		1	1
7:45 AM	0		0	0				0	0	0	0		0	0		0	0
7:50 AM	0		0	0				0	1	0	1		0	0		0	1
7:55 AM	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
8:05 AM	0		0	0				0	0	0	0		0	0		0	0
8:10 AM	0		0	0				0	0	0	0		1	1		2	2
8:15 AM	0		1	1				0	0	1	1		0	0		0	2
8:20 AM	0		1	1				0	0	0	0		0	1		1	2
8:25 AM	0		0	0				0	0	0	0		0	0		0	0
8:30 AM	0		0	0				0	0	0	0		2	0		2	2
8:35 AM	1		2	3				0	0	0	0		0	0		0	3
8:40 AM	0		0	0				0	0	0	0		0	0		0	0
8:45 AM	1		0	1				0	0	0	0		0	0		0	1
8:50 AM	0		0	0				0	0	0	0		0	0		0	0
8:55 AM	0		1	1				0	1	0	1		0	0		0	2
Total Survey	3		9	12				0	5	2	7		4	5		9	28

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		1	1				0	2	0	2		0	0		0	3
7:15 AM	1		1	2				0	0	1	1		0	2		2	5
7:30 AM	0		2	2				0	1	0	1		1	1		2	5
7:45 AM	0		0	0				0	1	0	1		0	0		0	1
8:00 AM	0		0	0				0	0	0	0		1	1		2	2
8:15 AM	0		2	2				0	0	1	1		0	1		1	4
8:30 AM	1		2	3				0	0	0	0		2	0		2	5
8:45 AM	1		1	2				0	1	0	1		0	0		0	3
Total Survey	3		9	12				0	5	2	7		4	5		9	28

Heavy Vehicle Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound S Mccord Rd			Westbound S Mccord Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	2	7	0	0	0	5	4	9	4	8	12	14
PHF	0.31			0.00			0.63			0.50			0.44

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	1		4	5				0	4	1	5		1	3		4	14
PHF	0.25		0.33	0.31				0.00	0.50	0.25	0.63		0.25	0.38		0.50	0.44

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

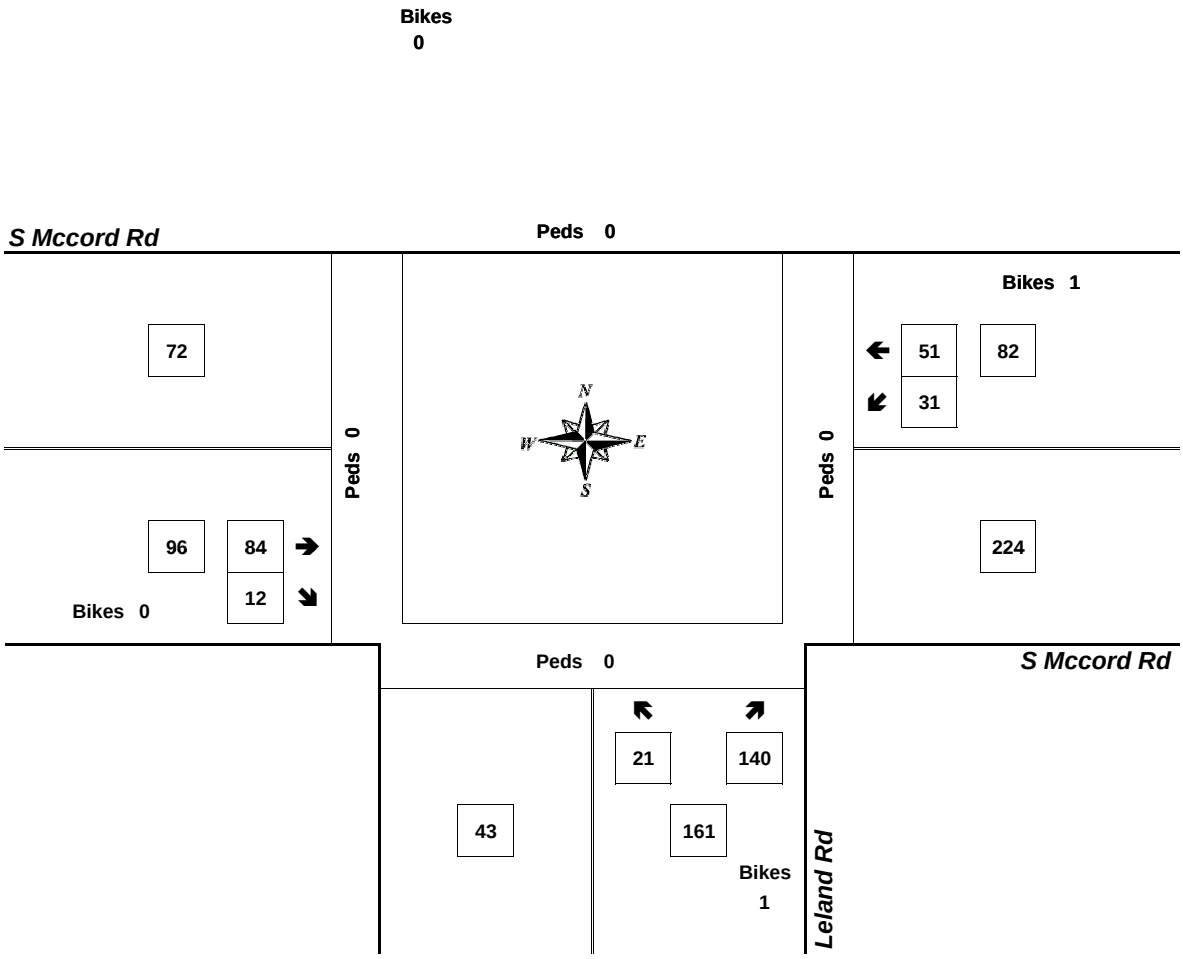
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	1		4	5				0	4	1	5		1	3		4	14
7:15 AM	1		3	4				0	2	1	3		2	4		6	13
7:30 AM	0		4	4				0	2	1	3		2	3		5	12
7:45 AM	1		4	5				0	1	1	2		3	2		5	12
8:00 AM	2		5	7				0	1	1	2		3	2		5	14

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leland Rd & S Mccord Rd

7:00 AM to 8:00 AM
Tuesday, April 18, 2017

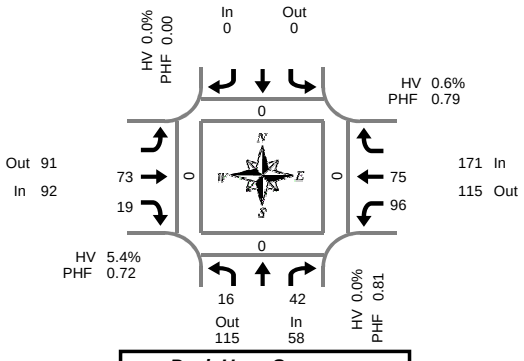


Approach	PHF	HV%	Volume
EB	0.59	5.2%	96
WB	0.76	4.9%	82
NB	0.81	3.1%	161
SB	0.00	0.0%	0
Intersection	0.85	4.1%	339

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
4:05 PM to 5:05 PM

Leland Rd & S Mccord Rd

Tuesday, April 18, 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 S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	0		2	0				0	5	0	0	6	5		0	18		0	0	0	0
4:05 PM	2		6	0				0	4	1	0	8	9		0	30		0	0	0	0
4:10 PM	2		5	1				0	8	0	0	4	10		0	29		0	0	0	0
4:15 PM	1		2	0				0	6	2	0	6	5		0	22		0	0	0	0
4:20 PM	1		6	0				0	12	4	0	8	7		0	38		0	0	0	0
4:25 PM	2		2	0				0	5	0	0	3	4		0	16		0	0	0	0
4:30 PM	1		3	0				0	6	2	0	6	5		0	23		0	0	0	0
4:35 PM	0		2	0				0	8	2	0	14	7		0	33		0	0	0	0
4:40 PM	1		1	0				0	5	2	0	11	6		0	26		0	0	0	0
4:45 PM	2		9	0				0	5	2	0	13	3		0	34		0	0	0	0
4:50 PM	1		1	0				0	3	2	0	7	7		0	21		0	0	0	0
4:55 PM	1		2	0				0	6	1	0	10	6		1	26		0	0	0	0
5:00 PM	2		3	0				0	5	1	0	6	6		0	23		0	0	0	0
5:05 PM	2		3	0				0	4	1	0	9	7		0	26		0	0	0	0
5:10 PM	0		2	0				0	8	1	0	5	6		0	22		0	0	0	0
5:15 PM	1		3	0				0	7	4	0	8	8		0	31		0	0	0	0
5:20 PM	1		3	0				0	2	3	0	7	3		1	19		0	0	0	0
5:25 PM	1		3	0				0	1	1	0	12	7		0	25		0	0	0	0
5:30 PM	0		2	0				0	3	3	0	4	10		0	22		0	0	0	0
5:35 PM	1		4	0				0	5	1	0	8	7		1	26		0	0	0	0
5:40 PM	1		5	0				0	8	3	0	15	6		0	38		0	0	0	0
5:45 PM	2		6	0				0	6	0	0	10	3		0	27		0	0	0	0
5:50 PM	2		1	0				0	6	1	0	9	2		0	21		0	0	0	0
5:55 PM	0		3	0				0	9	1	0	7	9		0	29		0	0	0	0
Total Survey	27		79	1				0	137	38	0	196	148		3	625		0	0	0	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	4		13	1				0	17	1	0	18	24		0	77		0	0	0	0
4:15 PM	4		10	0				0	23	6	0	17	16		0	76		0	0	0	0
4:30 PM	2		6	0				0	19	6	0	31	18		0	82		0	0	0	0
4:45 PM	4		12	0				0	14	5	0	30	16		1	81		0	0	0	0
5:00 PM	4		8	0				0	17	3	0	20	19		0	71		0	0	0	0
5:15 PM	3		9	0				0	10	8	0	27	18		1	75		0	0	0	0
5:30 PM	2		11	0				0	16	7	0	27	23		1	86		0	0	0	0
5:45 PM	4		10	0				0	21	2	0	26	14		0	77		0	0	0	0
Total Survey	27		79	1				0	137	38	0	196	148		3	625		0	0	0	0

Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord 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	58	115	173	1	0	0	0	0	92	91	183	0	171	115	286	1	321	0	0	0	0
%HV	0.0%				0.0%				5.4%				0.6%				1.9%				
PHF	0.81				0.00				0.72				0.79				0.86				

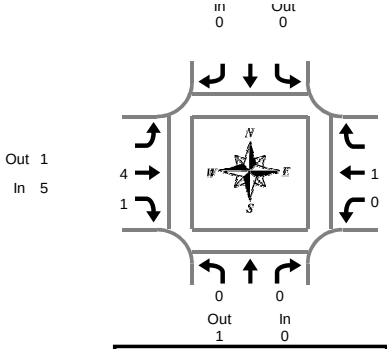
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	16		42	58				0		73	19	92	96	75		171	321
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	5.5%	5.3%	5.4%	0.0%	1.3%	NA	0.6%	1.9%
PHF	0.80		0.81	0.81				0.00		0.70	0.79	0.72	0.63	0.78		0.79	0.86

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	14		41	1				0	73	18	0	96	74		1	316		0	0	0	0
4:15 PM	14		36	0				0	73	20	0	98	69		1	310		0	0	0	0
4:30 PM	13		35	0				0	60	22	0	108	71		2	309		0	0	0	0
4:45 PM	13		40	0				0	57	23	0	104	76		3	313		0	0	0	0
5:00 PM	13		38	0				0	64	20	0	100	74		2	309		0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & S Mccord Rd

Tuesday, April 18, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:05 PM to 5:05 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	0	0	0		0	0		0	0
4:05 PM	0		0	0				0	1	0	1		0	0		0	1
4:10 PM	0		0	0				0	1	0	1		0	1		1	2
4:15 PM	0		0	0				0	0	0	0		0	0		0	0
4:20 PM	0		0	0				0	0	1	1		0	0		0	1
4:25 PM	0		0	0				0	0	0	0		0	0		0	0
4:30 PM	0		0	0				0	1	0	1		0	0		0	1
4:35 PM	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
4:45 PM	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
4:55 PM	0		0	0				0	0	0	0		0	0		0	0
5:00 PM	0		0	0				0	1	0	1		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	0	0	0		0	0		0	0
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	0		0	0				0	0	0	0		0	1		1	1
5:30 PM	0		0	0				0	0	0	0		0	0		0	0
5:35 PM	0		1	1				0	0	0	0		1	0		1	2
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	0	0	0		0	0		0	0
5:55 PM	0		0	0				0	0	0	0		0	0		0	0
Total Survey	0		1	1				0	4	1	5		1	2		3	9

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	2	0	2		0	1		1	3
4:15 PM	0		0	0				0	0	1	1		0	0		0	1
4:30 PM	0		0	0				0	1	0	1		0	0		0	1
4:45 PM	0		0	0				0	0	0	0		0	0		0	0
5:00 PM	0		0	0				0	1	0	1		0	0		0	1
5:15 PM	0		0	0				0	0	0	0		0	1		1	1
5:30 PM	0		1	1				0	0	0	0		1	0		1	2
5:45 PM	0		0	0				0	0	0	0		0	0		0	0
Total Survey	0		1	1				0	4	1	5		1	2		3	9

Heavy Vehicle Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound S Mccord Rd			Westbound S Mccord Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	1	1	0	0	0	5	1	6	1	4	5	6
PHF	0.00			0.00			0.63			0.25			0.50

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	0		0	0				0	4	1	5		0	1		1	6
PHF	0.00		0.00	0.00				0.00	0.50	0.25	0.63		0.00	0.25		0.25	0.50

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

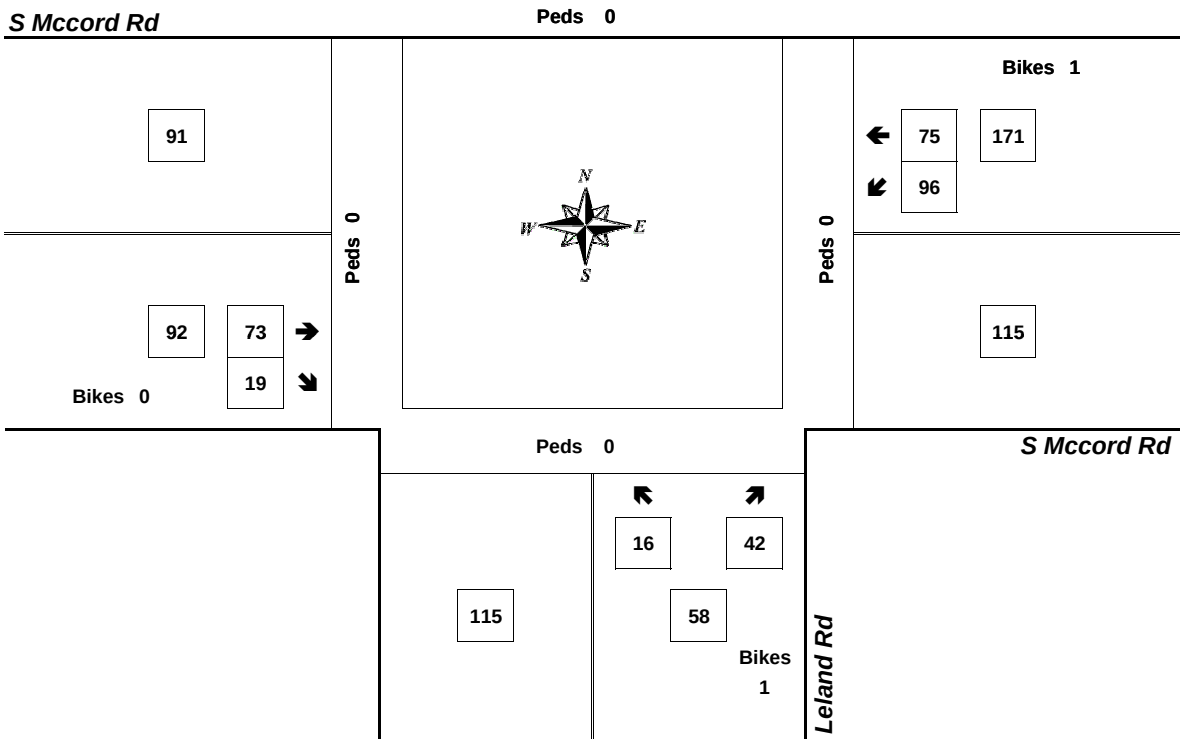
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	3	1	4		0	1		1	5
4:15 PM	0		0	0				0	2	1	3		0	0		0	3
4:30 PM	0		0	0				0	2	0	2		0	1		1	3
4:45 PM	0		1	1				0	1	0	1		1	1		2	4
5:00 PM	0		1	1				0	1	0	1		1	1		2	4

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leland Rd & S Mccord Rd

4:05 PM to 5:05 PM
Tuesday, April 18, 2017

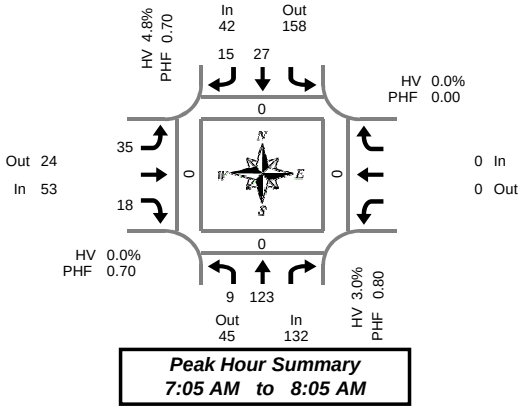


Approach	PHF	HV%	Volume
EB	0.72	5.4%	92
WB	0.79	0.6%	171
NB	0.81	0.0%	58
SB	0.00	0.0%	0
Intersection	0.86	1.9%	321

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Leland Rd & Lindsay Anne Ln

Tuesday, April 18, 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 Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
7:00 AM	0	6		0	2	1	0	0		0	0				0	9	0	0	0	0
7:05 AM	1	7		0	0	1	0	3		2	0				0	14	0	0	0	0
7:10 AM	1	3		0	5	0	0	4		5	0				0	18	0	0	0	0
7:15 AM	0	12		0	3	0	0	3		1	0				0	19	0	0	0	0
7:20 AM	2	14		0	2	2	0	5		1	0				0	26	0	0	0	0
7:25 AM	0	13		0	2	1	0	0		0	0				0	16	0	0	0	0
7:30 AM	1	9		0	1	0	0	2		0	0				0	13	0	0	0	0
7:35 AM	0	13		0	3	1	0	4		2	0				0	23	0	0	0	0
7:40 AM	0	11		0	2	5	0	3		1	0				0	22	0	0	0	0
7:45 AM	1	16		0	3	1	0	3		3	0				0	27	0	0	0	0
7:50 AM	1	9		0	1	0	0	2		2	0				0	15	0	0	0	0
7:55 AM	1	11		0	2	3	0	3		1	0				0	21	0	0	0	0
8:00 AM	1	5		0	3	1	0	3		0	0				0	13	0	0	0	0
8:05 AM	2	6		0	0	0	0	1		1	0				0	10	0	0	0	0
8:10 AM	1	3		0	1	1	0	2		1	0				0	9	0	0	0	0
8:15 AM	0	7		0	0	1	0	3		0	0				0	11	0	0	0	0
8:20 AM	0	3		0	2	1	0	3		1	0				0	10	0	0	0	0
8:25 AM	1	5		0	3	3	0	1		0	0				0	13	0	0	0	0
8:30 AM	2	2		0	5	0	0	2		1	0				0	12	0	0	0	0
8:35 AM	0	2		0	2	0	0	2		0	0				0	6	0	0	0	0
8:40 AM	0	3		0	2	0	0	3		1	0				0	9	0	0	0	0
8:45 AM	0	3		0	5	2	0	0		1	0				0	11	0	0	0	0
8:50 AM	0	4		0	2	0	0	3		0	0				0	9	0	0	0	0
8:55 AM	1	2		0	2	2	0	0		1	0				0	8	0	0	0	0
Total Survey	16	169		0	53	26	0	55		25	0				0	344	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
7:00 AM	2	16		0	7	2	0	7		7	0				0	41	0	0	0	0
7:15 AM	2	39		0	7	3	0	8		2	0				0	61	0	0	0	0
7:30 AM	1	33		0	6	6	0	9		3	0				0	58	0	0	0	0
7:45 AM	3	36		0	6	4	0	8		6	0				0	63	0	0	0	0
8:00 AM	4	14		0	4	2	0	6		2	0				0	32	0	0	0	0
8:15 AM	1	15		0	5	5	0	7		1	0				0	34	0	0	0	0
8:30 AM	2	7		0	9	0	0	7		2	0				0	27	0	0	0	0
8:45 AM	1	9		0	9	4	0	3		2	0				0	28	0	0	0	0
Total Survey	16	169		0	53	26	0	55		25	0				0	344	0	0	0	0

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				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	45	177	0	42	158	200	0	53	24	77	0	0	0	0	0	227	0	0	0	0
%HV	3.0%				4.8%				0.0%				0.0%				2.6%				
PHF	0.80				0.70				0.70				0.00				0.79				

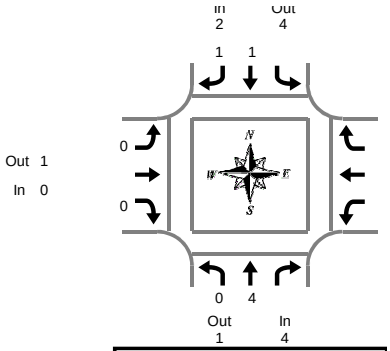
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total
	L	T		Total	T	R	Total		L		R	Total				Total	
Volume	9	123		132	27	15	42		35		18	53				0	227
%HV	0.0%	3.3%	NA	3.0%	3.7%	6.7%	4.8%		0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	2.6%
PHF	0.75	0.77		0.80	0.68	0.54	0.70		0.73		0.56	0.70				0.00	0.79

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
7:00 AM	8	124		0	26	15	0	32		18	0				0	223	0	0	0	0
7:15 AM	10	122		0	23	15	0	31		13	0				0	214	0	0	0	0
7:30 AM	9	98		0	21	17	0	30		12	0				0	187	0	0	0	0
7:45 AM	10	72		0	24	11	0	28		11	0				0	156	0	0	0	0
8:00 AM	8	45		0	27	11	0	23		7	0				0	121	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Leland Rd & Lindsay Anne Ln

Tuesday, April 18, 2017
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	0	1		1	0	0	0		0		0	0				0	1
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	0	2		2	1	0	1		0		0	0				0	3
7:30 AM	0	2		2	0	0	0		0		0	0				0	2
7:35 AM	0	0		0	0	0	0		0		0	0				0	0
7:40 AM	0	0		0	0	1	1		0		0	0				0	1
7:45 AM	0	0		0	0	0	0		0		0	0				0	0
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	0	0		0		0	0				0	0
8:05 AM	0	0		0	0	0	0		0		0	0				0	0
8:10 AM	0	0		0	0	0	0		0		0	0				0	0
8:15 AM	0	0		0	0	0	0		1		0	1				0	1
8:20 AM	0	0		0	0	1	1		0		0	0				0	1
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	0	0		1		0	1				0	1
8:40 AM	0	1		1	0	0	0		0		0	0				0	1
8:45 AM	0	1		1	1	0	1		0		0	0				0	2
8:50 AM	0	0		0	0	0	0		0		0	0				0	0
8:55 AM	0	1		1	0	0	0		0		1	1				0	2
Total Survey	0	8		8	2	2	4		2		1	3				0	15

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	0	1		1	0	0	0		0		0	0				0	1
7:15 AM	0	2		2	1	0	1		0		0	0				0	3
7:30 AM	0	2		2	0	1	1		0		0	0				0	3
7:45 AM	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
8:15 AM	0	0		0	0	1	1		1		0	1				0	2
8:30 AM	0	1		1	0	0	0		1		0	1				0	2
8:45 AM	0	2		2	1	0	1		0		1	1				0	4
Total Survey	0	8		8	2	2	4		2		1	3				0	15

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Lindsay Anne Ln			Westbound Lindsay Anne Ln			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	1	5	2	4	6	0	1	1	0	0	0	6
PHF	0.25			0.50			0.00			0.00			0.30

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total
	L	T		Total	T	R	Total		L		R	Total				Total	
Volume	0	4		4	1	1	2		0		0	0				0	6
PHF	0.00	0.25		0.25	0.25	0.25	0.50		0.00		0.00	0.00				0.00	0.30

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

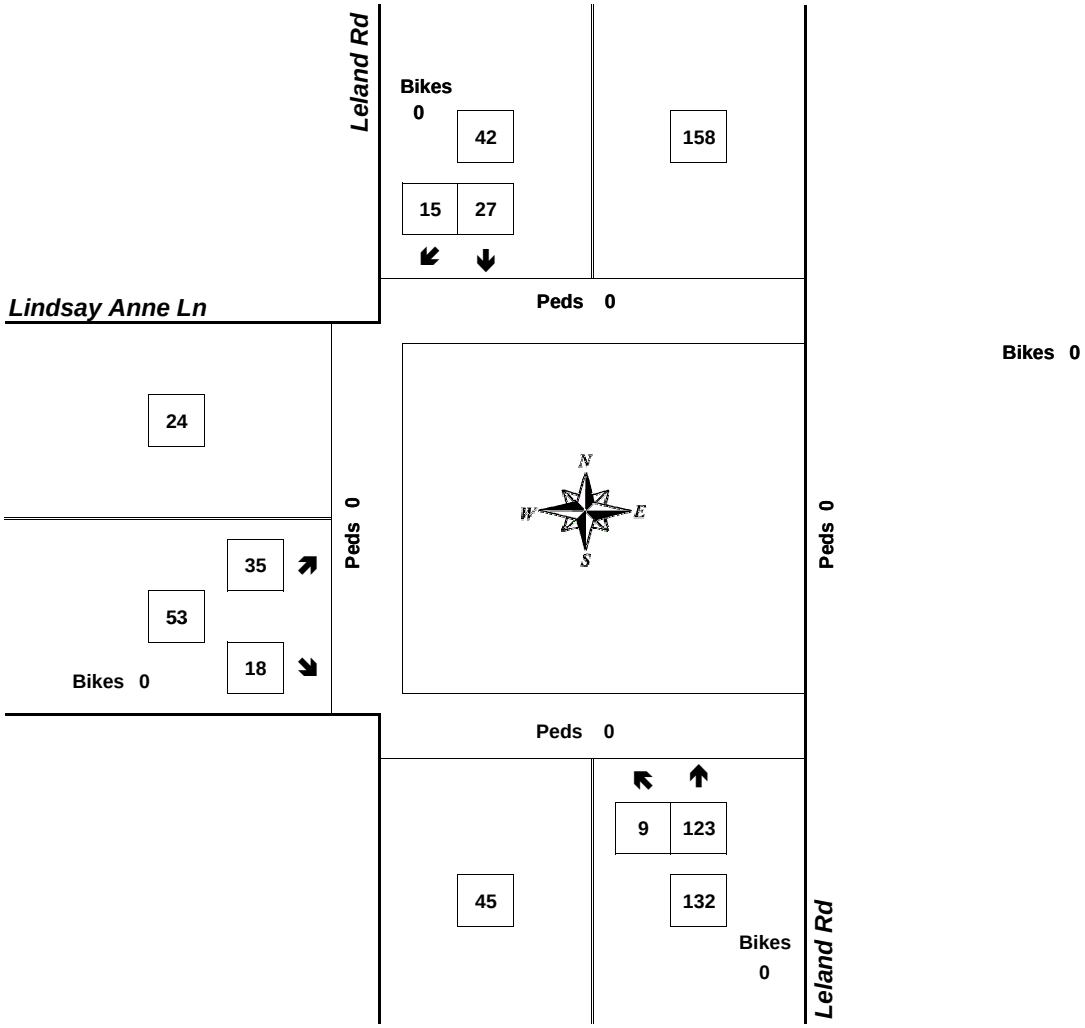
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	0	5		5	1	1	2		0		0	0				0	7
7:15 AM	0	4		4	1	1	2		0		0	0				0	6
7:30 AM	0	2		2	0	2	2		1		0	1				0	5
7:45 AM	0	1		1	0	1	1		2		0	2				0	4
8:00 AM	0	3		3	1	1	2		2		1	3				0	8

Peak Hour Summary

Clay Carney
(503) 833-2740

Leland Rd & Lindsay Anne Ln

7:05 AM to 8:05 AM
Tuesday, April 18, 2017

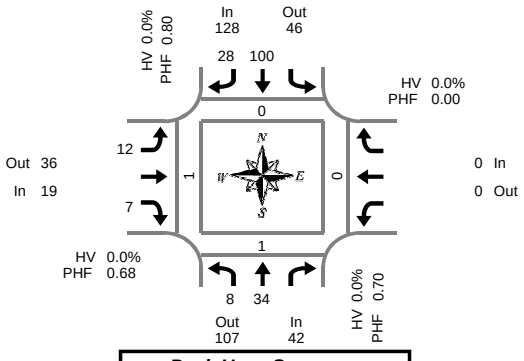


Approach	PHF	HV%	Volume
EB	0.70	0.0%	53
WB	0.00	0.0%	0
NB	0.80	3.0%	132
SB	0.70	4.8%	42
Intersection	0.79	2.6%	227

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
4:35 PM to 5:35 PM

Leland Rd & Lindsay Anne Ln

Tuesday, April 18, 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 Lindsay Anne Ln			Westbound Lindsay Anne Ln			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	0	2		0	7	2	0	0	2	0			0	13	0	0	0	0
4:05 PM	1	4		0	3	3	0	3	0	0			0	14	0	0	0	0
4:10 PM	0	5		0	4	2	0	1	1	0			0	13	0	0	0	0
4:15 PM	1	1		0	3	1	0	2	0	0			0	8	0	0	0	0
4:20 PM	2	4		0	10	3	0	2	0	0			0	21	0	0	0	0
4:25 PM	1	2		0	0	2	0	2	2	0			0	9	0	0	0	0
4:30 PM	0	2		0	6	1	0	2	0	0			0	11	0	0	0	0
4:35 PM	0	1		0	13	1	0	0	0	0			0	15	0	0	0	0
4:40 PM	1	2		0	11	2	0	1	1	0			0	18	0	0	0	0
4:45 PM	1	7		0	10	3	0	2	1	0			0	24	0	0	0	0
4:50 PM	1	2		0	8	3	0	1	1	0			0	16	0	0	0	0
4:55 PM	0	4		0	10	1	0	0	0	0			0	15	0	0	0	0
5:00 PM	0	2		0	7	3	0	2	0	0			0	14	0	0	0	0
5:05 PM	2	4		0	8	3	0	1	1	0			0	19	0	0	0	0
5:10 PM	0	1		0	2	1	0	1	1	0			0	6	0	0	0	0
5:15 PM	1	2		0	11	3	0	3	0	0			0	20	0	0	0	1
5:20 PM	0	2		0	9	1	0	1	1	0			0	14	0	0	0	0
5:25 PM	0	3		0	8	2	0	0	0	0			0	13	0	1	0	0
5:30 PM	2	4		0	3	5	0	0	1	1			0	15	0	0	0	0
5:35 PM	1	4		0	7	1	1	1	0	0			0	14	0	0	0	0
5:40 PM	0	4		0	10	2	0	2	0	0			0	18	0	0	0	0
5:45 PM	0	6		0	12	1	0	2	0	0			0	21	0	0	0	0
5:50 PM	3	2		0	8	4	0	1	1	0			0	19	0	0	0	0
5:55 PM	1	1		0	5	2	0	2	0	0			0	11	0	0	0	0
Total Survey	18	71		0	175	52	1	32	13	1			0	361	0	1	0	1

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln			Westbound Lindsay Anne Ln			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	1	11		0	14	7	0	4	3	0			0	40	0	0	0	0
4:15 PM	4	7		0	13	6	0	6	2	0			0	38	0	0	0	0
4:30 PM	1	5		0	30	4	0	3	1	0			0	44	0	0	0	0
4:45 PM	2	13		0	28	7	0	3	2	0			0	55	0	0	0	0
5:00 PM	2	7		0	17	7	0	4	2	0			0	39	0	0	0	0
5:15 PM	1	7		0	28	6	0	4	1	0			0	47	0	1	0	1
5:30 PM	3	12		0	20	8	1	3	1	1			0	47	0	0	0	0
5:45 PM	4	9		0	25	7	0	5	1	0			0	51	0	0	0	0
Total Survey	18	71		0	175	52	1	32	13	1			0	361	0	1	0	1

Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	42	107	149	0	128	46	174	0	19	36	55	1	0	0	0	0	189	0	1	0	1
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.70				0.80				0.68				0.00				0.81				

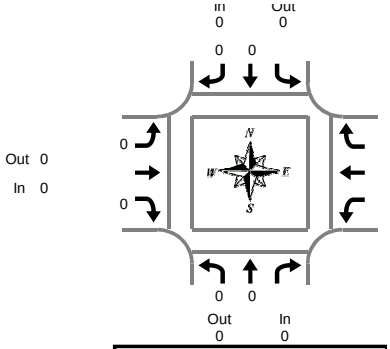
By Movement	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total
	L	T		Total	T	R	Total	L		R	Total				Total	
Volume	8	34		42	100	28	128	12		7	19				0	189
%HV	0.0%	0.0%	NA	0.0%	NA	0.0%	0.0%	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	0.0%
PHF	0.67	0.65		0.70	0.74	0.88	0.80	0.60		0.58	0.68				0.00	0.81

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln			Westbound Lindsay Anne Ln			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	8	36		0	85	24	0	16	8	0			0	177	0	0	0	0
4:15 PM	9	32		0	88	24	0	16	7	0			0	176	0	0	0	0
4:30 PM	6	32		0	103	24	0	14	6	0			0	185	0	1	0	1
4:45 PM	8	39		0	93	28	1	14	6	1			0	188	0	1	0	1
5:00 PM	10	35		0	90	28	1	16	5	1			0	184	0	1	0	1

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Lindsay Anne Ln

Tuesday, April 18, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:35 PM to 5:35 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	0	0		0	1	0	1	0		0	0				0	1
4:05 PM	0	0		0	0	0	0	0		0	0				0	0
4:10 PM	0	0		0	0	0	0	0		0	0				0	0
4:15 PM	0	0		0	0	0	0	0		0	0				0	0
4:20 PM	0	0		0	1	0	1	0		0	0				0	1
4:25 PM	0	0		0	0	0	0	0		0	0				0	0
4:30 PM	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
4:40 PM	0	0		0	0	0	0	0		0	0				0	0
4:45 PM	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
4:55 PM	0	0		0	0	0	0	0		0	0				0	0
5:00 PM	0	0		0	0	0	0	0		0	0				0	0
5:05 PM	0	0		0	0	0	0	0		0	0				0	0
5:10 PM	0	0		0	0	0	0	0		0	0				0	0
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	0	0		0	0	0	0	0		0	0				0	0
5:30 PM	0	0		0	0	0	0	0		0	0				0	0
5:35 PM	0	1		1	0	0	0	1		0	1				0	2
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	0	0	0		0	0				0	0
5:55 PM	0	0		0	0	0	0	0		0	0				0	0
Total Survey	0	1		1	2	0	2	1		0	1				0	4

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	0	0		0	1	0	1	0		0	0				0	1
4:15 PM	0	0		0	1	0	1	0		0	0				0	1
4:30 PM	0	0		0	0	0	0	0		0	0				0	0
4:45 PM	0	0		0	0	0	0	0		0	0				0	0
5:00 PM	0	0		0	0	0	0	0		0	0				0	0
5:15 PM	0	0		0	0	0	0	0		0	0				0	0
5:30 PM	0	1		1	0	0	0	1		0	1				0	2
5:45 PM	0	0		0	0	0	0	0		0	0				0	0
Total Survey	0	1		1	2	0	2	1		0	1				0	4

Heavy Vehicle Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Lindsay Anne Ln			Westbound Lindsay Anne Ln			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.00			0.00			0.00			0.00			0.00

By Movement	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total
	L	T		Total	T	R	Total	L		R	Total				Total	
Volume	0	0		0	0	0	0	0		0	0				0	0
PHF	0.00	0.00		0.00	0.00	0.00	0.00	0.00		0.00	0.00				0.00	0.00

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

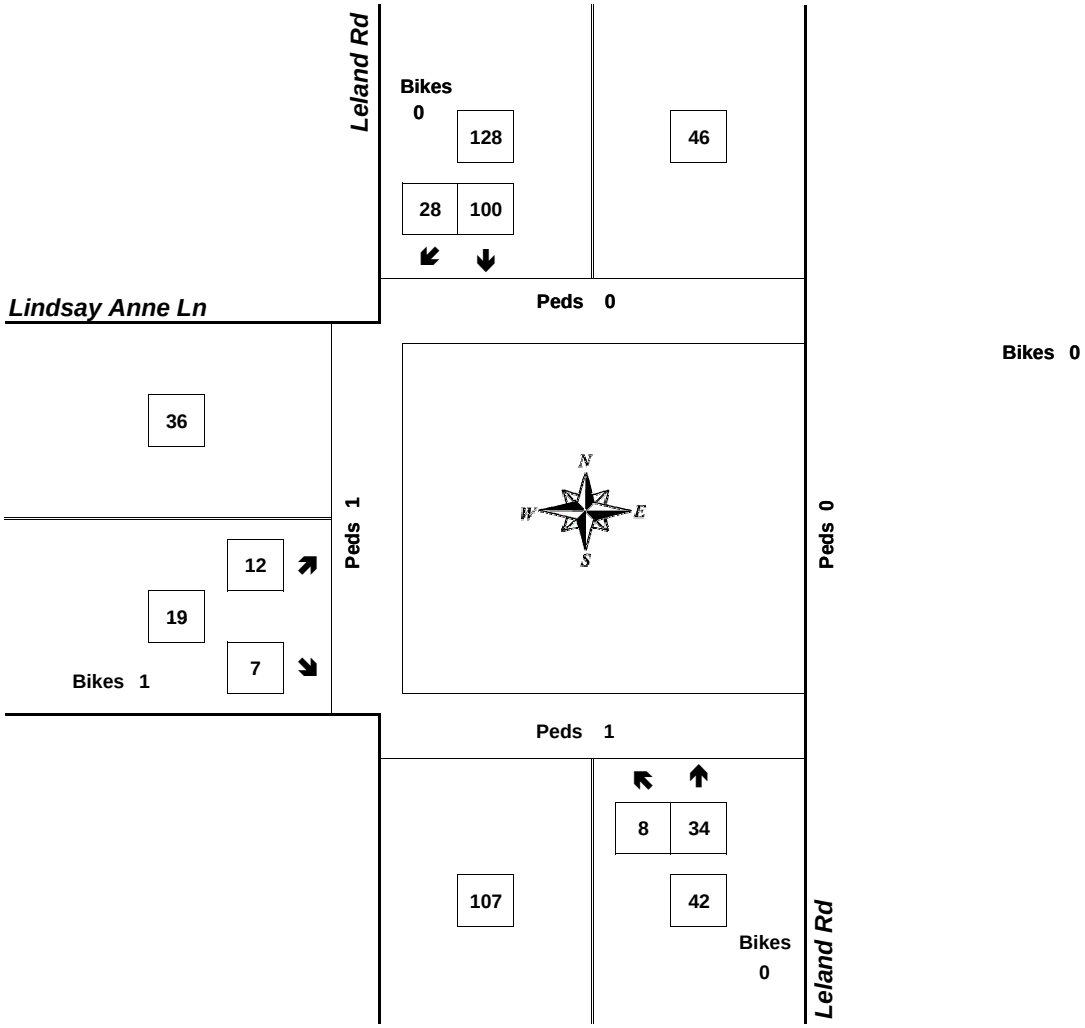
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	0	0		0	2	0	2	0		0	0				0	2
4:15 PM	0	0		0	1	0	1	0		0	0				0	1
4:30 PM	0	0		0	0	0	0	0		0	0				0	0
4:45 PM	0	1		1	0	0	0	1		0	1				0	2
5:00 PM	0	1		1	0	0	0	1		0	1				0	2

Peak Hour Summary

Clay Carney
(503) 833-2740

Leland Rd & Lindsay Anne Ln

4:35 PM to 5:35 PM
Tuesday, April 18, 2017



Approach	PHF	HV%	Volume
EB	0.68	0.0%	19
WB	0.00	0.0%	0
NB	0.70	0.0%	42
SB	0.80	0.0%	128
Intersection	0.81	0.0%	189

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:	28

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**5**	**16**	**21**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**18**	**10**	**28**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**133**	**133**	**266**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**139**	**139**	**278**

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	3.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	21	140	84	12	31	51
Future Vol, veh/h	21	140	84	12	31	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	23	152	91	13	34	55

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	55	0	321	55	152	0
Stage 1	-	-	123	-	-	-
Stage 2	-	-	198	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1550	-	596	1012	1429	-
Stage 1	-	-	794	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1550	-	0	1012	1429	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	9	2.9
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	1012	1550	-	1429	-
HCM Lane V/C Ratio	0.103	0.015	-	0.024	-
HCM Control Delay (s)	9	7.4	-	7.6	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.3	0	-	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	27	15	9	123	35	18
Future Vol, veh/h	27	15	9	123	35	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	29	16	10	134	38	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	46	0	191	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	153	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1562	-	798	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1562	-	792	1034
Mov Cap-2 Maneuver	-	-	-	-	792	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	869	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	860	1562	-	-	-
HCM Lane V/C Ratio	0.067	0.006	-	-	-
HCM Control Delay (s)	9.5	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	16	42	73	17	96	75
Future Vol, veh/h	16	42	73	17	96	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	17	46	79	18	104	82

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	82	0	370	82	46	0
Stage 1	-	-	290	-	-	-
Stage 2	-	-	80	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1515	-	560	978	1562	-
Stage 1	-	-	672	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1515	-	0	978	1562	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2	9.1	4.2
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	978	1515	-	1562	-
HCM Lane V/C Ratio	0.1	0.011	-	0.067	-
HCM Control Delay (s)	9.1	7.4	-	7.5	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.3	0	-	0.2	-

Intersection	
Int Delay, s/veh	1.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	100	28	8	34	12	7
Future Vol, veh/h	100	28	8	34	12	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	109	30	9	37	13	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	178	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	54	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1445	-	812	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	969	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1445	-	807	927
Mov Cap-2 Maneuver	-	-	-	-	807	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	963	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.4	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	847	1445	-	-	-
HCM Lane V/C Ratio	0.024	0.006	-	-	-
HCM Control Delay (s)	9.4	7.5	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	22	146	87	12	32	53
Future Vol, veh/h	22	146	87	12	32	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	24	159	95	13	35	58

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	58	0	334	58	159	0
Stage 1	-	-	127	-	-	-
Stage 2	-	-	207	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1546	-	586	1008	1420	-
Stage 1	-	-	791	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1546	-	0	1008	1420	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	9	2.9
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	1008	1546	-	1420	-
HCM Lane V/C Ratio	0.107	0.015	-	0.024	-
HCM Control Delay (s)	9	7.4	-	7.6	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.4	0	-	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	28	16	9	128	36	19
Future Vol, veh/h	28	16	9	128	36	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	30	17	10	139	39	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	48	0	198	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1559	-	791	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1559	-	785	1033
Mov Cap-2 Maneuver	-	-	-	-	785	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	864	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	856	1559	-	-	-
HCM Lane V/C Ratio	0.07	0.006	-	-	-
HCM Control Delay (s)	9.5	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	17	44	76	20	100	78
Future Vol, veh/h	17	44	76	20	100	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	18	48	83	22	109	85

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	85	0	387	85	48	0
Stage 1	-	-	302	-	-	-
Stage 2	-	-	85	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1512	-	547	974	1559	-
Stage 1	-	-	664	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1512	-	0	974	1559	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2.1	9.1	4.2
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	974	1512	-	1559	-
HCM Lane V/C Ratio	0.107	0.012	-	0.07	-
HCM Control Delay (s)	9.1	7.4	-	7.5	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.4	0	-	0.2	-

Intersection	
Int Delay, s/veh	1.2

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	104	29	8	35	12	7
Future Vol, veh/h	104	29	8	35	12	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	113	32	9	38	13	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	145	0	184	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	55	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1437	-	805	921
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1437	-	800	921
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	962	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.4	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	841	1437	-	-	-
HCM Lane V/C Ratio	0.025	0.006	-	-	-
HCM Control Delay (s)	9.4	7.5	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	25	155	87	13	35	53
Future Vol, veh/h	25	155	87	13	35	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	27	168	95	14	38	58

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	58	0	357	58	168	0
Stage 1	-	-	134	-	-	-
Stage 2	-	-	223	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1546	-	569	1008	1410	-
Stage 1	-	-	785	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1546	-	543	1008	1410	-
Mov Cap-2 Maneuver	-	-	543	-	-	-
Stage 1	-	-	763	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	12.7	3
HCM LOS		B	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	578	1546	-	1410	-
HCM Lane V/C Ratio	0.188	0.018	-	0.027	-
HCM Control Delay (s)	12.7	7.4	-	7.6	0
HCM Lane LOS	B	A	-	A	A
HCM 95th %tile Q(veh)	0.7	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	32	16	9	128	36	19
Future Vol, veh/h	32	16	9	128	36	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	35	17	10	139	39	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	202	43
Stage 1	-	-	-	-	43	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1554	-	787	1027
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1554	-	781	1027
Mov Cap-2 Maneuver	-	-	-	-	781	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	864	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	851	1554	-	-	-
HCM Lane V/C Ratio	0.07	0.006	-	-	-
HCM Control Delay (s)	9.6	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	28	4	1	164	12	4
Future Vol, veh/h	28	4	1	164	12	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	30	4	1	178	13	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	35	0	213	33
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1576	-	775	1041
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1576	-	774	1041
Mov Cap-2 Maneuver	-	-	-	-	774	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	850	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	827	1576	-	-	-
HCM Lane V/C Ratio	0.021	0.001	-	-	-
HCM Control Delay (s)	9.4	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	19	50	76	24	110	78
Future Vol, veh/h	19	50	76	24	110	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	21	54	83	26	120	85

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	85	0	420	85	54	0
Stage 1	-	-	324	-	-	-
Stage 2	-	-	96	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1512	-	525	974	1551	-
Stage 1	-	-	650	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1512	-	0	974	1551	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2	9.2	4.4
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	974	1512	-	1551	-
HCM Lane V/C Ratio	0.112	0.014	-	0.077	-
HCM Control Delay (s)	9.2	7.4	-	7.5	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.4	0	-	0.2	-

Intersection	
Int Delay, s/veh	1.6

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	106	43	12	35	20	9
Future Vol, veh/h	106	43	12	35	20	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	115	47	13	38	22	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	162	0	203	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1417	-	786	909
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1417	-	779	909
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	950	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.9	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	815	1417	-	-	-
HCM Lane V/C Ratio	0.039	0.009	-	-	-
HCM Control Delay (s)	9.6	7.6	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	104	14	4	39	8	2
Future Vol, veh/h	104	14	4	39	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	113	15	4	42	9	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	128	0	172	121
Stage 1	-	-	-	-	121	-
Stage 2	-	-	-	-	51	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1458	-	818	930
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1458	-	816	930
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	968	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.7	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	837	1458	-	-	-
HCM Lane V/C Ratio	0.013	0.003	-	-	-
HCM Control Delay (s)	9.4	7.5	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	31	208	125	18	46	76
Future Vol, veh/h	31	208	125	18	46	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	34	226	136	20	50	83

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	83	0	476	83	226	0
Stage 1	-	-	183	-	-	-
Stage 2	-	-	293	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1514	-	488	976	1342	-
Stage 1	-	-	748	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1514	-	0	976	1342	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	9.4	2.9
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	976	1514	-	1342	-
HCM Lane V/C Ratio	0.159	0.022	-	0.037	-
HCM Control Delay (s)	9.4	7.4	-	7.8	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.6	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2.7

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	40	22	13	183	52	27
Future Vol, veh/h	40	22	13	183	52	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	43	24	14	199	57	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	67	0	282	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	227	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1535	-	708	1012
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1535	-	701	1012
Mov Cap-2 Maneuver	-	-	-	-	701	-
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	803	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	783	1535	-	-	-
HCM Lane V/C Ratio	0.11	0.009	-	-	-
HCM Control Delay (s)	10.2	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0	-	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	24	62	108	28	143	111
Future Vol, veh/h	24	62	108	28	143	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	26	67	117	30	155	121

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	121	0	552	121	67	0
Stage 1	-	-	432	-	-	-
Stage 2	-	-	120	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1467	-	442	930	1535	-
Stage 1	-	-	582	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1467	-	0	930	1535	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2.1	9.6	4.3
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	930	1467	-	1535	-
HCM Lane V/C Ratio	0.159	0.018	-	0.101	-
HCM Control Delay (s)	9.6	7.5	-	7.6	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.6	0.1	-	0.3	-

Intersection	
Int Delay, s/veh	1.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	149	42	12	51	18	10
Future Vol, veh/h	149	42	12	51	18	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	162	46	13	55	20	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	208	0	267	185
Stage 1	-	-	-	-	185	-
Stage 2	-	-	-	-	82	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1363	-	722	857
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1363	-	715	857
Mov Cap-2 Maneuver	-	-	-	-	715	-
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	932	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.5	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	760	1363	-	-	-
HCM Lane V/C Ratio	0.04	0.01	-	-	-
HCM Control Delay (s)	9.9	7.7	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	35	217	125	19	49	76
Future Vol, veh/h	35	217	125	19	49	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	38	236	136	21	53	83

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	83	0	501	83	236	0
Stage 1	-	-	189	-	-	-
Stage 2	-	-	312	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1514	-	472	976	1331	-
Stage 1	-	-	744	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1514	-	0	976	1331	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	9.4	3.1
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	976	1514	-	1331	-
HCM Lane V/C Ratio	0.16	0.025	-	0.04	-
HCM Control Delay (s)	9.4	7.4	-	7.8	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.6	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2.7

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	43	22	13	184	52	27
Future Vol, veh/h	43	22	13	184	52	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	47	24	14	200	57	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	71	0	287	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	228	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1529	-	703	1007
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1529	-	696	1007
Mov Cap-2 Maneuver	-	-	-	-	696	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	802	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	778	1529	-	-	-
HCM Lane V/C Ratio	0.11	0.009	-	-	-
HCM Control Delay (s)	10.2	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	65	6	1	236	15	3
Future Vol, veh/h	65	6	1	236	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	71	7	1	257	16	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	77	0	333	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	259	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1522	-	662	988
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1522	-	661	988
Mov Cap-2 Maneuver	-	-	-	-	661	-
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	783	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	700	1522	-	-	-
HCM Lane V/C Ratio	0.028	0.001	-	-	-
HCM Control Delay (s)	10.3	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	27	70	108	32	156	111
Future Vol, veh/h	27	70	108	32	156	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	29	76	117	35	170	121

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	121	0	595	121	76	0
Stage 1	-	-	460	-	-	-
Stage 2	-	-	135	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1467	-	417	930	1523	-
Stage 1	-	-	566	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1467	-	0	930	1523	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2.1	9.6	4.5
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	930	1467	-	1523	-
HCM Lane V/C Ratio	0.164	0.02	-	0.111	-
HCM Control Delay (s)	9.6	7.5	-	7.7	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.6	0.1	-	0.4	-

Intersection	
Int Delay, s/veh	1.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	151	42	12	54	18	10
Future Vol, veh/h	151	42	12	54	18	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	164	46	13	59	20	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	210	0	272	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	85	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1361	-	717	855
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	938	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1361	-	710	855
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	929	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	756	1361	-	-	-
HCM Lane V/C Ratio	0.04	0.01	-	-	-
HCM Control Delay (s)	10	7.7	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	188	14	4	72	8	2
Future Vol, veh/h	188	14	4	72	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	204	15	4	78	9	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	220	0	299	212
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1349	-	692	828
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1349	-	690	828
Mov Cap-2 Maneuver	-	-	-	-	690	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	933	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.4	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	714	1349	-	-	-
HCM Lane V/C Ratio	0.015	0.003	-	-	-
HCM Control Delay (s)	10.1	7.7	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LELAND RD and Intersectional Crashes at LELAND 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	0	0	0
REAR-END	0	2	0	2	0	2	0	1	1	1	1	2	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	0	0	0
YEAR 2015 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**3**	**1**	**3**	**1**	**2**	**0**	**0**
YEAR: 2014														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	0	1	1	0	1
REAR-END	0	2	0	2	0	2	0	2	0	2	0	0	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**3**	**1**	**3**	**1**	**2**	**0**	**1**
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
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2012														
ANGLE	0	1	1	2	0	2	0	1	1	0	2	2	0	0
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	0	1	0	1	0	0	1
REAR-END	0	1	1	2	0	1	0	1	0	1	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	0	0	0
YEAR 2012 TOTAL	**0**	**4**	**2**	**6**	**0**	**5**	**0**	**3**	**2**	**2**	**4**	**3**	**0**	**1**

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LELAND RD and Intersectional Crashes at LELAND 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: 2011														
FIXED / OTHER OBJECT	0	2	1	3	0	3	0	1	2	1	2	0	0	3
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	1	1	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**5**	**1**	**6**	**0**	**7**	**0**	**3**	**3**	**3**	**3**	**3**	**0**	**3**
FINAL TOTAL	**0**	**14**	**9**	**23**	**0**	**17**	**0**	**14**	**8**	**13**	**10**	**13**	**0**	**5**

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 and Intersectional Crashes at LELAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	R U S	S G L	W C H	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
04286	Y	Y	N				11/13/2011	16	LELAND RD	STRGHT		N	Y	RAIN	FIX OBJ	01	NONE 0	STRGHT										062,010,088	01
CITY							SU	160	LOT WHITCOMB DR	NW	(NONE)	NONE	N	WET	FIX		PRVTE	SE-NW									001	062,010,088	00
							3A			08			N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	25	M	OR-Y		047,080	000		01
											(02)														OR<25					
																01	NONE 0	STRGHT											
																	PRVTE	SE-NW									001	062,010,088	00
																	PSNGR CAR		02	PSNG	INJB	27	M			000	000		00
04741	Y	N	N	N	N		12/09/2011	16	LELAND RD	STRGHT		N	Y	FOG	FIX OBJ	01	NONE 0	STRGHT										124,053	01,05
CITY							FR	150	JESSIE AVE	SE	(NONE)	UNKNOWN	N	ICE	FIX		PRVTE	NW-SE									000	124,053	00
							8A			08			N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	61	F	OR-Y		047,083,081	017		01,05
											(02)														OR<25					
03336	N	N	N				09/07/2012	16	DALLAS ST	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE							FR	0	LELAND RD	S		UNKNOWN	N	UNK	REAR		PRVTE	SE-NW									000		00
							11P			06	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000		07
																									UNK					
																02	NONE 0	STOP											
																	PRVTE	SE-NW									012		00
																	PSNGR CAR		01	DRVR	NONE	22	F	OR-Y		000	000		00
																									OR<25					
03079	N	N	N				08/19/2012	16	LELAND RD	ALLEY		N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
CITY							SU	110	REDDAWAY AVE	SW	(NONE)	UNKNOWN	N	DRY	TURN		PRVTE	SW-NE									000		00
							4P			08			N	DAY	INJ		MTRCYCLE		01	DRVR	INJB	29	M	OR-Y		000	000		00
											(02)														OR<25					
																02	NONE 0	TURN-L											
																	PRVTE	NE-SE									019		00
																	PSNGR CAR		01	DRVR	NONE	67	F	OR-Y		028,004	000		02
																									OR<25					
01898	N	N	N				05/17/2014	16	MARYSVILLE LN	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NO RPT							SA	0	LELAND RD	CN		UNKNOWN	N	DRY	TURN		PRVTE	N -S									000		00
							10A			01	0		Y	DAY	PDO		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y		000	000		00
																									OR<25					
																02	NONE 0	TURN-L											
																	PRVTE	W -N									018		00
																	PSNGR CAR		01	DRVR	NONE	38	F	OR-Y		028	000		02
																									OR<25					
																02	NONE 0	TURN-L											
																	PRVTE	W -N									018		00
																	PSNGR CAR		02	PSNG	NO<5	02	M			000	000		00
04856	N	N	N				12/17/2011	16	CARMELITA DR	INTER	CROSS	N	N	FOG	ANGL-OTH	01	NONE 0	STRGHT											02
CITY							SA	0	LELAND RD	CN		STOP SIGN	N	WET	TURN		PRVTE	NE-SW									007		00
							5P			04	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y		000	000		00
																									OR<25					
																02	NONE 0	TURN-L											
																	PRVTE	NW-NE									000		00
																	PSNGR CAR		01	DRVR	INJC	19	M	OTH-Y		028	000		02
																									N-RES					
																02	NONE 0	TURN-L											
																	PRVTE	NW-NE									000		00
																	PSNGR CAR		02	PSNG	INJC	18	M			000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

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SER# / INVEST	S P E D	A L C	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
04254	N	N	N			10/24/2014	16	LELAND RD	INTER	4-LEG	N	Y	RAIN	FIX OBJ	01	NONE 0	TURN-R										100	03,08
NONE						FR	0	S MEYERS RD	SE		STOP SIGN	N	WET	FIX		PRVTE	SW-SE									000	100	00
						11P			06	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		021,001	017		03,08
00238	N	N	N			01/20/2011	16	LELAND RD	INTER	4-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						TH	0	S MEYERS RD	SW		STOP SIGN	N	DRY	REAR		PRVTE	SW-NE									000		00
						7A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	INJC	18	F	OR-Y OR<25		000	000		00
03638	N	N	N			10/01/2012	16	LELAND RD	INTER	4-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						MO	0	S MEYERS RD	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SW-NE									015		00
						8P			01	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		028	000		02
															02	NONE 0	STRGHT											
																PRVTE	N -S									000		00
																PSNGR CAR		01	DRVR	NONE	36	M	OR-Y OR<25		000	000		00
04648	Y	Y	N	N	N	12/03/2011	16	LELAND RD	STRGHT		N	Y	CLR	FIX OBJ	01	NONE 0	TURN-R										040,062,088	33,01,10
CITY						SA	300	S MEYERS RD	N	(NONE)	UNKNOWN	N	DRY	FIX		PRVTE	SE-N									000	040,062,088	00
						12A			08	(02)		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y OR<25		051,047,081	017		33,01,10
05208	N	N	N			12/07/2015	16	LELAND RD	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE						MO	0	PEASE RD	SW		STOP SIGN	N	WET	REAR		PRVTE	SW-NE									000		00
						7A			06	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	INJC	39	M	OR-Y OR<25		000	000		00
00787	N	N	N	N	Y	03/05/2011	16	LELAND RD	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L											02
NO RPT						SA	0	PEASE RD	CN		STOP SIGN	N	DRY	TURN		PRVTE	SW-N									015		00
						2P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		028	000		02
															01	NONE 0	TURN-L											
																PRVTE	SW-N									015		00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000		00
															01	NONE 0	TURN-L											
																PRVTE	SW-N									015		00
																PSNGR CAR		03	PSNG	NO<5	04	M			000	000		00
															02	NONE 0	STRGHT											
																PRVTE	N -S									000		00
																PSNGR CAR		01	DRVR	INJC	18	M	OR-Y OR<25		000	000		00
00397	N	N	N			01/31/2015	16	LELAND RD	ALLEY		N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02

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CITY OF OREGON CITY, CLACKAMAS COUNTY

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SER# / INVEST	S P E D	A L C	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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
NONE						SA	69	PEASE RD	N	(NONE)	UNKNOWN	N	DRY	BACK		PRVTE	S -N									000		00
						8A			07			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	48	F	OR-Y		000	000		00
										(02)													OR<25					
															02	NONE 0	BACK											
																PRVTE	E -W									018		00
																PSNGR CAR		01	DRVR	NONE	44	M	OR-Y		028	000		02
																							OR<25					
02086	N	N	N			06/12/2013	16	LELAND RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						WE	0	WARNER-MILNE RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						7A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y		000	000		00
																							OR<25					
03835	N	N	N			10/15/2012	16	LELAND RD	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						MO	0	WARNER-MILNE RD	CN		TRF SIGNAL	N	WET	ANGL		PRVTE	E -W									000		00
						5P			02	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJC	48	M	OR-Y		000	000		00
																							OR<25					
															01	NONE 0	STRGHT											
																PRVTE	E -W									000		00
																PSNGR CAR		02	PSNG	INJC	16	F			000	000		00
															02	NONE 0	STRGHT											
																PRVTE	S -N									000		00
																PSNGR CAR		01	DRVR	NONE	51	F	OR-Y		020	038		04
																							OR<25					
02245	N	N	N			06/09/2015	16	LELAND RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										004	29
NONE						TU	0	WARNER-MILNE RD	CN		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
						8A			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	E -N									013	004	00
																PSNGR CAR		01	DRVR	INJC	27	M	OR-Y		000	000		00
																							OR<25					
01113	N	N	N			03/30/2015	16	LELAND RD	ALLEY		N	N	CLR	S-OTHER	01	NONE 0	TURN-L											08
NONE						MO	80	WARNER-MILNE RD	S	(NONE)	UNKNOWN	N	DRY	TURN		PRVTE	W -N									018		00
						4P			07			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		001	000		08
										(02)													UNK					
															02	NONE 0	STOP											
																PRVTE	W -E									011		00
																PSNGR CAR		01	DRVR	NONE	54	F	OR-Y		000	000		00
																							OR<25					
01720	N	N	N			05/10/2012	16	LELAND RD	STRGHT		N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TH	137	WARNER-MILNE RD	S	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	S -N									000		00
						7A			08			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	51	M	OR-Y		026	000		07
										(02)													OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	43	M	OR-Y		000	000		00
																							OR<25					

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CITY OF OREGON CITY, CLACKAMAS COUNTY

LELAND RD and Intersectional Crashes at LELAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03220	N	N	N			08/20/2014	16	LELAND RD	STRGHT		N	N	CLR	S-1STOP	01	NONE 0	STRGHT										099	29
NONE						WE	150	WARNER-MILNE RD	S	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	S -N									000		00
						UNK			08			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000	099	29
										(02)													OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	17	F	OR-Y		000	000		00
																							OR<25					
03175	N	N	N			08/17/2014	16	LELAND RD	STRGHT		N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						SU	520	WARNER-MILNE RD	S	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	N -S									000		00
						2P			07			N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	57	F	OR-Y		026	000		29
										(02)													OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		01	DRVR	NONE	43	M	OR-Y		000	000		00
																							OR<25					
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		029	000		02
																							OR<25					
																	- 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		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	E -W									000		00
																PSNGR CAR		01	DRVR	NONE	16	F	OR-Y		020	000		04
																							OR<25					
04405	Y	N	N	N	N	11/17/2012	16	LELAND RD	STRGHT		N	Y	RAIN	FIX OBJ	01	NONE 0	STRGHT										088,093,053	33,27,01
CITY						SA	31	WARNER-PARROTT RD	S	(NONE)	UNKNOWN	N	WET	FIX		PRVTE	N -S									000	010,040,037	00
						8P			05			N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	21	M	SUSP		051,016,081	038	093	33,27,01
										(02)													OR<25					

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URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

LELAND RD at JESSIE AVE, 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	SPCL USE / TRLR QTY / OWNER V#	MOVE / FROM / TO	PRTC P#	TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

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CITY OF OREGON CITY, CLACKAMAS COUNTY

LELAND RD at JESSIE AVE, 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	SPCL USE / TRLR QTY / OWNER V#	MOVE / FROM / TO	PRTC P#	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.

Exhibit H: 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

July 10, 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 an Annexation/Zone Change of the property located along S Leland Road (identified as Clackamas County 3 2E 18 1400)

City Planning Department Staff:

AKS has performed significant engineering due diligence for the subject property 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 annexation/zone change of this property.

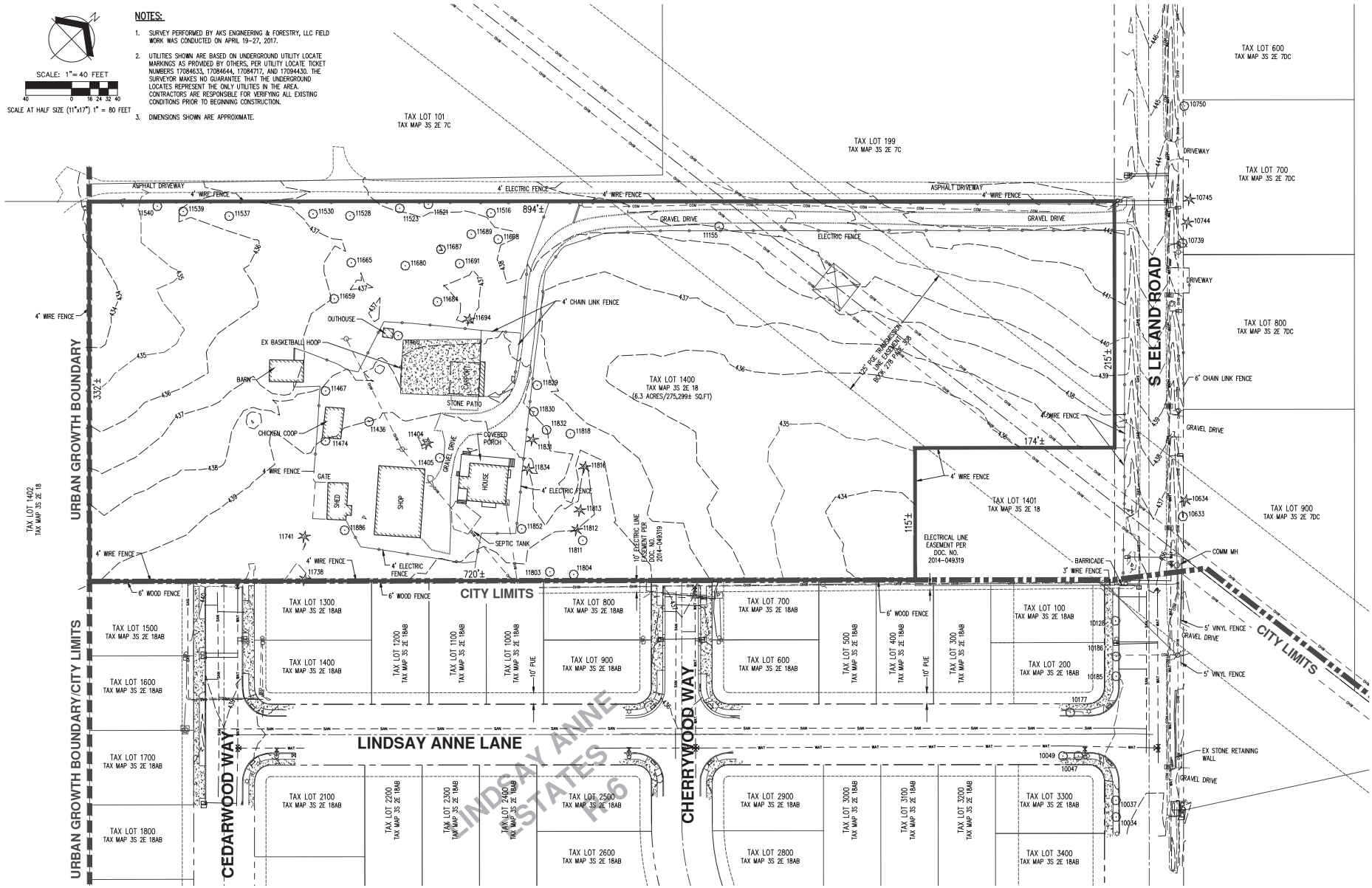
Sincerely,
AKS ENGINEERING & FORESTRY, LLC

Montgomery B. Hurley – PE, PLS
Principal

Exhibit I: Neighborhood Meeting Documentation

Hillendale / Tower Vista Neighborhood Steering Meeting
/w Presenters
June 6, 2017

7:00 – 7:10	Call to order – Introductions
7:10 – 7:15	Minutes from 4/4/17 meeting
7:15 – 8:00	Jacki Herb, AKS Engineering Annexation & Subdivision Presentation
8:00 – 8:30	CIC report, PRAC report, Chief's Advisory report Land Use report
8:30 – 9:00	Open Discussion, plans for July General Meeting
9:00	Adjourn.



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KEIZER, OR 97303
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aks-eng.com

ENGINEERING • SURVEYING • NATURAL RESOURCES
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LELAND ROAD SUBDIVISION

OREGON CITY, OREGON
CLACKAMAS CO. TAX MAP 3S2E18
TAX LOT 1400

PRELIMINARY EXISTING CONDITIONS PLAN

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	CCG
SCALE:	AS NOTED
DATE:	06/01/2017

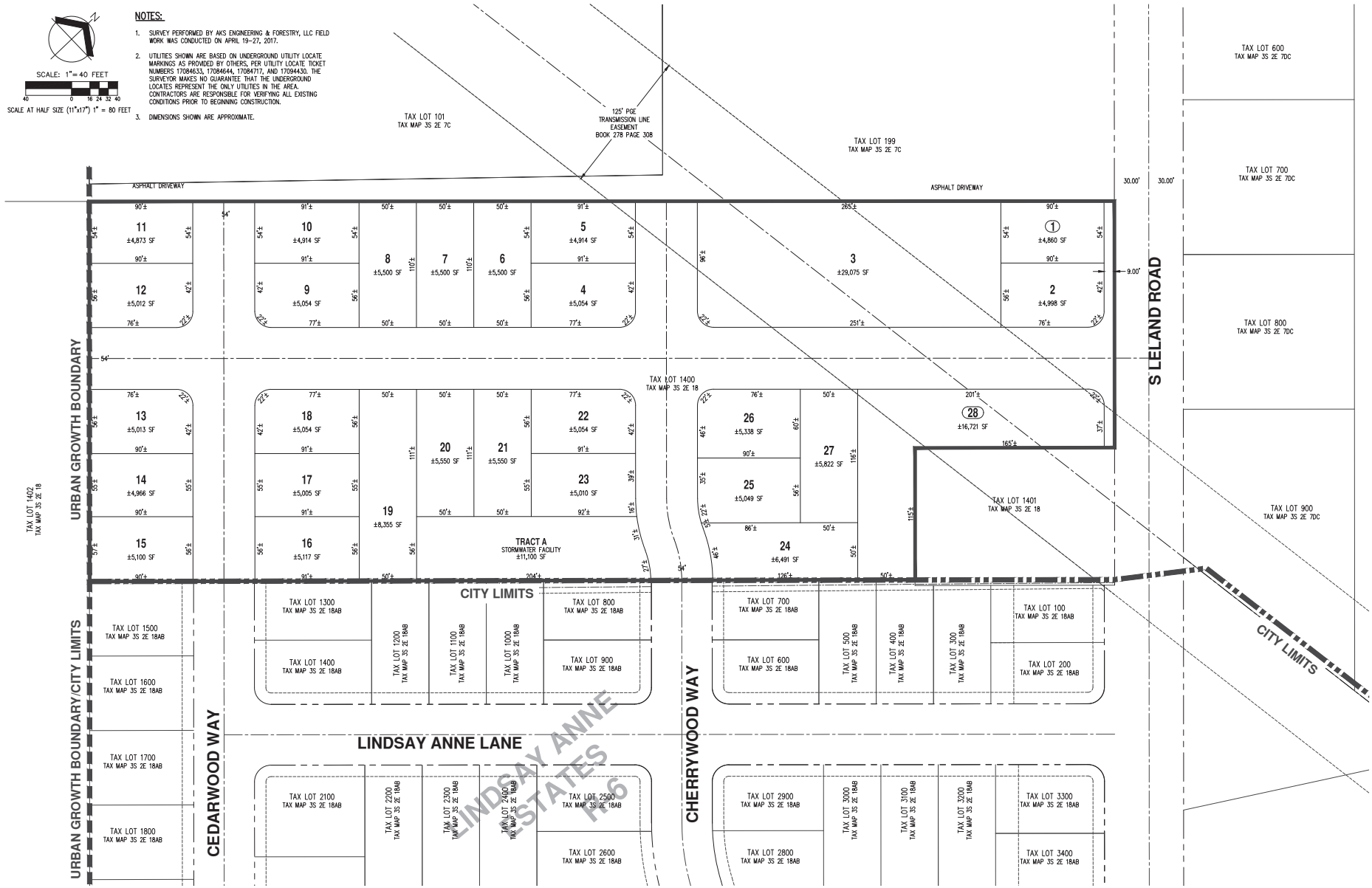
PRELIMINARY

REVISIONS

JOB NUMBER 5837

SHEET 1

AKS DRAWING FILE: 5837-I-NEIGHBORHOOD PLANS.DWG | LAYOUT: 1



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LELAND ROAD SUBDIVISION

OREGON CITY, OREGON
CLACKAMAS CO. TAX MAP 3S2E18
TAX LOT 1400

PRELIMINARY SUBDIVISION LAYOUT

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	CCG
SCALE:	AS NOTED
DATE:	06/01/2017

PRELIMINARY

REVISIONS

JOB NUMBER 5837

SHEET 2

AKS DRAWING FILE: 5837-2-NEIGHBORHOOD PLANS.DWG | LAYOUT: 2

SCALE: 1"= 40 FEET

40 0 16 24 32 40

SCALE AT HALF SIZE (11"x17") 1" = 80 FEET

NOTES:

1. SURVEY PERFORMED BY AKS ENGINEERING & FORESTRY, LLC FIELD WORK WAS CONDUCTED ON APRIL 19-27, 2017.
2. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PER UTILITY LOCATE TICKET NUMBERS 17084633, 17084644, 17084717, AND 17094430. 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.
3. DIMENSIONS SHOWN ARE APPROXIMATE.

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LELAND ROAD SUBDIVISION

OREGON CITY, OREGON

TAX LOT 1400 CLACKAMAS CO. TAX MAP 3S2E18

AERIAL PHOTO PLAN

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	CCG
SCALE:	AS NOTED
DATE: 06/01/2017	

PRELIMINARY

REVISIONS

JOB NUMBER 5837

SHEET 3

AKS DRAWING FILE: 5837-3-NEIGHBORHOOD PLANS.DWG | LAYOUT: 3

PRELIMINARY

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	CCC
SCALE:	AS NOTED
DATE:	06/01/2017

REVISIONS

JOB NUMBER 5837
SHEET 4

OVERALL AERIAL

LELAND ROAD SUBDIVISION

OREGON CITY OREGON
TAX LOT 1400 CLACKAMAS CO. TAX MAP 3S2E18

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June 6, 2017

To whom it may concern:

Matt Scheidegger

~~Chris Goodell~~ with AKS Engineering & Forestry attended a Hillendale/Tower Vista Neighborhood Association meeting and provided a project summary of a planned annexation, zone change and subdivision for property located at 19701 S. Leland road.

Meeting Date: June 6, 2017
Time: 7:00 PM
Location: Living Hope Church, 19691 Meyers Road, Oregon City, OR

Sincerely,

Hillendale Neighborhood Association — 06 JUN 17 Date

WILLIAM CIFFORD

Tower Vista Neighborhood Association — 06/June 17 Date

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June 12, 2017

Neighborhood Meeting Minutes: Leland Road Subdivision
19701 S. Leland Road, Oregon City, OR

Meeting Date: June 6, 2017
Time: 7:00 PM
Location: Living Hope Church, 19691 Meyers Road, Oregon City, OR

The Applicant's representative attended a Hillendale/Tower Vista Neighborhood Association meeting to present details to neighbors and community members in preparation for the submission of land use applications for an annexation, zone change, and subdivision. Matt Scheidegger, with AKS Engineering & Forestry, was present. An overview of the project location, current and future zoning, lot sizes, lot configuration, public utilities, and public streets was provided. The planned applications and a general process and timeframe for the land use reviews and construction permitting process were described. Business cards were provided.

Following the presentation, attendees asked questions and/or provided general comments about the project. The following topics were discussed:

- Timing of construction of new homes
- Estimated price of future homes
- Traffic concerns
- Other nearby developments
- Off-site intersections
- Existing trees

The meeting concluded at approximately 7:30 p.m.

Sincerely,
AKS ENGINEERING & FORESTRY, LLC

Matt Scheidegger, Planner

Jacki Herb

From: Joyce Gifford <Joyce@smALLFLAGs.com>
Sent: Tuesday, June 13, 2017 8:04 PM
To: Jacki Herb
Cc: 'Roy and Anna Harris'
Subject: RE: Neighborhood Association Meeting

The attendees were:
Roy Harris – Hillendale Neighborhood Association (HNA)
Vern Johnson – Tower Vista NA
Debbie DeRusha – HNA
Craig DeRusha – HNA
Mike Albin – Gaffney Lane NA
William Gifford – HNA
Joyce Gifford – HNA

Email address can be provided if needed.

From: Jacki Herb [mailto:herbj@aks-eng.com]
Sent: Monday, June 12, 2017 11:48 AM
To: Roy and Anna Harris <royandanna@centurylink.net>; 'Joyce Gifford' <Joyce@smALLFLAGs.com>
Subject: RE: Neighborhood Association Meeting

Hello,

I was just following up to see if you would be able to email this? I sometimes get documents stuck in my spam filter, so I apologize if you have already sent it.

Regards,

Jacki Herb

AKS ENGINEERING & FORESTRY, LLC
12965 SW Herman Road, Suite 100 | Tualatin, OR 97062
P: 503.563.6151 ext. 279 | F: 503.563.6152 | www.aks-eng.com | herbj@aks-eng.com
Offices in: Tualatin, OR | Salem-Keizer, OR | Vancouver, WA

NOTICE: This communication may contain privileged or other confidential information. If you have received it in error, please advise the sender by reply e-mail and immediately delete the message and any attachments without copying or disclosing the contents. AKS Engineering and Forestry shall not be liable for any changes made to the electronic data transferred. Distribution of electronic data to others is prohibited without the express written consent of AKS Engineering and Forestry.

From: Roy and Anna Harris [mailto:royandanna@centurylink.net]
Sent: Wednesday, June 07, 2017 6:37 PM
To: Jacki Herb <herbj@aks-eng.com>; 'Joyce Gifford' <Joyce@smALLFLAGs.com>
Subject: Re: Neighborhood Association Meeting

Joyce,

Could you get a copy of the sign in sheet over to Jacki?

Thanks,

Roy

On 6/7/2017 1:43 PM, Jacki Herb wrote:

> Roy,
>
> Thank you fitting us into your neighborhood association meeting and allowing us to present information on the Leland Road project.
>
> Would it be possible to get a copy of the meeting in sign in sheet? The City requires that we include this in our application submittal materials. If you could email it to me at your earliest convenience, we would appreciate it.
>
> Thank you again,

Jacki Herb

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Exhibit J: City Pre-Application Conference Notes

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

PRE-APPLICATION MEETING NOTES
Date of Meeting: March 8, 2017

File Number:	**PA 17-07** – Annexation / Zone Change / Subdivision
Address:	19701 S. Leland Road, Oregon City, OR 97045
Tax Assessor Map:	3S 2E 18, Tax Lot: 1400
Total Acres:	6.32 acres
Project Name:	Annexation, Zone Change to R-6, Subdivision
Staff Present:	Pete Walter, AICP, Associate Planner Email: pwalter@orcity.org Ph: (503) 496-1568 Mario De La Rosa, PE, Development Project Engineer, Email: mdelarosa@orcity.org Ph: (503) 974-5518

Approval Criteria

City Code Chapter 14

- OCMC 14.04.050.(E).(1-9). The required narrative statement in response to items 7(a) through (g) must be included:

  7. A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:

  a. *Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;*
  b. *Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;*
  c. *Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;*
  d. *Statement outlining method and source of financing required to provide additional facilities, if any;*
  e. *Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced;*
  f. *Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;*
  g. *Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;*

- OCMC 14.04.060 – Annexation Factors. Narrative shall address each of the required Annexation Factors (1) through (7). *When reviewing a proposed annexation, the commission shall consider the following factors, as relevant:*

  1. Adequacy of access to the site;
  Comment: Address how current and future access to the site is adequate.

  2. Conformity of the proposal with the city's comprehensive plan;
  Comment: The applicant's narrative should the applicable goals and policies. Staff will include the applicable goals and policies with the Code Response Template.

  3. Adequacy and availability of public facilities and services to service potential development;
  Comment: The applicant's narrative should the current Oregon City public facilities plans for Water, Sewer, Stormwater and Transportation and the respective demand placed on these services by the potential development of the site.

  4. Compliance with applicable sections of ORS Ch. 222, and Metro Code Section 3.09;
  Comment: The applicant's narrative should these criteria.

  5. Natural hazards identified by the city, such as wetlands, floodplains and steep slopes;
  Comment: The applicant's narrative should address any natural hazards present on site.

  6. Any significant adverse effects on specially designated open space, scenic, historic or natural resource areas by urbanization of the subject property at time of annexation;
  Comment: The applicant's narrative should address any specially designated open space, scenic, historic or natural resource areas on the site. Staff is not aware of any, although there are constraints on building in a powerline easement. We recommend contacting the County Historic Preservation staff for any cultural or historic records for the site.

  7. Lack of any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.
  Comment: The applicant's narrative should address any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.

Metro Code 3.09.045.A-D (Boundary Change Criteria)

- Whether the proposed boundary change will promote the timely, orderly and economic provision of public facilities and services.
- Whether the proposed boundary change will affect the quality and quantity of urban services
- Whether the proposed boundary change would eliminate or avoid unnecessary duplication of facilities or services.
- **Comment**: See comments from Public Works.
- Water - Please see attached comments from CRW regarding water services along Leland Road.
  Schools - Oregon City School District representative indicated verbally at the pre-application that school capacity at Gardiner Elementary and Oregon City High School should have sufficient capacity to serve development of the proposed annexation area.

Oregon City Comprehensive Plan – Applicable Goals and Policies

- Goal 14.1.2 – Concept Plans (Address Park Place Concept Plan)
- Goal 14.3 - Orderly Provision of Services to Growth Areas
- Goal 14.4 – Annexation of Lands to the city

Concept Plan Goals and Policies

- This area was not within any Concept Plan study area boundary regulated under Metro Title 11.

Zone Change

- The Zone Change request to R-6 may be submitted concurrently with the annexation request or submitted separately and is a discretionary zone change processed pursuant to the criteria in OCMC 17.68.
- Non-discretionary default zoning is R-10 based on the designation of Low Density Residential, pursuant to OCMC 17.68.025.
- Discretionary re-zoning to R-6 must comply with the criteria in 17.68.020 - Criteria. These include:
  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.
- A separate zone change application is required for both R-10 and R-6 rezoning.
- Applicant is advised to review and consider the City's decision on the current applications AN-16-0003 (OC Golf Course, 113 acres), and AN-16-0004 / ZC-16-0001 (Serres Property, 35 acres). Staff can provide this information.

Subdivision

- Subdivisions are typically reviewed as a Type II process based on clear and objective review criteria and staff recommends that the applicant apply separately for subdivision following approval of annexation and zone change.
- Pursuant to ORS 227.175, any applicant may elect to consolidate applications for two or more related permits needed for a single development project. Any grading activity associated with development shall be subject to preliminary review as part of the review process for the underlying development. It is the express policy of the city that development review not be segmented into discrete parts in a manner that precludes a comprehensive review of the entire development and its cumulative impacts.
- Review of a concurrent subdivision application may be submitted either concurrently with or separate from the annexation and zone change, however, the subdivision cannot be approved until the zone change is effective. The applicant should discuss and propose appropriate conditions of approval with staff and the City attorney if the applicant intends to submit the application for subdivision as a Type II.
- It appears that the subdivision could meet the requirements of the R-6 zone district and land division requirements
- Per OCMC 16.12.070 - Building site—Setbacks and building location. Lots 1 and 2 shall orient the front setback and the most architecturally significant elevation toward Leland Road. The applicant shall maintain the proposed access to the aforementioned lots by utilizing a shared driveway at the rear of the lots. If the applicant chooses to alter the access to the lots, the access shall comply with OCMC 16.12.070. (P)

Transportation

Traffic Impact Analysis is required. Fees for review of the traffic impact analysis will be required pursuant to the TIA fee structure. The City's transportation consultant John Replinger has reviewed the pre-application and has the following comments;

> *Please provide the following guidance to the applicant in connection with the pre-app for the proposed development:*
>
> *The applicant will need to have a traffic engineer 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.*
>
> *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.*
>
> *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'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.*

To summarize, zone changes must comply with the Transportation Planning Rule, and development will not be permitted until compliance with the TPR is shown. ODOT staff will likely be involved with the scoping analysis for the TIA / TPR. A copy of the recent Staff Report with proposed Condition of Approval for transportation mitigation, developed in collaboration with ODOT staff, for the zone change and annexation of 35 acres north of Holcomb Boulevard (AN-16-0004/ZC-16-0001) is attached for reference.

Annexation Election

It appears that this annexation may be exempt from the voter approval requirements of OCMC 14.04, pursuant to SB 1573. SB 1573 is survived a recent legal challenge from Corvallis in Benton County Circuit Court. Staff will be tracking this issue as it develops.

Review Fees (2017 Fee Schedule)

Annexation: $4,342.00

Zone Change:	$2,798.00
Traffic Impact Analysis:	
TIA Base Fee (<50 units):	$1,092.00
- Zone Change / Comp Plan Amendment	$2,046.00
Mailing Labels:	$15.00
Metro Mapping Fees:	$300.00
Subdivision:	$4,136.00 + $344 per lot

Neighborhood Association Meeting Required

Per OCMC 17.50.055 - Neighborhood association meeting. Documentation of the meeting with the applicable Neighborhood Association is required for a complete application. Staff will confirm which N.A. the annexation would be included within upon annexation. The annexation property is within the Hillendale Neighborhood Association boundary. See Web page http://www.orcity.org/community/neighborhood-associations for contact and meeting information.

Miscellaneous Comments

Staff will provide you a Code Response template similar to a Staff Report and electronic versions of the applicable plans, policies and approval criteria above to assist in the preparation of your application.

These pre-application conference notes were prepared in accordance with OCMC 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.

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: 03-10-2017

Planning Project Number:	PA 17-07
Address:	19701 S Leland Road
Map Number(s):	3S 2E 18
Tax Lot(s):	1400
Project Name:	19701 S Leland Road Annexation/Subdivision
Meeting Date:	March 8, 2017
Reviewer(s):	Mario de la Rosa, PE

ENGINEERING - UTILITIES

Stormwater

1. The City Stormwater and Grading Design Standards dated 2015 must be adhered to for this development. The Standards can be found online here:**http://www.orcity.org/sites/default/files/final_manual_0.pdf**

2. An existing storm sewer conveyance system exists directly to the east along two (2) separate stub streets located within Lindsey Anne Estates to the east. An existing 12-inch storm main is located within S Leland Road just east of the project frontage.

3. A downstream analysis per the requirements of the Stormwater and Grading Design Standards will be required to document existing conditions and demonstrate adequate conveyance capacity of the natural and constructed drainage system downstream of the project site.

4. Based on review of City GIS System, the project site is mostly located within a high water table area. A Geotechnical Report will be required for this project and should identify elevation of ground water.

5. Applicant indicates stormwater outfall from proposed stormwater facility will be discharged to Leland Road or Cherrywood Way and is still to be determined.

Water

1. The City of Oregon City has 12-inch water main located nearby within Leland Road. The water main would need to be extended to and through to the west property boundary along Leland Road.

2. Water service extension to adjacent property owners along Leland Road property frontage will be required via Developer Agreement with City will be required for following addresses off of S Leland Road, 19717, 19658, 19646, and 19634.

3. An existing 6-inch water main owned by Clackamas River Water is located along the property frontage within S Leland Road.

4. The proposed annexation area is within the Upper Zone water system pressure zone.

5. The 2012 Water Distribution System Master Plan was adopted in February 2012. A PDF version of the adopted master plan is available on our City website.

6. The Water Master Plan currently indicates a 6" water main proposed for S Leland Road along the project frontage. However, the minimum water main size is 8-inches. The City will reimburse the Applicant for the cost difference between a 12-inch and 8-inch water main.

Sanitary Sewer

1. The 2014 Sanitary Sewer Master Plan Update was adopted in November 2014. A PDF version of the adopted master plan is available on our City website.

2. The 2014 Sanitary Sewer Master Plan identifies a proposed 8-inch, sanitary sewer main to be constructed along Leland Road in the vicinity of the proposed project.

3. An existing 8-inch PVC sanitary sewer main is located approximately 120-feet east of the proposed site along S Leland Road, which will need to be extended to the west end of the project frontage to serve the site.

4. Existing sanitary sewer manholes currently exist along the east property line and are located at Cedarwood Way and Cherrywood Way, which are stub streets from Lindsay Anne Estates and are also able to serve the site.

5. Two-way cleanouts will be required for each lot located at Right-of-Way.

Transportation

1. No development of this property will occur as result of annexation. The transportation analysis will be deferred until the time a future zone change is approved.

2. Local streets are stubbed to the annexation area from adjacent single-family neighborhoods at Cedarwood Way and Cherrywood Way. Connections to these streets can be made from Lindsay Anne Lane, which has direct access off of Leland Road.

3. Primary access to the subject property will be from the north along Leland Road. Leland Road is a minor arterial street owned by Clackamas County. Street improvements and permitting for Leland Road will need to be coordinated with Clackamas County.

4. SDC credits for construction of S Leland Road will be available similar to Lindsay Anne Estates.

Questions

Access / Transportation / Circulation

10. Please confirm if the City or County has jurisdiction of Leland Road, which jurisdiction standards apply, who will be reviewing plans, issuing permits, etc. RESPONSE: Leland Road is a Clackamas County owned roadway. Plans associated with road improvements will be reviewed/issued a permit by Clackamas County. All utilities within S Leland Road are owned by City of Oregon City and will be reviewed/issued a permit by City of Oregon City excluding the 6-inch water main owned by Clackamas River Water.

11. Please confirm access spacing requirements and if the planned spacing of the new street is acceptable. RESPONSE: Spacing between local streets is 150-feet.

12. Please discuss requirements for access to Leland Road for Lots 1 and 2. RESPONSE: Access for Lots 1 and 2 will need to be coordinated with Clackamas County. We believe it will need to be a shared driveway off of S Leland Road or access will be required from internal street.

13. Please confirm required right-of-way dedication for S. Leland Road, Cherrywood Way, Cedarwood Way, and the new internal street. RESPONSE: Right-of-Way dedication for S. Leland Road should meet the right-of-way required for a minor arterial and should match the right-of-way required for Lindsay Anne Estates. A 9-foot dedication was required for Lindsay Anne Estates for a half-street right-of-way width of 39-feet. Right-of-way dedication for Cherrywood Way, Cedarwood Way and the new internal street should meet the right-of-way required for a local street, which is 54-feet.

14. Please discuss requirements for frontage improvements along S. Leland Road. RESPONSE: Frontage improvements for S. Leland Road will need to be coordinated with Clackamas County.

15. Will a traffic study be required? If so, please describe the required scope. RESPONSE: See Planning Notes.

16. Please confirm if there are any known transportation issues in the area that may affect the annexation/zone change or subdivision applications. RESPONSE: See City's traffic subconsultant – John Repliner's comments.

Service and Utilities

17. Please confirm the stormwater requirements (water quality, detention, etc.) for this site/project. RESPONSE: Yes, per above, the City Stormwater and Grading Design Standards dated 2015 must be adhered to for this development.

18. Are the stormwater planters, rain gardens, or vegetated swales required to treat and detain stormwater runoff from the public right-of-way area? Can these facilities be located in the planter strip in between the curb and sidewalk? Does the City have any standard details yet? RESPONSE: Per the City's Stormwater and Grading Design Standards, low-impact development (LID) facilities such as planters, swales, rain gardens, ponds, and other vegetated facilities are best management practices and are the preferred strategy to meet the stormwater management requirements for water quality treatment, and flow control. Yes, facilities can be located in planter strip. The City is currently updating a standard detail for this application.

19. Please confirm access, side slope, and other requirements for the stormwater facility? RESPONSE: See Appendix C of Stormwater and Grading Standards for specific stormwater facility design.

20. Are there any known stormwater capacity issues with the site or surrounding areas? RESPONSE: To the best of our knowledge there are no known stormwater capacity issues within the project vicinity.

21. Are there any known water supply (capacity or pressure issues)? RESPONSE: No, per the Water Master Plan there are no known capacity or pressure issues. The master plan indicates the extension of 6-inch and 8-inch water mains within the project vicinity.

22. Are there any known sanitary sewer capacity issues? RESPONSE: No, per the Sanitary Sewer Master Plan there are no known capacity issues. The master plan indicates the extension of 8-inch sanitary sewer lines in the vicinity.

23. Are there any other known utility issues that we should be made aware of? RESPONSE: No, not to the best of my knowledge.

24. Please discuss the status of new City requirements for performance bonding. RESPONSE: Currently in progress, will have by time construction will start for this project.

25. Please confirm what items are planned to be included in the required performance bond. RESPONSE: Everything in existing right-of-way plus erosion control, vegetation to button up site in event Contractor walks away from project.

26. How is this affected by Clackamas County's jurisdiction of Leland Road? RESPONSE: Applicant will need to coordinate with Clackamas County.

27. Please discuss the status of the City's new stormwater facility maintenance option program? RESPONSE: The stormwater facility maintenance option program is being implemented.

28. Please describe the methodology for the City fee option. How is it calculated? RESPONSE: Fee is calculated per SF of pond.

29. Please confirm that the fee would not include maintenance of dead storage areas? RESPONSE: Yes, this is correct.

30. Please confirm that if the fee is paid to the City that the City will be responsible for replanting required vegetation that does not survive. RESPONSE: Yes, this is correct.

31. Are any special studies or assessments (natural resources, traffic, etc.) required? RESPONSE: A TPR Analysis will be required for the annexation.

32. Please confirm if a geotechnical/soils/infiltration report will be required for land use application? RESPONSE: A geotechnical report will be required for infiltration testing based on the Professional Method and should determine depth of groundwater. See Stormwater and Grading Standards for Infiltration Testing procedures.

Exhibit K: Clackamas County Assessor's Map

3 2 E 18

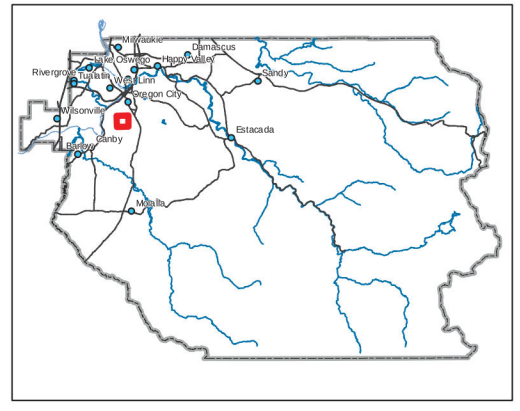
SECTION 18 T.3S. R.2E. W.M.
CLACKAMAS COUNTY
1" = 400'

D. L. C.'S
JOHN S. HOWLAND NO. 45
BENJAMIN MAILS NO. 50

Cancelled Taxlots

2700
2790
1201
1204
1205
1202
202
203
501
800
992
1090
1291
1292
1490
1690
2290
1282
1300
1206

Parcel Boundary
Private Road ROW
Historical Boundary
Railroad Centerline
TaxCodeLines
Map Index
WaterLines
Land Use Zoning
Plats
Water
Corner
Section Corner
1/16th Line
Govt Lot Line
DLC Line
Meander Line
PLSS Section Line
Historic Corridor 40'
Historic Corridor 20'

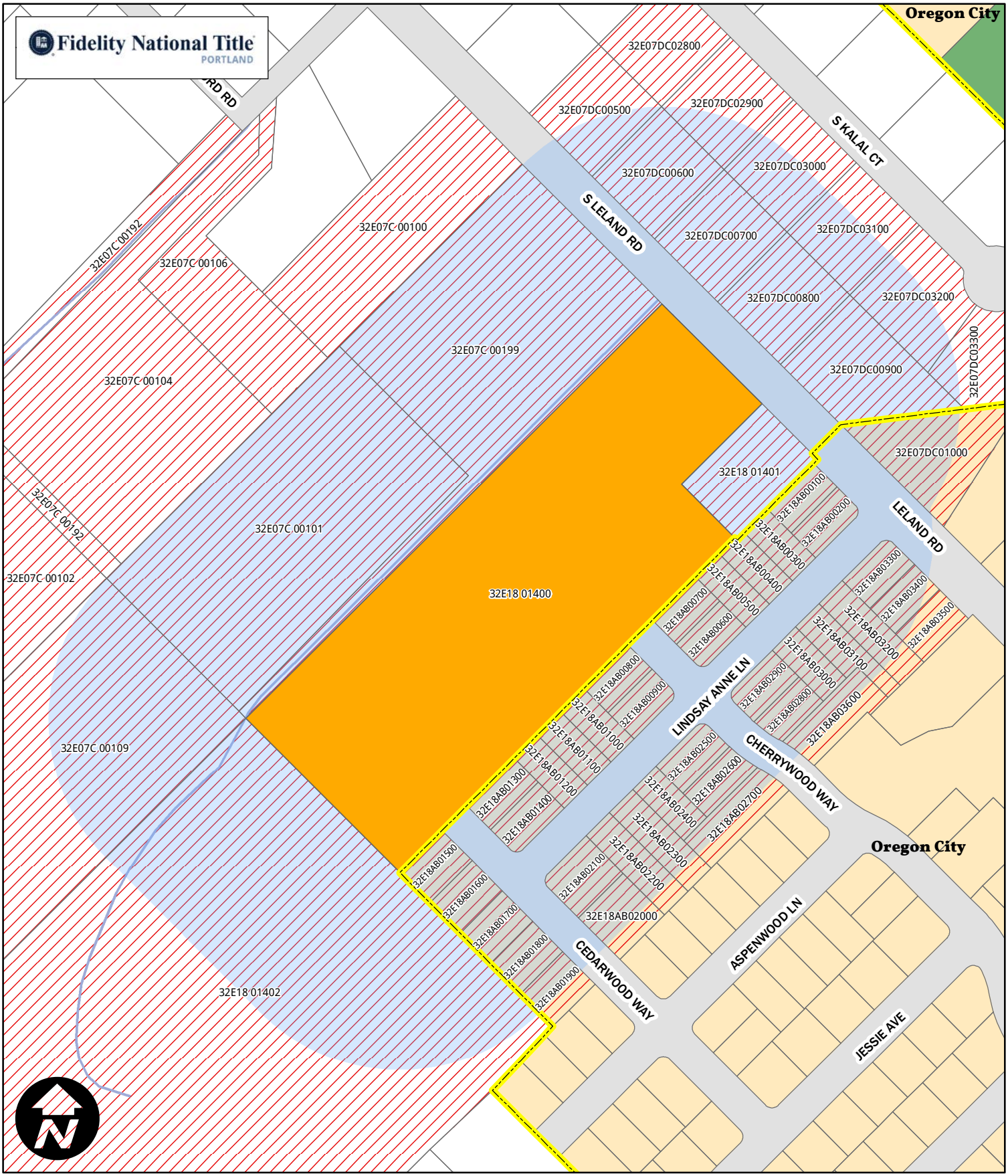


THIS MAP IS FOR ASSESSMENT PURPOSES ONLY

8/4/2016

3 2 E 18

Exhibit L: Mailing Labels



Public Notification Search

Subject
Notification
City limits
Radius
Parks and/or Natural Areas
Taxlots
Incorporated city

300
Feet

Prepared by: Fidelity National Title
Data: CoreLogic, Metro RLIS
Date: 7/10/2017
This information is reliable, but not guaranteed. It is not a survey.

32E07C 00100
Wayne & Patsy Streight
19673 Leland Rd
Oregon City, OR 97045

32E07C 00101
Patricia Lynae McClure
19681 Leland Rd
Oregon City, OR 97045

32E07C 00102
Shawna Faye Co-E Morris
19659 Mccord Rd
Oregon City, OR 97045

32E07C 00104
Levi & Jillian Morris
19665 Mccord Rd
Oregon City, OR 97045

32E07C 00106
Jerry & Faye Rainbolt
19663 Mccord Rd
Oregon City, OR 97045

32E07DC00500
Terry & Anita Anderson
19600 Leland Rd
Oregon City, OR 97045

32E07DC00600
Patricia & Thomas Kitancevski
Po Box 1297
Oregon City, OR 97045

32E07DC00700
Trina Houck
19634 Leland Rd
Oregon City, OR 97045

32E07DC00800
Colleen Commons
19646 Leland Rd
Oregon City, OR 97045

32E07DC00900
Arhondisa Thompson
19658 Leland Rd
Oregon City, OR 97045

32E07DC01000
Paul Daniel Wyland
19700 Leland Rd
Oregon City, OR 97045

32E07DC02800
Kurt & Susan Gross
19590 Kalal Ct
Oregon City, OR 97045

32E07DC02900
John Rizzo
19600 Kalal Ct
Oregon City, OR 97045

32E07DC03000
Angelika Murray
19620 Kalal Ct
Oregon City, OR 97045

32E07DC03100
Sean & Lauren Fuller
19630 Kalal Ct
Oregon City, OR 97045

32E07DC03200
Wendy Smith
19640 Kalal Ct
Oregon City, OR 97045

32E07DC03300
Mark & Cindy Shaw
19650 Kalal Ct
Oregon City, OR 97045

32E18 01400
Bruce Raymond Trstee Miller
19701 Leland Rd
Oregon City, OR 97045

32E18 01401
Jeff & Tina Westenfelt
19717 Leland Rd
Oregon City, OR 97045

32E07C 00109
Ross & Kay Smith
19691 Leland Rd
Oregon City, OR 97045

32E18 01402
Rick & Keli Dotson
19695 Leland Rd
Oregon City, OR 97045

32E07C 00192
Bradley Dean Co-E Morris
19659 Mccord Rd
Oregon City, OR 97045

32E07C 00199
Ross & Kay Smith
19691 Leland Rd
Oregon City, OR 97045

32E18AB00100
Andrew & Shannon Hietschold
19727 Leland Rd
Oregon City, OR 97045

32E18AB00200
Lindsey Suzanne Wilde
19737 Leland Rd
Oregon City, OR 97045

32E18AB00300
Shane Killian
12795 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB00400
Jonathan & Jane Newman
12787 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB00500
Curtis Lee Williams
12779 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB00600
Roland Romero
19736 Cherrywood Way
Oregon City, OR 97045

32E18AB00700
Bryan & Donna Easlick
19726 Cherrywood Way
Oregon City, OR 97045

32E18AB00800
Matthew Johnson
19725 Cherrywood Way
Oregon City, OR 97045

32E18AB00900
Justin Meininger
19735 Cherrywood Way
Oregon City, OR 97045

32E18AB01000
Nicholas & Natalie Cardoza
12755 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB01100
Mysha Angell
12747 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB01200
Joshua & Eileen Weeks
12739 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB01300
Jeremy Todd Pincoski
19724 Cedarwood Way
Oregon City, OR 97045

32E18AB01400
Billie Adams
19734 Cedarwood Way
Oregon City, OR 97045

32E18AB01500
Betty Meisel
19723 Cedarwood Way
Oregon City, OR 97045

32E18AB01600
Mark Horn
Po Box 118
Oregon City, OR 97045

32E18AB01700
Amber & Adam Wilkins
19743 Cedarwood Way
Oregon City, OR 97045

32E18AB01800
Kimberly Donaca
19753 Cedarwood Way
Oregon City, OR 97045

32E18AB01900
Shanon Kmetic
19763 Cedarwood Way
Oregon City, OR 97045

32E18AB02000
Jennifer Porter Bown
19764 Cedarwood Way
Oregon City, OR 97045

32E18AB02100
Ronald & Kathleen Rodwick
19754 Cedarwood Way
Oregon City, OR 97045

32E18AB02200
Michael Harrison
12738 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB02300
Jeffery Dunham
12746 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB02400
James Williams
12754 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB02500
Corey Johnson
Po Box 743
Canby, OR 97013

32E18AB02600
Stefanie Hassan
19755 Cherrywood Way
Oregon City, OR 97045

32E18AB02700
Donald & Rita Bredehoeft
19765 Cherrywood Way
Oregon City, OR 97045

32E18AB02800
Shavon Albee
19756 Cherrywood Way
Oregon City, OR 97045

32E18AB02900
Aleksandr & Julia Mazhnikov
19746 Cherrywood Way
Oregon City, OR 97045

32E18AB03000
Benjamin & Michelle Johnson
12778 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB03100
Kimhun Bartel
12786 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB03200
Julieanne Reincke
12794 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB03300
Thomas Baker Jr.
19747 Leland Rd
Oregon City, OR 97045

32E18AB03400
Julie Lyons
19757 Leland Rd
Oregon City, OR 97045

32E18AB03500
Nicholas Fiorante
19767 Leland Rd
Oregon City, OR 97045

32E18AB03600
City Of Oregon City
625 Center St
Oregon City, OR 97045

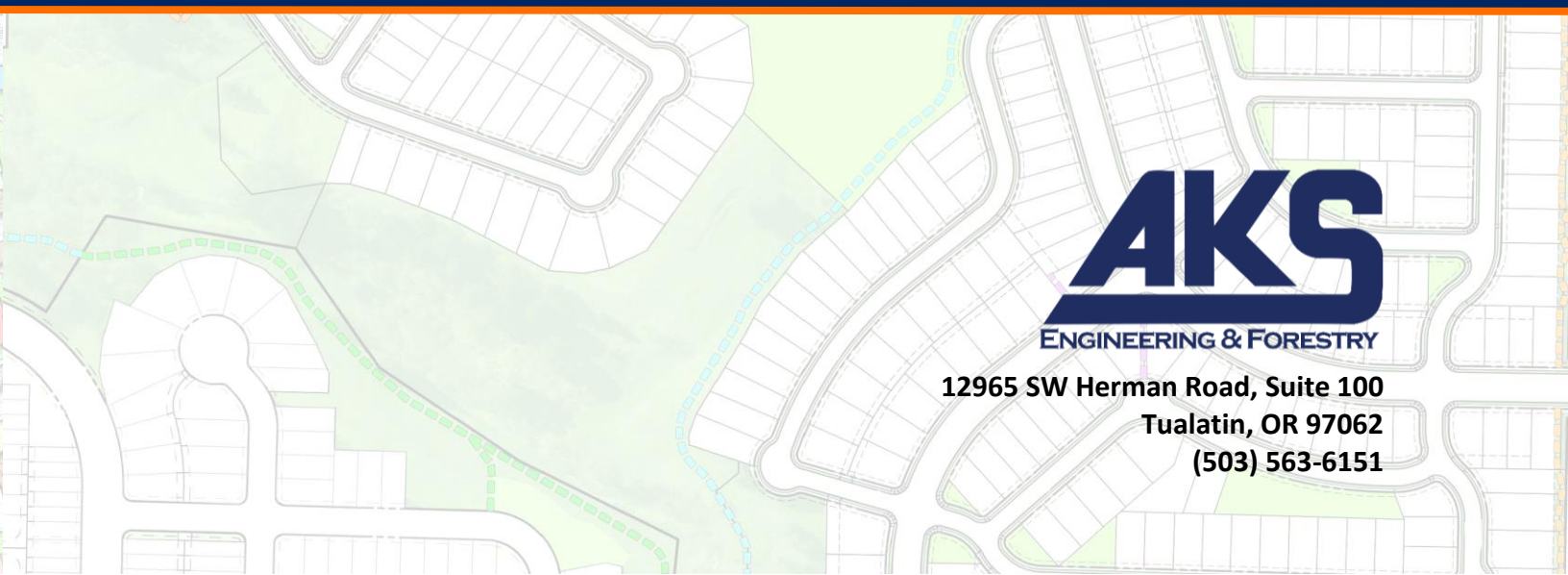
Land Use Application For Lindsay Anne Estates Too

Date: August 2017

Submitted to:
City of Oregon City
Planning Division
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

Property Owners:
Bruce Raymond Miller and Shelly Alane Miller
Trustees of the Bruce and Shelly Miller Revocable Living Trust
19701 S Leland Road
Oregon City, OR 97045

Applicant:
PDX 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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Exhibit H: Site Assessment and Planning Checklist

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Exhibit L: City Pre-Application Conference Summary

Exhibit M: Mailing Labels for 300-Foot Radius Owners

Land Use Application
For
Lindsay Anne Estates Too

Submitted to:	City of Oregon City Planning Division 221 Molalla Avenue, Suite 200 Oregon City, OR 97045
Property Owners:	Bruce Raymond Miller and Shelly Alane Miller Trustees of the Bruce and Shelly Miller Revocable Living Trust 19701 S Leland Road Oregon City, OR 97045
Applicant:	PDX 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
Site Location:	19701 S Leland Road, Oregon City, OR 97045
Clackamas County Assessor's Information:	Tax Map: 32E18, Tax Lot 1400
Site Size:	±6.33 Acres
Comprehensive Plan Designation:	LR – Low Density Residential
Land Use District:	R-6 – Single-Family Dwelling District

I. Executive Summary

On behalf of the property owners and applicant, AKS Engineering & Forestry, LLC is submitting this application for a 28-lot subdivision (Lindsay Anne Estates Too) 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 subdivision application are:

- 28 lots for the future construction of single-family detached homes consistent with the adjoining community to the south
- An interconnected pedestrian and vehicular circulation system
- Creation of a cohesive neighborhood with the continuation of Cedarwood Way and Cherrywood Way from the adjoining Lindsay Anne Estates Subdivision to the southeast, through the project site connecting to the project's new east/west local street extending from S Leland Road
- An integrated on-site stormwater management system including street side vegetated filtration swales and flow control

II. Site Description/Setting

The project includes one tax lot that is approximately ±6.33 acres. It is in process of being annexed into the City of Oregon City, and rezoned from Clackamas County's zoning of Future Urban 10-Acre (FU-10) to the City of Oregon City's R-6 zone through a separate land use application, to provide a community consistent with several other residential projects to the southeast. The project site is generally located northwest of the Lindsay Anne Estates Subdivision and southwest of S Leland Road. The project site is also northeast of the abutting Urban Growth Boundary (UGB). The subject property has been historically associated with residential/farming practices. There are no designated or identified natural resources located on the project site.

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						
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. This standard is 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 are not planned to contain 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 project is planned to comply with the provisions of this chapter, as shown in the responses to the approval criteria in this narrative. Street improvements and street trees are planned to 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 project. However, Clackamas County has jurisdictional management over S Leland Road. Therefore, planned improvements to S Leland Road will be coordinated with Clackamas County staff.

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: Modifications are not necessary with this application. This standard does not apply.

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: Future sidewalks within the project are planned to comply with City construction specifications. This standard is 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: No unimproved streets are associated with this project. Therefore, this standard is not applicable.

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: Future homes within the project are planned to be constructed with one driveway per home. Driveway widths can 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: Future home owners within the project are planned 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: Future home owners within the project are planned 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: Future home owners within the project are planned 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: Future home owners within the project are planned be responsible for maintaining sidewalks and abutting curbs along their frontage. It is 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. This standard is met.

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. This standard is met.

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 can subject to code enforcement procedures. This standard is met.

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

> **12.04.060 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: Future retaining walls associated with the project are planned to be maintained by future 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 dirt to slide onto future internal streets or sidewalks of the subdivision. Future property owners within the project are planned to be responsible for compliance with City codes and subject to enforcement action by the City for such codes, including removing 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: Appropriate permits are planned to be obtained prior to any excavation activities within the boundaries of the project. This standard is met.

> **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: Work, as specified within issued permits, to be performed within the public right-of-way is 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 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 can 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: Permanent obstructions are not 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 fees are to be submitted to the City for review and approval. This standard is met.

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. 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. 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 northwest and southwest of the project are planned to accommodate potential future development. However, the property to the southwest 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 project 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 plans to extend Cedarwood Way and Cherrywood Way from the adjoining Lindsay Anne Estates Subdivision to the southeast to the adjoining property to the northwest. The planned east/west local street extending though the project from S Leland Road is planned to stub to the adjoining property to the southwest. Streets stubbed within the project are planned to facilitate potential future development of adjacent properties. 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 (Cedarwood Way and Cherrywood Way) and the new internal east/west local street from S Leland Road 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 updated City Pre-Application Conference Summary (PA 17-07) dated 03/10/17. 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: Appropriate plat restrictions allowing access to adjoining properties, where the project's streets stub, 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 Cedarwood Way and Cherrywood Way through the project are planned to align with the centerline of the existing stubs for these streets located in the adjacent Lindsay Anne Estates Subdivision to the southeast. 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 in Chapter 10.32 have been addressed 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: As shown on the preliminary plans, planned streets within the project have been designed as local streets. No blocks created by this project exceed the maximum block length spacing standard of 530 feet requiring a midblock pedestrian accessway. This standard is met.

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 within the project accessing the new local streets, and the joint driveway planned for Lots 1 and 2 accessing S Leland Road, are planned to be a minimum of 25 feet from the right-of-way line of 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 project's sidewalks provide convenient pedestrian and bicycle access and connectivity for residents in the area. As indicated in the response to Section 12.04.195, the project does not create blocks that exceed 530 feet. Therefore, no pedestrian and bicycle accessways are included in the project. This standard does not apply.

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 Traffic Impact Study (TIS), prepared by Lancaster Engineering, demonstrate that 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, intersection angles are planned to be 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. This standard is met.

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 S Leland Road 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, no half streets exist or are planned within or adjacent to the project. This standard does not apply.

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, cul-de-sacs and permanent dead-end streets are not included in the application. Temporary turnarounds for emergency vehicles are not required due to the short distances involved with the planned stub streets. This standard does not apply.

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: This project includes the extension of two existing streets (Cedarwood Way and Cherrywood Way) from the adjacent Lindsay Anne Estates Subdivision to the southeast. The new east/west local street planned to extend through the project from S Leland Road is 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, grade lines and center line radii are planned to comply with the City's street design standards and specifications. This standard is met.

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.

Response: The project site abuts S Leland Road, which is classified as a minor arterial. Lots 1, 2, are planned to take access from S Leland Road by way of joint access, as allowed by Section 16.12.070.D addressed further in this narrative. The use of a joint access for said lots meets the intent of this section in that "joint access" is type of access control. Additionally, Lot 28 also has frontage on S Leland Road. However, due to the existing 125-foot PGE transmission line easement running through Lot 28, any future building on Lot 28 is limited to the southeast portion of the lot, which is planned to access the project's new east/west local street. An access covenant, screening, or similar treatment can be provided for Lot 28, should the City require it. 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: As shown on the preliminary plans, and as previously described in this narrative, the public streets within the subdivision are designed to City standards. The overall street pattern is generally designed to discourage 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 located within any of the zoning districts listed in this standard. 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 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 planned along 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: Public improvements have been designed by a professional engineer licensed in the State of Oregon. Construction plans for these improvements are planned to be submitted to the applicable review agency and reviewed for consistency with applicable requirements. After the appropriate construction permits are obtained, the improvements are planned to be constructed by a licensed general contractor in accordance with the approved plans. The improvements are to be inspected for consistency with the approved final plans prior to 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 could be subject to code enforcement procedures. This standard is met.

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: Street trees are shown on the preliminary plans. Precise street tree placement is planned to be addressed at time of building permit issuance and planted in accordance to the planting standards of this chapter. This standard is 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 is met.

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 property. Existing street trees within the right-of-way along abutting properties are planned to be retained and protected during project 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. Please refer to the Preliminary Stormwater Report included in the application materials for additional information regarding the project's planned stormwater conveyance system. This standard is met.

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. Please 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 new stormwater planters within the project's internal streets, and Tract A, which is planned to contain a public stormwater facility. Stormwater detained and treated in the project's stormwater facilities is planned to be conveyed to the existing stormwater conveyance system abutting the project to the south (Lindsay Anne Estates), and the existing stormwater line located in S Leland Road. For additional information, please refer to the preliminary plans and Preliminary Stormwater Report included in the application materials. This standard is met.

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 City's Public Works Stormwater and Grading Design Standards adopted under Section 13.12.020. This standard 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 City's existing stormwater conveyance system and the project's planned stormwater system has adequate capacity to receive runoff from streets, roof, footing, and area drains within the project. Please refer to the Preliminary Stormwater Report for additional information. This standard is met.

D. **Unless otherwise exempted by Section 13.12.050(C), the proposed development includes:**

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 standard 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 project's stormwater facility is properly operated and maintained. For further information, please refer to the Preliminary Stormwater Report included in the application materials. This standard is met.

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 March 8, 2017. A copy of the Pre-Application Conference Summaries 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 March 8, 2017. This application contains the necessary submittal requirements identified in the pre-application summaries included in the application materials. This standard 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.

A. 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 TIS, 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 natural features do not exist on the project site or within 250 feet of the project's boundary. 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 of the project to the Oregon State Historic Preservation Office (OSHPO) following the March 8, 2017 pre-application conference. A letter from OSHPO was sent to City staff indicating that no additional information will be provided unless archaeological and/or cultural resources are discovered during the project. A copy of the OSHPO letter is included in the pre-application section of the application materials. This standard 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 Section I and II of this narrative. Variances are not required. 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: The subject property is currently located within the Clackamas River Water (CRW) District and served by CRW's 6-inch water main located in the S Leland Road right-of-way. A separate 12-inch City water main is also located within the S Leland Road right-of-way southeast of the subject property. As part of this application, the applicant plans to abandon the existing connection to the CRW water main and extend the City's 12-inch water main along the subject property's S Leland Road frontage. In addition, a new 8-inch water main extended from in S Leland Road and the extension of the existing 8-inch water mains in both Cedarwood Way and Cherrywood Way abutting the project site to the southeast are planned to be extended through the project to create a looped system. Individual water connections for each of the new lots within the project are planned to connect to the extended water mains. If required by CRW and/or the City, additional service laterals can be provided to off-site properties along the project site fronting on S Leland Road to the extent the costs associated with these improvements are reimbursed to the applicant by the City or CRW.

2. Sanitary sewer,

Response: The existing residence is served by a private septic system (to be removed). Sanitary sewer service is available to the subject property from the existing 8-inch sewer mains located in Cedarwood Way and Cherrywood Way from the adjoining Lindsay Anne Estate Subdivision to the southeast. An existing 8-inch sanitary sewer main is also located within the S Leland Road right-of-way, which is planned to be extended along the subject property's S Leland Road frontage as part of this application. Appropriate extension of sanitary sewer mains through the project is planned. Each of the lots within the project is planned to be provided an individual service lateral from the extended sanitary sewer mains. The property is planned to annex to the Tri-City Service District for these services.

3. Storm sewer and stormwater drainage,

Response: On-site stormwater is planned to be collected and routed to new stormwater facilities located within the project's future rights-of-way, and Tract A prior to being conveyed to the existing stormwater conveyance system abutting the project in S Leland Road, Cedarwood Way and Cherrywood Way. For additional information, please refer to the Preliminary Stormwater Report and preliminary plans included in the application materials.

4. Parks and recreation,

Response: Park System Development Charges for future park development in the area is planned to be assessed and paid at the time building permits are issued. This ensures the required funding for parks.

5. Traffic and transportation,

Response: This application includes ±9 feet of right-of-way dedication along the project's frontage on S Leland Road. Planned improvements to S Leland Road include a ±39-foot half-width right-of-way, ±26 feet of half-width asphalt pavement (plus ±10 feet on the other side), curb and gutter, 5-foot-wide planter strip, and 7-foot wide sidewalk. Extension of the project's new east/west local street from S Leland Road, Cedarwood Way, and Cherrywood Way through the project include a ±54-foot right-of-way, ±32 feet of asphalt pavement, curb and gutter, 5-foot wide planter strips, and 5-foot wide sidewalks on both sides of the streets.

The application materials include a TIS prepared by Lancaster Engineering. Appropriate street improvements connecting to existing transportation facilities are shown on the preliminary plans. The TIS found that the existing streets, and 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 issuing a building permit. These fees fund future City and County public works street improvement projects. Please refer to the TIS for additional information.

6. Schools,

Response: The Oregon City School District provides educational services for the children of future residents. School funding comes from a variety of sources including construction excise taxes assessed with the issuance of future building permits, and future property taxes.

7. Fire and police services;

Response: Clackamas Fire District No. 1 provides 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.

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: Public facilities and services are, or are planned to be available to accommodate this project. 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 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: A draft copy of 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: Project phasing is not planned. This standard does not apply.

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

Response: The subject property totals approximately ±6.33 acres of land. As stated previously, the site is subject to a separate application that, upon approval, designates the site with the City's R-6 zoning district. The Lindsay Anne Estates Too Subdivision is planned to include 28 lots for the future construction of single-family detached homes spread over the majority of the subject site (±6.33 acres).

On a gross acreage basis, the 28-lot subdivision (on ±6.33 acres) equates to ±4.4 dwelling units per acre. Based on the site's net developable area (±4.16 acres – after deduction

of public facilities/right-of-way), the density included in the subdivision is equal to ±6.7 dwelling units per acre.

Lot sizes in new subdivisions are permitted to be within 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-6 zone, the minimum average lot size is greater than 6,000 square feet. Based on the site's net developable area (±4.16 acres or ±181,644 square feet), the maximum number of lots that can be included in the subdivision is 30. Based on the site's net developable area, the minimum number of lots that are required is 24.

Based upon the above, the 28-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 can 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 the 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. 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. Blocks created by this project do not exceed the maximum block length spacing standard of 530 feet, as addressed under Subsection 12.04.195 Spacing Standards. This standard is met.

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 are planned to generally allow for two tiers of lots. New lots within the subdivision are planned to average, at a minimum, 6,000 square feet in area pursuant to the requirements of the R-6 zone, and they are planned to be suitable for single-family detached 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-6 zoning district, as 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 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 28 lots intended for the future construction of single-family detached homes in the R-6 zoning district. As permitted above, a number of the planned lots are less than 6,000 square feet. The smallest of the future lots is approximately ±4,860 square feet, which is within the maximum 20% reduction allowed by this standard. A number of the planned lots are also larger than 6,000 square feet, with the largest lot being ±29,075 square feet. The average lot area exceeds the minimum average lot size of 6,000 square feet required in the R-6 zoning district. 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: Through lots are not 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 they face. Please refer to 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: As shown on the preliminary plans, three of the planned lots (Lots 1, 2, and 28) have frontage on S Leland Road, a minor arterial. The future building orientation of Lots 1 and 2 are planned toward S Leland Road. The portion of Lot 28 located along S Leland Road falls within the 125-foot wide PGE transmission line easement running through the property. The PGE transmission line easement limits any future building to the southwest portion of Lot 28, away from S Leland Road, which is addressed in greater detail in the response to Subsection 16.12.070.E. This standard is met.

B. The most architecturally significant elevation of the house shall face the neighborhood collector, collector or minor arterial street.

Response: Lots 1, 2, and 28 have frontage on S Leland Road, a minor arterial. Because no construction of homes is included with this application, architectural elements are planned to be reviewed at time of building permit submittal. This standard is met.

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: Other than Lot 2, which is planned to have its main façade facing S Leland Road, future homes located on the project's internal corner lots are planned to have their main façades oriented toward one of the project's abutting internal streets. This standard 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: Of the three lots required to be oriented toward S Leland Road (Lots 1, 2, and 28), Lots 1 and 2 are planned to be accessed by way of a joint driveway extending from S Leland Road (a minor arterial). Lot 28 is planned to take access from the project's east/west local street. This standard is met.

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: As mentioned above, Lot 28 has frontage on S Leland Road, which is a minor arterial and is subject to the above criteria. However, Lot 28 is encumbered by the existing 125-foot wide PGE transmission line easement, which does not allow single-family homes within its boundary. Based on the configuration of Lot 28 and its portion within the existing PGE easement, the future home on this lot will be unable to be oriented towards S Leland

Road. As an alternative, the future home of Lot 28 is planned to be located on the southwest portion of the lot, which is planned to be oriented toward the project's east/west local street. This necessary alternative will not jeopardize the aesthetics of the neighborhood or safety of future pedestrians or bicyclists. This standard is met.

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, Lot 3 is large enough to be re-divided, however, the majority of Lot 3 is located within the 125-foot wide PGE transmission line easement running through the property. The PGE easement limits future building placement to area outside of the easement. Based on the size on the PGE easement, Lot 3 is not planned to be divided for the construction of additional single-family homes. This standard is met.

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: Existing and new 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. This standard is met.

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 lots/future homes and provide neighborhood connectivity/circulation. As shown on the preliminary plans, this project is planned to result in fully-improved streets extending from adjoining residential projects and S Leland Road to accommodate different 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 stormwater facilities planned within the project's rights-of-way and Tract A prior to being conveyed to the existing stormwater conveyance system located in S Leland Road, Cedarwood Way and Cherrywood Way abutting the project. 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: Sanitary sewer service is available to the subject property by way of existing 8-inch sewer mains located in Cedarwood Way and Cherrywood Way, part of the adjoining Lindsay Anne Estates Subdivision to the southeast. An existing 8-inch sanitary sewer main is also located within the S Leland Road right-of-way, which is planned to be extended a distance equal to the subject property's S Leland Road frontage. A new 8-inch sanitary sewer main is also planned to extend into the project from S Leland Road. 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: The project site is currently within the Clackamas River Water (CRW) District and served by CRW's 6-inch water main located in the S Leland Road right-of-way. A separate 12-inch City water main is also located within the S Leland Road right-of-way southeast of the subject property. As part of this application, the applicant plans to abandon the existing connection to the CRW water main and extend the City's 12-inch water main along the subject property's S Leland Road frontage. In addition, a new 8-inch water main extending from S Leland Road and the extension of the existing 8-inch water mains in both

Cedarwood Way and Cherrywood Way abutting the project site to the southeast are planned to be extended through the project to create a looped system. Individual water connections for each of the new lots within the project are planned to connect to the extended water mains. If required by CRW and/or the City, additional service laterals can be provided to off-site properties along the project site fronting on S Leland Road to the extent the costs associated with these improvements are reimbursed to the applicant by the City or CRW.

> **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 provides convenient pedestrian and bicycle access, as well as connectivity between neighborhoods and other pedestrian destinations for existing and future residents. This standard is met.

> **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 to conform 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. 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 is planned to reference a benchmark using 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: 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. Public improvements have been designed by a registered professional engineer and 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 17.12 - R-6 SINGLE-FAMILY DWELLING DISTRICT

17.12.020 Permitted uses.

Permitted uses in the R-6 district are:

A. Single-family detached residential units;

Response: This application includes 28 lots in the City's R-6 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.

17.12.040 Dimensional standards.

Dimensional standards in the R-6 district are:

A. Minimum lot areas, six thousand square feet;

Response: The preliminary plans show that the minimum average lot area in this project exceeds 6,000 square feet. In the responses to Section 16.12.050, several of the planned lots are shown to be less than 6,000 square feet, but the average lot area across the project exceeds 6,000 square feet. This standard is met.

B. Minimum lot width, fifty feet;

Response: As shown on the preliminary plans, lots are planned to be at least 50 feet in width. This standard is met.

C. Minimum lot depth, seventy feet;

Response: As shown on the preliminary plans, lots are planned to be at least 70 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, ten feet minimum setback,

2. Front porch, five 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; five 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.

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: Street trees are planned along 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 project includes 28 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. This standard is met.

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: Garages for future homes are planned to be provided on the primary street-facing façade of each future 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: Future homes associated with this project are not 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 time of building permit issuance. This standard is met.

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 time of building permit issuance.

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 time of building permit issuance.

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 time of building permit issuance.

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.

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/or the "Tree Fund" option to meet the residential yard landscaping requirements. Individual home designs for the planned lots have not yet been identified. A residential yard landscaping plan is planned to be developed based off future home design and placement, and submitted prior to building permit issuance. This standard is met.

> **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 yet been identified. A residential yard landscaping plan is planned to be created based off future home design and placement, and submitted prior to building permit issuance. This standard is met.

Chapter 17.41 - TREE PROTECTION STANDARDS

> **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: As shown on the preliminary plans, there are a total of 40 trees located on the project site requiring removal. Based on the health of the trees identified in the "Detailed Tree Inventory" included in the preliminary plans, 13 of the 40 on-site trees planned to be removed are subject to mitigation. Using Table 17.41.060-1 (Tree Replacement Requirements) to calculate the number of trees required for mitigation, a total of 74 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. This standard is met.

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: As mentioned previously, of the 13 on-site trees required for mitigation, a total of 8 trees are located inside the construction area for project improvements. A total of 5 trees are located outside of the project's construction area. Tree mitigation is further discussed below.

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: As shown on the preliminary plans, a total of 40 trees are located on the project site. Of the 40 trees located on-site, a total of 27 trees have been deemed diseased, hazardous, or invasive by the project's arborist. Therefore, 13 trees are subject to the mitigation standards of Table 17.41.060-1 above and discussed below:

Of the 13 trees subject to mitigation, a total of 8 trees are located within the construction area. Of the 8 trees, 4 trees have a DBH between 13 inches and 18 inches, 1 tree has a DBH between 19 inches and 24 inches, and 3 trees have a DBH of 31 inches and over.

Of the remaining 5 trees located outside the construction area, 2 trees have a DBH between 13 inches and 18 inches, 1 tree has a DBH between 19 inches and 24 inches, 1 tree has a DBH between 25 inches and 30 inches, and 1 tree has a DBH of 31 inches and over. Therefore, 74 mitigation trees are required. These trees are planned to be planted per Option 1, or in lieu of planting, be paid per Option 4. The preliminary tree removal plan has been prepared and reviewed by a certified arborist. 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 is to be paid 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: No trees are planned to be removed without prior written approval from the City of Oregon City. 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: Other than the project's perimeter fencing, no tree protection measures have been recommended by the project's arborist. This standard does not apply.

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: No on-site tree protection areas are included with this project. Excessive site run-off shall be directed to appropriate storm drainage facilities as required. This standard is met.

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 do 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. This standard is met.

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 February 15, 2017, 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 March 8, 2017. The pre-application conference summary, provided by Oregon City Planning and Development Services, is included in the application materials. This subdivision application was filed with the City within six months of the pre-application conference. This standard is met.

17.50.55 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 Hillendale/Tower Vista Neighborhood Associations via email, the Applicant's consultant sent an email to the Hillendale Chair Roy Harris on May 5, 2017, describing the planned project. Mr. Harris responded on May 8, 2017 indicating that the applicant would be included on the June 6, 2017 meeting agenda. The Applicant's consultant attended the Hillendale/Tower Vista neighborhood meeting, presented the project, and answered questions from the neighbors in attendance.

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

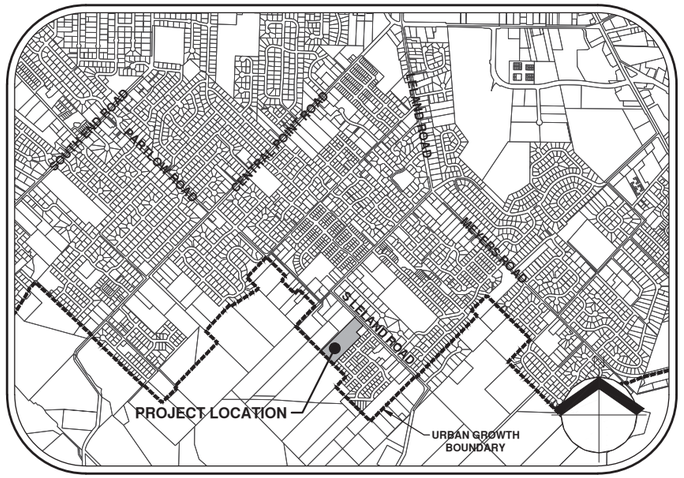
The planned subdivision provides for future detached single-family homes, which is expressly defined in ORS 197.303 as "needed housing" on buildable land. Therefore, the application is subject to ORS 197.307(4) (needed housing). The Applicant reserves the right to object to the application of subjective criteria, standards, or conditions, and does not waive their right to assert that the needed housing statutes apply.

Pursuant to Municipal Code Section 16.08.010.B, this subdivision application in the R-6 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

LINDSAY ANNE ESTATES TOO

PRELIMINARY SUBDIVISION PLANS



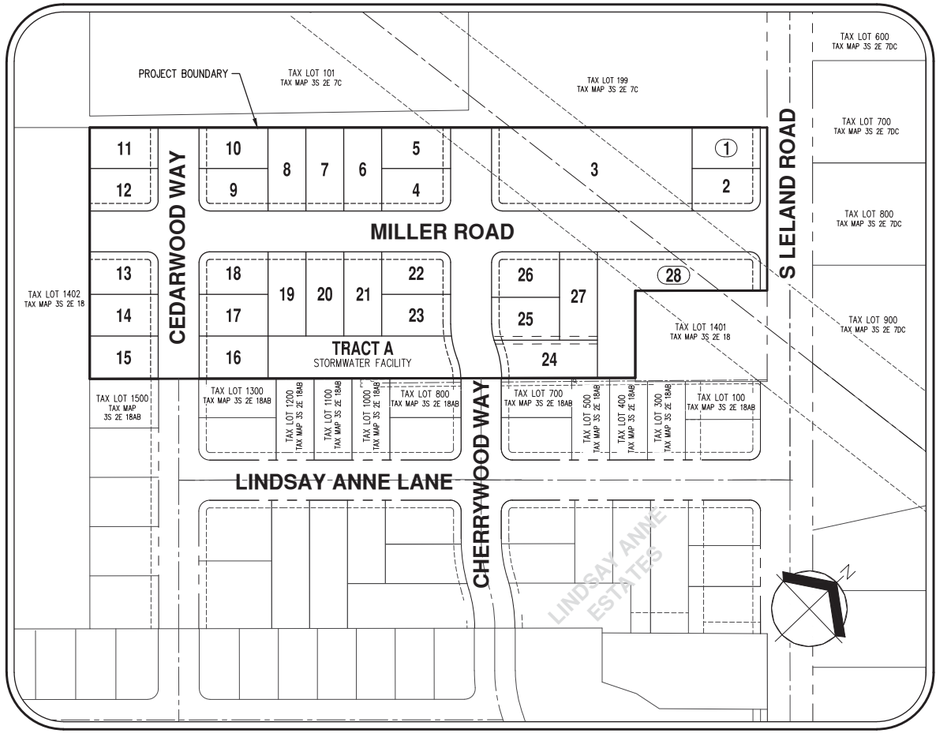
VICINITY MAP

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			UTILITY 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"=100'

SHEET INDEX

P1-01	COVER SHEET WITH SITE & VICINITY MAPS & LEGEND
P1-02	PRELIMINARY EXISTING CONDITIONS PLAN
P1-03	PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS
P1-04	PRELIMINARY GRADING & EROSION AND SEDIMENT CONTROL PLAN
P1-05	PRELIMINARY COMPOSITE UTILITY PLAN
P1-06	PRELIMINARY STREET PLAN
P1-07	PRELIMINARY STREET PROFILE AND CROSS-SECTION
P1-08	PRELIMINARY STREET PROFILES
P1-09	PRELIMINARY CONCEPTUAL CONNECTIVITY ANALYSIS, TRAFFIC/TRANSPORTATION, CIRCULATION, & CONCEPTUAL REDEVELOPMENT PLAN
P1-10	PRELIMINARY TREE PRESERVATION & REMOVAL PLAN
P1-11	PRELIMINARY TREE PRESERVATION AND REMOVAL TABLE
P1-12	PRELIMINARY DEMOLITION PLAN
P1-13	PRELIMINARY STREET TREE PLAN

APPLICANT:
PDX DEVELOPMENT, INC
PO BOX 2559
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:
19701 S LELAND ROAD
OREGON CITY, OREGON 97045

PROPERTY DESCRIPTION:
TAX LOT 1400 CLACKAMAS COUNTY ASSESSOR'S MAP NUMBER 3-2E-18 WILLAMETTE MERIDIAN, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON.

EXISTING LAND USE:
EXISTING HOME AND OUTBUILDINGS/ FARM LAND

PROJECT PURPOSE:
RESIDENTIAL SUBDIVISION ZONED FOR FUTURE SINGLE-FAMILY DETACHED RESIDENTIAL HOMES.

VERTICAL DATUM:
ELEVATIONS ARE BASED ON THE ELEVATION OF THE SOUTHWEST INVERT OF THE SANITARY SEWER MANHOLE ON JESSIE AVENUE PER CITY OF OREGON CITY AS-BUILT CONSTRUCTION PLANS. AS-BUILT PLANS BY SISUL ENGINEERING, SANITARY PLAN AND PROFILE (LINE 'C') SHEET, MAY 2004. RIM ELEVATION 437.01', SW INVERT ELEVATION 419.96'.

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

LINDSAY ANNE ESTATES TOO
OREGON CITY OREGON
TAX LOT 1400 CLACKAMAS COUNTY TAX MAP 3-2E-18

COVER SHEET WITH SITE & VICINITY MAPS & LEGEND

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 08/07/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2002
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5837

SHEET
P1-01

AKS DRAWING FILE: 5837 COVERLDWG | LAYOUT: P1-01

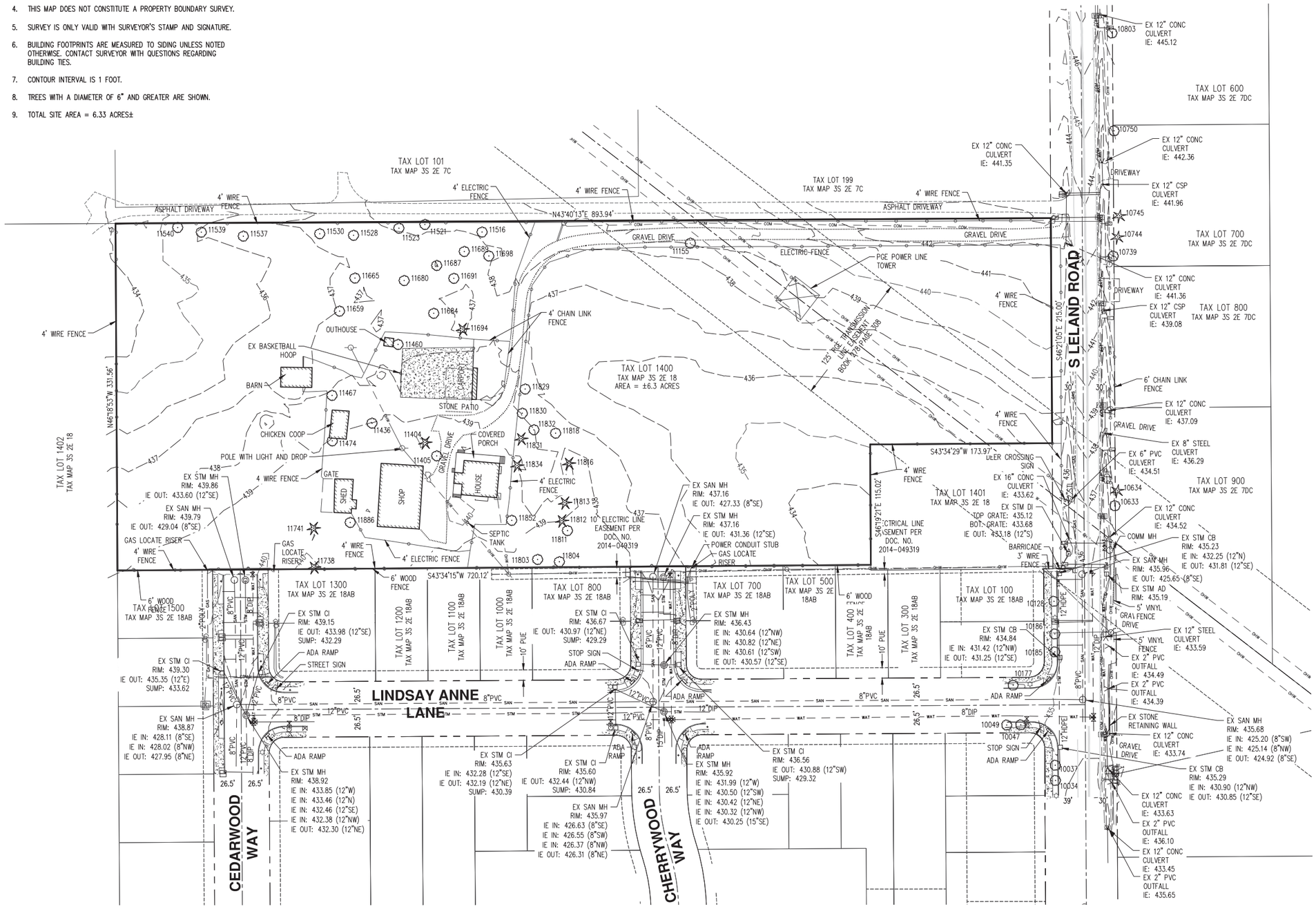
NOTES:

1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PER UTILITY LOCATE TICKET NUMBERS 17084633, 17084644, 17084717, AND 17094430. 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 APRIL 19-27, 2017.
3. VERTICAL DATUM: ELEVATIONS ARE BASED ON THE ELEVATION OF THE SOUTHWEST INVERT OF THE SANITARY SEWER MANHOLE ON JESSIE AVENUE PER CITY OF OREGON CITY AS-BUILT CONSTRUCTION PLANS. AS-BUILT PLANS BY SISUL ENGINEERING, SANITARY PLAN AND PROFILE (LINE 'C') SHEET, MAY 2004. RIM ELEVATION 437.01', SW INVERT ELEVATION 419.96'.
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 A DIAMETER OF 6" AND GREATER ARE SHOWN.
9. TOTAL SITE AREA = 6.33 ACRES±

SCALE: 1"= 50 FEET

50 0 20 30 40 50

SEE SHEET P1-11 FOR ADDITIONAL TREE INFORMATION



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LINDSAY ANNE ESTATES TOO

OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18
OREGON CITY
TAX LOT 1400

PRELIMINARY EXISTING CONDITIONS PLAN

DESIGNED BY:
DRAWN BY: BJA
CHECKED BY: RDR
SCALE: AS NOTED
DATE: 08/07/2017

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/18

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER 5837

SHEET P1-02

AKS DRAWING FILE: 5837 EXCOND.DWG | LAYOUT: P1-02

TAX LOT 101
TAX MAP 3S 2E 7C

TAX LOT 199
TAX MAP 3S 2E 7C

TAX LOT 600
TAX MAP 3S 2E 7DC

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 800
TAX MAP 3S 2E 7DC

TAX LOT 900
TAX MAP 3S 2E 7DC

TAX LOT 1402
TAX MAP 3S 2E 18

TAX LOT 1401
TAX MAP 3S 2E 18

TAX LOT 1500
TAX MAP 3S 2E 18AB

TAX LOT 1300
TAX MAP 3S 2E 18AB

TAX LOT 1200
TAX MAP 3S 2E 18AB

TAX LOT 1100
TAX MAP 3S 2E 18AB

TAX LOT 1000
TAX MAP 3S 2E 18AB

TAX LOT 800
TAX MAP 3S 2E 18AB

TAX LOT 700
TAX MAP 3S 2E 18AB

TAX LOT 500
TAX MAP 3S 2E 18AB

TAX LOT 400
TAX MAP 3S 2E 18AB

TAX LOT 300
TAX MAP 3S 2E 18AB

TAX LOT 100
TAX MAP 3S 2E 18AB

MILLER ROAD

S LELAND ROAD

LINDSAY ANNE LANE

CEDARWOOD WAY

CHERRYWOOD WAY

TRACT A
STORMWATER FACILITY
±13,906 SF

125' PGE TRANSMISSION LINE EASEMENT
BOOK 278 PAGE 308

10' ELECTRICAL LINE EASEMENT PER DOC. NO. 2014-049319

ELECTRICAL LINE EASEMENT PER DOC. NO. 2014-049319

10' PRIVATE STORM DRAIN EASEMENT

1	±4,860 SF
2	±4,998 SF
3	±29,075 SF
4	±5,054 SF
5	±4,914 SF
6	±5,500 SF
7	±5,500 SF
8	±5,500 SF
9	±5,054 SF
10	±4,914 SF
11	±4,873 SF
12	±5,012 SF
13	±5,013 SF
14	±4,966 SF
15	±5,100 SF
16	±5,117 SF
17	±5,005 SF
18	±5,054 SF
19	±5,551 SF
20	±5,549 SF
21	±5,550 SF
22	±5,054 SF
23	±5,010 SF
24	±6,491 SF
25	±5,049 SF
26	±5,338 SF
27	±5,822 SF
28	±16,721 SF

SETBACK LEGEND

- (F) 10' MINIMUM FRONT YARD SETBACK
- (G) 20' MINIMUM GARAGE SETBACK
- (S1) *5' MINIMUM SIDE YARD SETBACK (ONE SIDE)
- (S2) *9' MINIMUM SIDE YARD SETBACK (ONE SIDE)
- (C) 15' CORNER SIDE YARD SETBACK
- (R) 20' REAR YARD SETBACK

*5' AND 9' INTERIOR SIDE YARD SETBACKS CAN BE SWAPPED (TYPICAL). ONE SIDE YARD HAS TO BE A MINIMUM OF 5', 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-6

NET AREA: 181,644 SQUARE FEET ±
AVERAGE LOT AREA: 6,487 SQUARE FEET ±

SCALE: 1"= 40 FEET
40 0 16 24 32 40

LINDSAY ANNE ESTATES

AKS DRAWING FILE: 5837 PLAT.DWG | LAYOUT: P1-03

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LINDSAY ANNE ESTATES TOO

OREGON CITY
TAX LOT 1400

OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18

PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 08/07/2017

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 13, 2004
MONTGOMERY B. HURLEY
EXPIRES: 6/30/19
NOT FOR CONSTRUCTION

RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5837

SHEET
P1-03

LEGEND

- EXISTING GROUND CONTOUR (1 FT) — 347
- EXISTING GROUND CONTOUR (5 FT) — 350
- FINISHED GRADE CONTOUR (1 FT) — 343
- FINISHED GRADE CONTOUR (5 FT) — 345
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING)
- INLET PROTECTION
- CONCRETE WASHOUT AREA
- GRAVEL CONSTRUCTION ENTRANCE

SCALE: 1" = 40 FEET

40 0 16 24 32 40

TAX LOT 101
TAX MAP 3S 2E 7C

125' PGE TRANSMISSION LINE EASEMENT BOOK 278 PAGE 308

TAX LOT 199
TAX MAP 3S 2E 7C

ASPHALT DRIVEWAY

ASPHALT DRIVEWAY

TAX LOT 600
TAX MAP 3S 2E 7DC

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 800
TAX MAP 3S 2E 7DC

TAX LOT 900
TAX MAP 3S 2E 7DC

10803

10750

DRIVEWAY

10745

10744

10739

DRIVEWAY

S LELAND ROAD

GRAVEL CONSTRUCTION ENTRANCE

MILLER ROAD

TAX LOT 1402
TAX MAP 3S 2E 18

TRACT A
STORMWATER FACILITY

6' CHAIN LINK FENCE

CONCRETE WASHOUT

4' WIRE FENCE

DEER CROSSING SIGN

4' WIRE FENCE

GRAVEL DRIVE

TAX LOT 1401
TAX MAP 3S 2E 18

10634

10633

ELECTRICAL LINE EASEMENT PER DOC. NO. 2014-049319

BARRICADE
3' WIRE FENCE

COMM MH

TAX LOT 1500
TAX MAP 3S 2E 18AB

TAX LOT 1300
TAX MAP 3S 2E 18AB

10' ELECTRIC LINE EASEMENT PER DOC. NO. 2014-049319

TAX LOT 1200
TAX MAP 3S 2E 18AB

TAX LOT 1100
TAX MAP 3S 2E 18AB

TAX LOT 1000
TAX MAP 3S 2E 18AB

TAX LOT 800
TAX MAP 3S 2E 18AB

TAX LOT 700
TAX MAP 3S 2E 18AB

TAX LOT 500
TAX MAP 3S 2E 18AB

TAX LOT 400
TAX MAP 3S 2E 18AB

TAX LOT 300
TAX MAP 3S 2E 18AB

TAX LOT 100
TAX MAP 3S 2E 18AB

5' VINYL FENCE

GRAVEL DRIVE

5' VINYL FENCE

10126

10186

10185

10177

CEDARWOOD WAY

CHERRYWOOD WAY

ADA RAMP

STREET SIGN

STOP SIGN

ADA RAMP

10' PUE

10' PUE

ADA RAMP

LINDSAY ANNE LANE

8"DIP

8"DIP

ADA RAMP

ADA RAMP

ADA RAMP

10049

STOP SIGN

1 ADA RAMP

EX STONE RETAINING WALL

GRAVEL DRIVE

10037

10034

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LINDSAY ANNE ESTATES TOO

OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18
OREGON CITY
TAX LOT 1400

PRELIMINARY GRADING & EROSION AND SEDIMENT CONTROL PLAN

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 08/07/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2007
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION

RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5837

SHEET
P1-04

AKS DRAWING FILE: 5837 ESC.DWG | LAYOUT: P1-04

SCALE: 1"= 40 FEET

40 0 16 24 32 40

TAX LOT 101
TAX MAP 3S 2E 7C

125' PGE TRANSMISSION LINE EASEMENT BOOK 278 PAGE 308

TAX LOT 199
TAX MAP 3S 2E 7C

TAX LOT 600
TAX MAP 3S 2E 7DC

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 800
TAX MAP 3S 2E 7DC

TAX LOT 900
TAX MAP 3S 2E 7DC

TAX LOT 1402
TAX MAP 3S 2E 18

TAX LOT 1401
TAX MAP 3S 2E 18

TAX LOT 1500
TAX MAP 3S 2E 18AB

TAX LOT 1300
TAX MAP 3S 2E 18AB

TAX LOT 1200
TAX MAP 3S 2E 18AB

TAX LOT 1100
TAX MAP 3S 2E 18AB

TAX LOT 1000
TAX MAP 3S 2E 18AB

TAX LOT 800
TAX MAP 3S 2E 18AB

TAX LOT 700
TAX MAP 3S 2E 18AB

TAX LOT 500
TAX MAP 3S 2E 18AB

TAX LOT 400
TAX MAP 3S 2E 18AB

TAX LOT 300
TAX MAP 3S 2E 18AB

TAX LOT 100
TAX MAP 3S 2E 18AB

MILLER ROAD

S LELAND ROAD

LINDSAY ANNE LANE

CEDARWOOD WAY

CHERRYWOOD WAY

ASPHALT DRIVEWAY

DRIVEWAY

GRAVEL DRIVE

SAN MH
RIM: 438.50
IE OUT: 430.56(8"SE)

STM MH
RIM: 438.50
IE OUT: 434.89(12"SE)

WATER BLOWOFF VALVE (TYP)

SAN MH
RIM: 439.69
IE OUT: 428.96(8"SE)

STM MH
RIM: 439.69
IE OUT: 436.19(12"SE)

STORMWATER MANHOLE (TYP)

STORM WATER DITCH INLET, REGRADE DITCH AS REQUIRED

STM CB
RIM: 442.9±
IE OUT: 433.61(12"SE)

SAN MH
RIM: 443.51
IE OUT: 437.33(8"SE)

PGE POWER LINE TOWER

SAN MH
RIM: 437.94
IE IN: 430.08(8"NW)
IE IN: 430.18(8"SW)
IE OUT: 429.98(8"SE)

STORM DRAIN LATERAL FOR STORMWATER PLANTER (TYP)

SAN MH
RIM: 439.09
IE OUT: 429.57(8"NE)

SAN MH
RIM: 439.08
IE IN: 428.47(8"NW)
IE IN: 428.57(8"SW)
IE OUT: 428.37(8"SE)

WATER SERVICE (TYP)

SAN MH
RIM: 438.79
IE OUT: 431.77(8"NE)

STM MH
RIM: 439.60
IE OUT: 436.60(12"NE)

STM MH
RIM: 441.29
IE IN: 433.15(12"NW)
IE OUT: 433.05(12"SE)

SAN MH
RIM: 437.56
IE OUT: 430.56(8"NE)

STM MH
RIM: 437.22
IE OUT: 434.73(12"SW)

SANITARY SEWER MANHOLE (TYP)

STM MH
RIM: 437.28
IE OUT: 434.77(12"NE)

FIRE HYDRANT (TYP)

CURB INLET (TYP)

STORM WATER PLANTER (TYP)

STM MH
RIM: 437.94
IE IN: 434.50(12"NW)
IE IN: 434.60(12"SW)
IE IN: 434.60(12"NE)
IE OUT: 434.40(12"SE)

STM MH
RIM: 439.29
IE OUT: 436.63(12"NE)

SANITARY SEWER LATERAL (TYP)

STM MH
RIM: 439.01
IE IN: 435.79(12"NW)
IE IN: 435.89(12"N)
IE IN: 435.89(12"SW)
IE OUT: 435.69(12"SE)

STM MH
RIM: 437.77
IE IN: 432.45(12"NW)
IE OUT: 432.35(12"SE)

4' WIRE FENCE

STORM DRAIN LATERAL (TYP)

DEER CROSSING SIGN

4' WIRE FENCE

SAN MH
RIM: 437.75
IE IN: 427.79(8"NW)
IE OUT: 427.69(8"SE)

STM MH
RIM: 437.81
IE IN: 435.27(12"SE)
IE OUT: 435.17(12"SW)

TRACT A
STORMWATER FACILITY

STM OUTFALL: 435.00

STM MH
RIM: 438.64
IE IN: 434.86(12"SW)
IE OUT: 434.66(12"E)

GAS LOCATE RISER

GAS LOCATE RISER

POWER CONDUIT STUB
GAS LOCATE RISER

ELECTRICAL LINE EASEMENT PER DOC. NO. 2014-049319

10' ELECTRIC LINE EASEMENT PER DOC. NO. 2014-049319

BARRICADE
3' WIRE FENCE

EX SAN MH
RIM: 439.79
IE IN: 429.14(8"NW)
IE OUT: 429.04(8"SE)

EX STM MH
RIM: 439.86
IE IN: 433.70(12"NW)
IE OUT: 433.60(12"SE)

EX STM MH
RIM: 437.16
IE IN: 427.43(8"NW)
IE OUT: 427.33(8"SE)

EX STM MH
RIM: 437.16
IE IN: 434.16(12"W)
IE OUT: 431.36(12"SE)

EX STM MH
RIM: 436.43
IE IN: 430.64(12"NW)
IE IN: 430.82(12"NE)
IE IN: 430.61(12"SW)
IE OUT: 430.57(12"SE)

EX STM CB
RIM: 434.84
IE IN: 431.42 (12"NW)
IE OUT: 431.25 (12"SE)

EX STM CI
RIM: 439.30
IE OUT: 435.35(12"E)
SUMP: 433.62

EX STM CI
RIM: 439.15
IE OUT: 433.98(12"SE)
SUMP: 432.29

ADA RAMP

STREET SIGN

EX STM CI
RIM: 436.67
IE OUT: 430.97(12"NE)
SUMP: 429.29

STOP SIGN

ADA RAMP

EX STM CI
RIM: 435.63
IE IN: 432.28(12"SE)
IE OUT: 432.19(12"NE)
SUMP: 430.39

EX STM CI
RIM: 436.56
IE OUT: 430.88(12"SW)
SUMP: 429.32

EX SAN MH
RIM: 438.87
IE IN: 428.11(8"SE)
IE IN: 428.02(8"NW)
IE OUT: 427.95(8"NE)

ADA RAMP

EX STM MH
RIM: 438.92
IE IN: 433.85(12"W)
IE IN: 433.46(12"N)
IE IN: 432.46(12"SE)
IE IN: 432.38(12"NW)
IE OUT: 432.30(12"NE)

EX STM CI
RIM: 435.60
IE OUT: 432.44(12"NW)
SUMP: 430.84

ADA RAMP

EX SAN MH
RIM: 435.97
IE IN: 426.63(8"SE)
IE IN: 426.55(8"SW)
IE IN: 426.37(8"NW)
IE OUT: 426.31(8"NE)

ADA RAMP

EX STM MH
RIM: 435.92
IE IN: 431.99(12"W)
IE IN: 430.50(12"SW)
IE IN: 430.42(12"NE)
IE IN: 430.32(12"NW)
IE OUT: 430.25(15"SE)

ADA RAMP

STOP SIGN

1 ADA RAMP

EX STONE RETAINING WALL

EX SAN MH
RIM: 435.68
IE IN: 425.29 (8"SW)
IE IN: 425.14 (8"NW)
IE OUT: 424.92 (8"

EX STM CB
RIM: 435.29
IE IN: 430.90 (12"NW)
IE OUT: 430.85 (12"SE)

EX 12" CONC CULVERT
IE: 442.36

EX 12" CSP CULVERT
IE: 441.96

EX 12" CSP CULVERT
IE: 439.08

EX 12" CONC CULVERT
IE: 437.09

EX 8" STEEL CULVERT
IE: 436.29

EX 6" PVC CULVERT
IE: 434.51

EX 16" CONC CULVERT
IE: 433.62

EX STM DI
TOP GRATE: 435.12
BOT. GRATE: 433.68
IE OUT: 433.18 (12"S)

EX 12" CONC CULVERT
IE: 434.52

EX 12" STEEL CULVERT
IE: 433.59

EX 12" CONC CULVERT
IE: 433.74

EX 12" CONC CULVERT
IE: 433.63

EX 2" PVC OUTFALL
IE: 436.10

EX 12" CONC CULVERT
IE: 433.45

EX 2" PVC OUTFALL
IE: 435.65

EX 2" PVC OUTFALL
IE: 434.49

EX 2" PVC OUTFALL
IE: 434.39

COMM MH

EX STM CB
RIM: 435.23
IE IN: 432.25 (12"N)
IE OUT: 431.81 (12"SE)
IE IN: 431.91 (12"NW)

EX SAN MH
RIM: 435.96
IE OUT: 425.65 (8"SE)
IE IN: 425.75 (8"NW)

EX STM AD
RIM: 435.19

5' VINYL FENCE

6' CHAIN LINK FENCE

5' VINYL FENCE

10750
10745
10744
10739
10634
10633
10128
10186
10185
10177
10049
40037
10034
39'
30'

SAN MH
RIM: 440.78
IE IN: 432.37(8"NW)
IE IN: 430.57(8"SW)
IE OUT: 430.37(8"SE)

STM MH
RIM: 439.92
IE IN: 432.80(12"NW)
IE IN: 432.90(12"SW)
IE OUT: 432.70(12"SE)

26.5'

30'

8"DIP

12"DIP

2"POLY

2"STL

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LINDSAY ANNE ESTATES TOO

OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18
OREGON CITY
TAX LOT 1400

PRELIMINARY COMPOSITE UTILITY PLAN

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	08/07/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 09, 2004
MONTGOMERY B. HURLEY
EXPIRES: 6/30/19
PRELIMINARY NOT FOR CONSTRUCTION
MAY 9, 2017

RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5837

SHEET
P1-05

AKS DRAWING FILE: 5837 UTILITIES.DWG | LAYOUT: P1-05

SCALE: 1" = 40 FEET

40 0 16 24 32 40

TAX LOT 101
TAX MAP 3S 2E 7C

125' PGE TRANSMISSION LINE EASEMENT BOOK 278 PAGE 308

TAX LOT 199
TAX MAP 3S 2E 7C

TAX LOT 600
TAX MAP 3S 2E 7DC

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 800
TAX MAP 3S 2E 7DC

TAX LOT 900
TAX MAP 3S 2E 7DC

BEGIN FULL STREET IMPROVEMENTS
STA 37+22.31 CEDARWOOD WAY

BEGIN FULL STREET IMPROVEMENTS
STA 27+18.00 CHERRYWOOD WAY

BEGIN FULL STREET IMPROVEMENTS
STA 8+94.44 MILLER ROAD

BEGIN HALF STREET IMPROVEMENTS
STA 49+63.01 LELAND ROAD

ASPHALT DRIVEWAY

ASPHALT DRIVEWAY

DRIVEWAY

DRIVEWAY

MILLER ROAD

S LELAND ROAD

℄–℄ INTERSECTION
STA 38+50.00 CEDARWOOD WAY
= STA 10+00.00 MILLER ROAD

℄–℄ INTERSECTION
STA 28+50.00 CHERRYWOOD WAY
= STA 13+86.00 MILLER ROAD

℄–℄ INTERSECTION
END FULL STREET IMPROVEMENTS
STA 51+00.00 LELAND ROAD
= STA 18+10.44 MILLER ROAD

GRAVEL DRIVE

EXISTING CONSTRUCTION ℄

4' WIRE FENCE

DEER CROSSING SIGN

END HALF STREET IMPROVEMENTS
STA 51+78.01 LELAND ROAD

TAX LOT 1402
TAX MAP 3S 2E 18

TAX LOT 1401
TAX MAP 3S 2E 18

TRACT A
STORMWATER FACILITY

10' POND INTERIOR MAINTENANCE ACCESS

ELECTRICAL LINE EASEMENT PER DOC. NO. 2014-049319

BARRICADE
3' WIRE FENCE

COMM MH

TAX LOT 1500
TAX MAP 3S 2E 18AB

TAX LOT 1300
TAX MAP 3S 2E 18AB

TAX LOT 1200
TAX MAP 3S 2E 18AB

10' ELECTRIC LINE EASEMENT PER DOC. NO. 2014-049319

TAX LOT 1100
TAX MAP 3S 2E 18AB

TAX LOT 1000
TAX MAP 3S 2E 18AB

TAX LOT 800
TAX MAP 3S 2E 18AB

TAX LOT 700
TAX MAP 3S 2E 18AB

TAX LOT 500
TAX MAP 3S 2E 18AB

TAX LOT 400
TAX MAP 3S 2E 18AB

TAX LOT 300
TAX MAP 3S 2E 18AB

TAX LOT 100
TAX MAP 3S 2E 18AB

END FULL STREET IMPROVEMENTS
STA 40+49.43 CEDARWOOD WAY

END FULL STREET IMPROVEMENTS
STA 30+50.23 CHERRYWOOD WAY

ADA RAMP
STREET SIGN

STOP SIGN
ADA RAMP

ADA RAMP

10' PUE

10' PUE

5' VINYL FENCE

GRAVEL DRIVE

5' VINYL FENCE

LINDSAY ANNE LANE

ADA RAMP

STOP SIGN

EX STONE RETAINING WALL

GRAVEL DRIVE

ADA RAMP

ADA RAMP

ADA RAMP

CEDARWOOD WAY

CHERRYWOOD WAY

SIDEWALK/STREET LEGEND

- SIDEWALK TO BE CONSTRUCTED BY HOMEBUILDER
- SIDEWALK AND ASSOCIATED PLANTER TO BE CONSTRUCTED BY CONTRACTOR
- RAMPS AND ASSOCIATED SIDEWALK AND PLANTER TO BE CONSTRUCTED BY CONTRACTOR
- NEW AC PAVEMENT, PER TYPICAL SECTION

NOTES:
1. DRIVEWAYS SHOWN ARE CONCEPTUAL.

AKS DRAWING FILE: 5837 STREETS.DWG | LAYOUT: P1-06

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LINDSAY ANNE ESTATES TOO

OREGON CITY, OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18
TAX LOT 1400

PRELIMINARY STREET PLAN

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

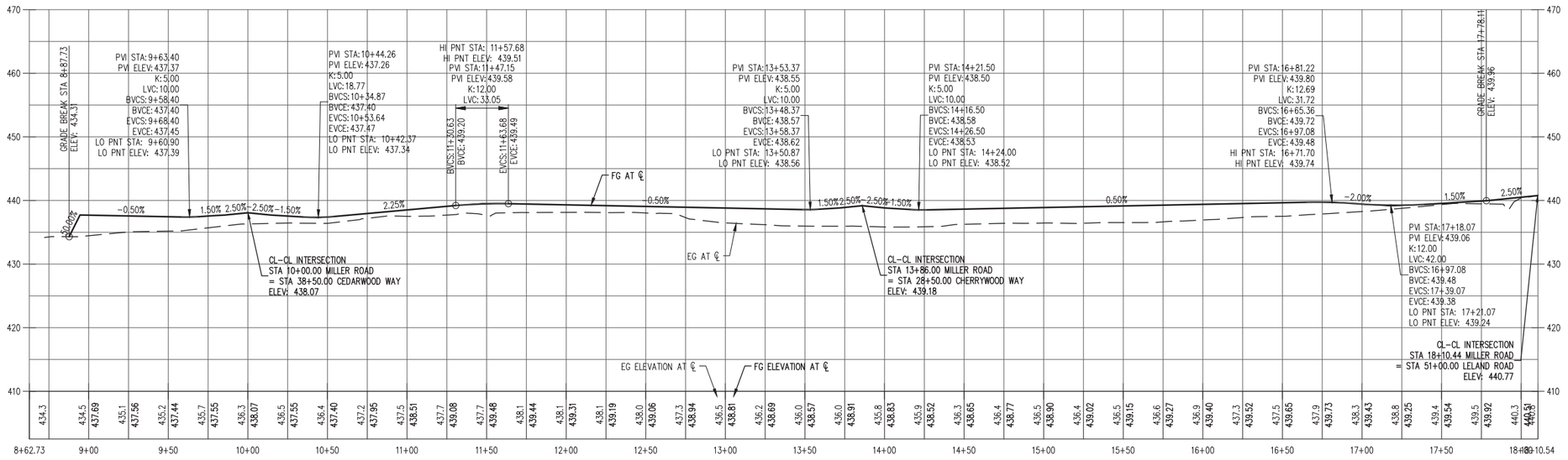
DATE: 08/07/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2001
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

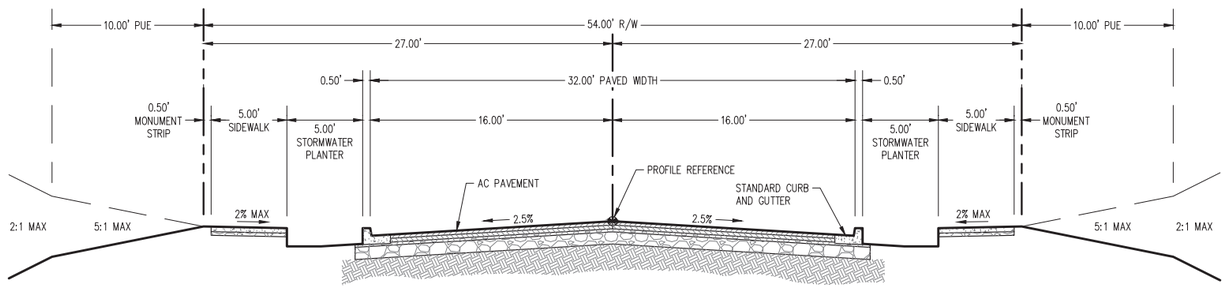
REVISIONS

JOB NUMBER
5837

SHEET
P1-06



MILLER ROAD
Hor. Scale: 1"= 40'
Vert. Scale: 1"= 10'



MILLER ROAD (8+94.44 TO 18+10.44)
CEDARWOOD WAY (37+22.31 TO 40+49.43)
CHERRYWOOD WAY (27+18.00 TO 30+50.23)
ROAD CROSS-SECTION
NOT TO SCALE

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LINDSAY ANNE ESTATES TOO

OREGON CITY OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18
TAX LOT 1400

PRELIMINARY STREET PROFILE AND CROSS-SECTION

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 08/07/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2007
MONTGOMERY B. HURLEY
PRELIMINARY - NOT FOR CONSTRUCTION

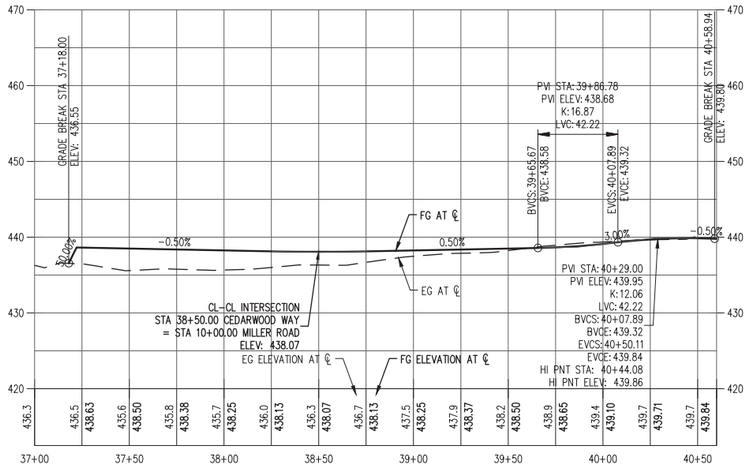
RENEWAL DATE: 6/30/19

REVISIONS

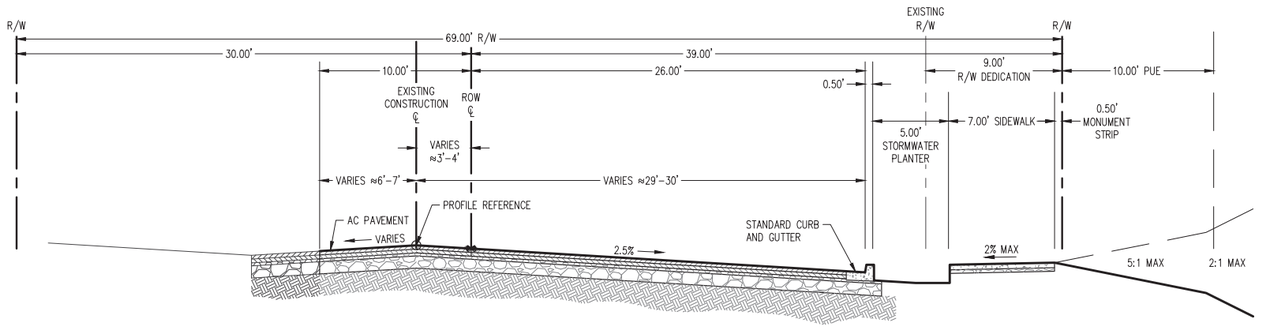
JOB NUMBER
5837

SHEET
P1-07

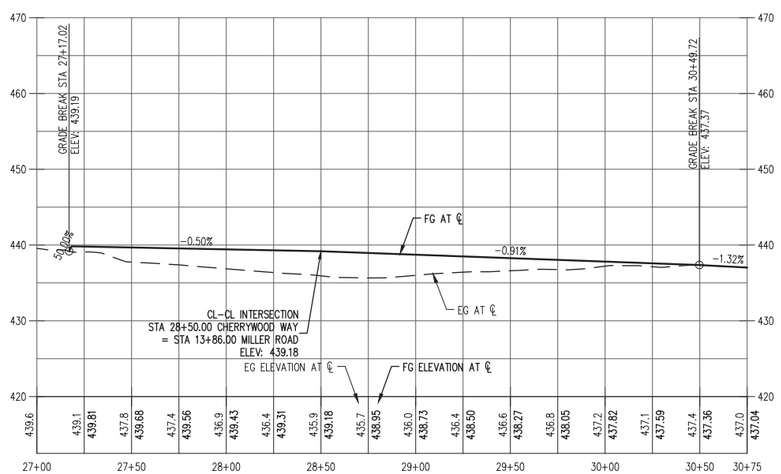
AKS DRAWING FILE: 5837 STREETS.DWG | LAYOUT: P1-07



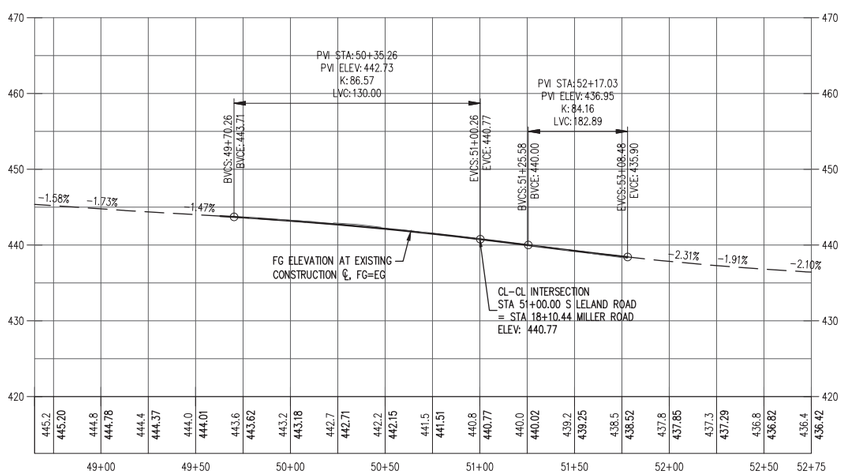
CEDARWOOD WAY
Hor. Scale: 1"= 40'
Vert. Scale: 1"= 10'



S LELAND ROAD (49+63.01 TO 51+78.01)
HALF ROAD CROSS-SECTION
NOT TO SCALE



CHERRYWOOD WAY
Hor. Scale: 1"= 40'
Vert. Scale: 1"= 10'



S LELAND ROAD
Hor. Scale: 1"= 40'
Vert. Scale: 1"= 10'

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LINDSAY ANNE ESTATES TOO

OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18
OREGON CITY
TAX LOT 1400

PRELIMINARY STREET PROFILES

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 08/07/2017

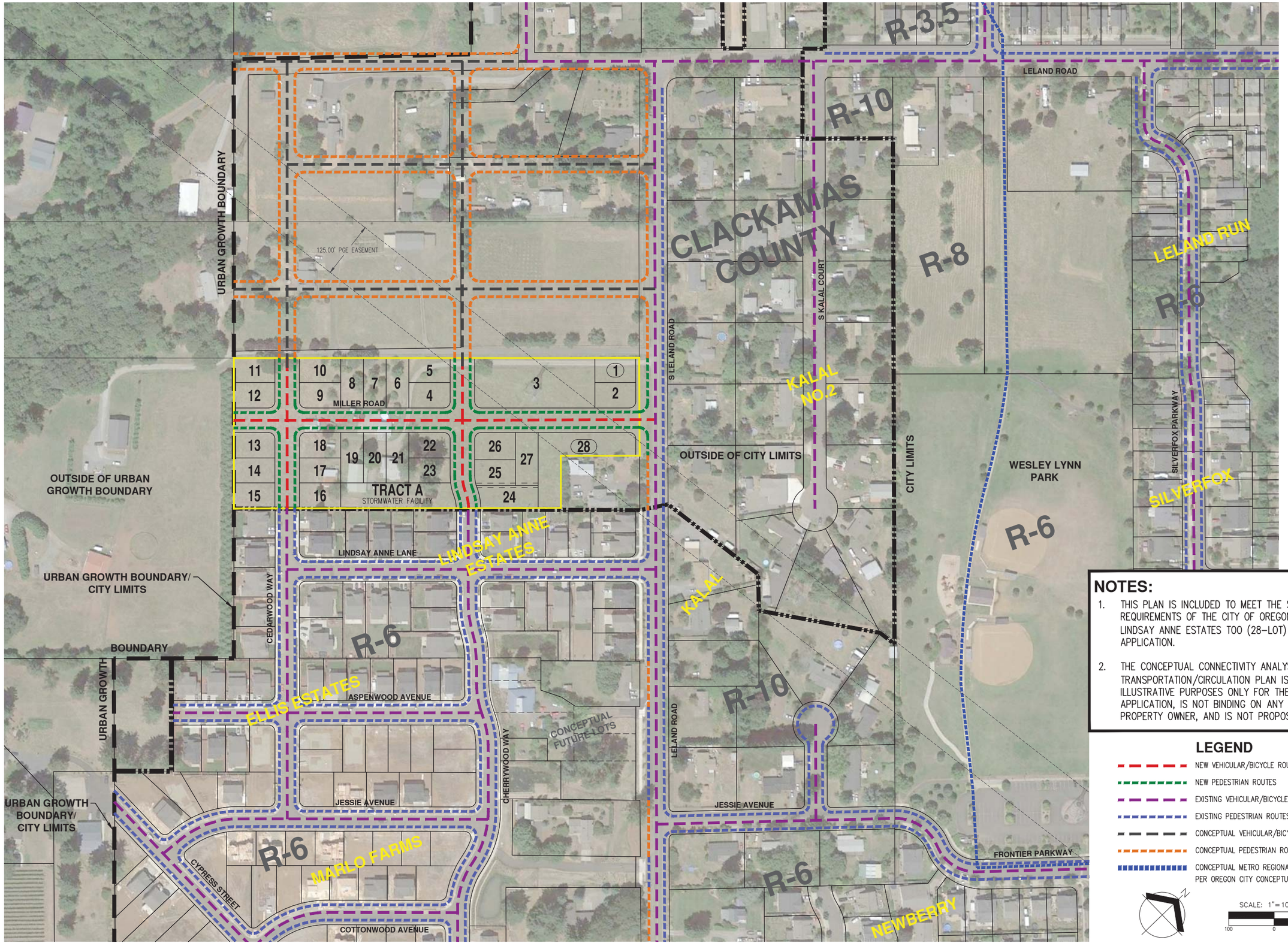
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 2006
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5837

SHEET
P1-08

AKS DRAWING FILE: 5837 STREETS.DWG | LAYOUT: P1-08



NOTES:

1. THIS PLAN IS INCLUDED TO MEET THE SUBMITTAL REQUIREMENTS OF THE CITY OF OREGON CITY FOR LINDSAY ANNE ESTATES TOO (28–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
- 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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LINDSAY ANNE ESTATES TOO

OREGON CITY, OREGON
TAX LOT 1400
CLACKAMAS COUNTY TAX MAP 3–2E–18

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

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 08/07/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2001
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

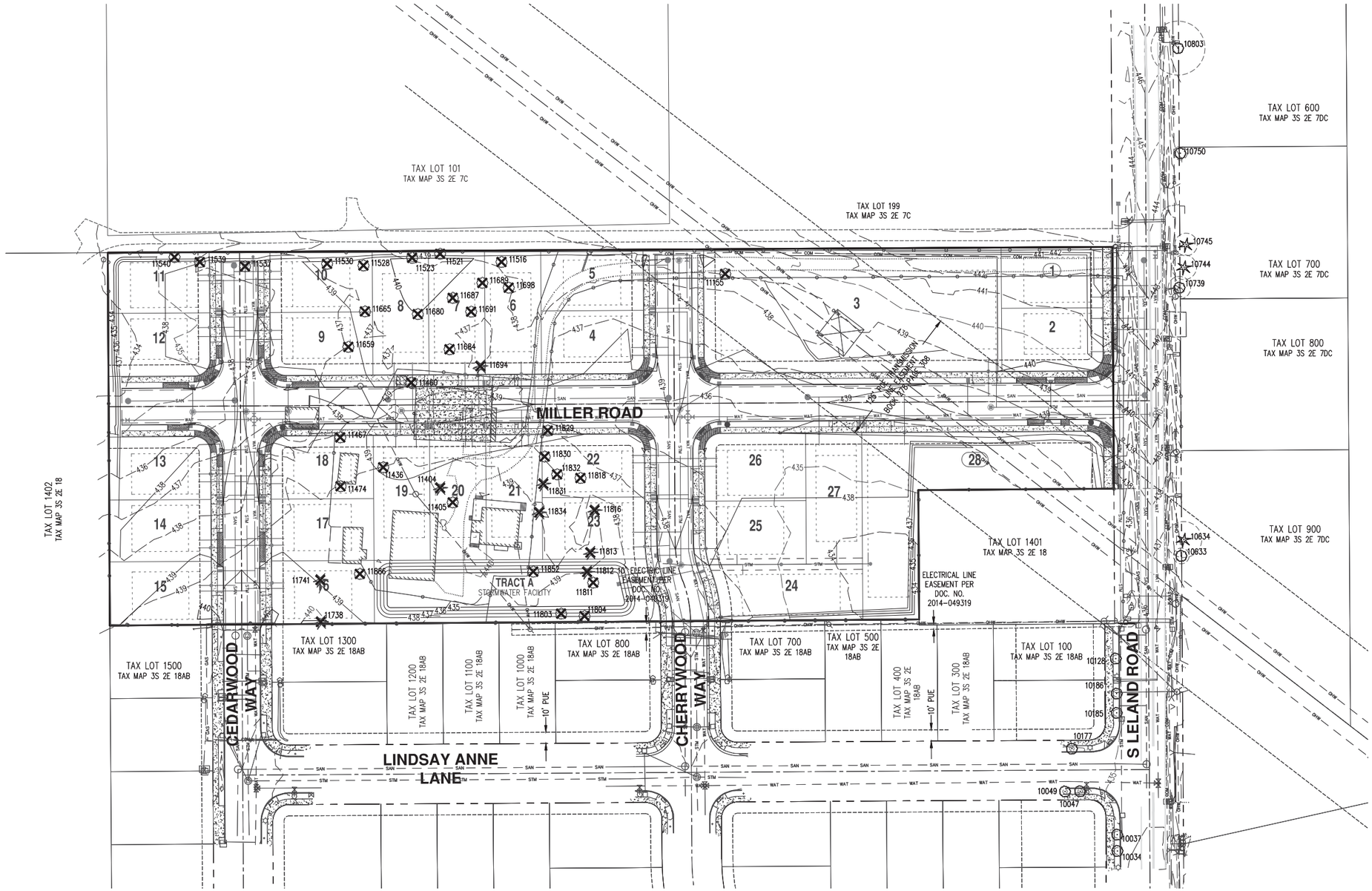
JOB NUMBER 5837

SHEET P1-09

AKS DRAWING FILE: 5837 CIRC.DWG | LAYOUT: P1–09

SCALE: 1"= 50 FEET

50 0 20 30 40 50



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)

SEE SHEET P1-11 FOR TREE RESERVATION, REMOVAL, AND MITIGATION TABLE

PRELIMINARY

CERTIFIED ARBORIST

BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6566A
EXPIRATION DATE: 12/31/17

AKS ENGINEERING & FORESTRY, LLC
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aks-eng.com

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

LINDSAY ANNE ESTATES TOO

OREGON CITY, OREGON
TAX LOT 1400
CLACKAMAS COUNTY TAX MAP 3-2E-18

PRELIMINARY TREE PRESERVATION & REMOVAL PLAN

DESIGNED BY: VHN
DRAWN BY: NMC
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 08/07/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2001
MONTGOMERY B. HURLEY
RENEWAL DATE: 6/30/19

PRELIMINARY - NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER
5837

SHEET
P1-10

AKS DRAWING FILE: 5837 TREE.DWG | LAYOUT: P1-10

Detailed Tree Inventory for 19701 S Leland Road

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]
10034	3	3	Chancellor Linden (*Tilia cordata*)	**OFFSITE**	1	1	Preserve	Yes	No	0
10037	3	3	Chancellor Linden (*Tilia cordata*)	**OFFSITE**	1	1	Preserve	Yes	No	0
10047	2	2	Chanticleer Pear (*Pyrus calleryana*)	**OFFSITE**	1	1	Preserve	Yes	No	0
10049	2	2	Chanticleer Pear (*Pyrus calleryana*)	**OFFSITE**	1	1	Preserve	Yes	No	0
10128	3	3	Chancellor Linden (*Tilia cordata*)	**OFFSITE**	1	1	Preserve	Yes	No	0
10177	2	2	Chanticleer Pear (*Pyrus calleryana*)	**OFFSITE**	1	1	Preserve	Yes	No	0
10185	3	3	Chancellor Linden (*Tilia cordata*)	**OFFSITE**	1	1	Preserve	Yes	No	0
10186	3	3	Chancellor Linden (*Tilia cordata*)	**OFFSITE**	1	1	Preserve	Yes	No	0
10633	7	7	Cherry (*Prunus sp.*)	**OFFSITE;** Topped for overhead wires	2	2	Preserve	Yes	No	0
10634	16	16	Pine (*Pinus sp.*)	**OFFSITE;** Topped for overhead wires	2	2	Preserve	No	No	0
10739	10	10	Cherry (*Prunus sp.*)	**OFFSITE;** Topped for overhead wires	2	3	Preserve	Yes	No	0
10744	11	11	Blue Spruce (*Picea pungens*)	**OFFSITE**	1	1	Preserve	No	No	0
10745	6,6,6,8,10	16	Cedar (*Cedrus sp.*)	**OFFSITE**	1	1	Preserve	No	No	0
10750	6	6	Cherry (*Prunus sp.*)	**OFFSITE;** Pruned for overhead wires	2	2	Preserve	No	No	0
10803	24	24	Maple (*Acer sp.*)	**OFFSITE;** Topped for overhead wires	2	3	Preserve	Yes	No	0
11155	18	18	Pear (*Pyrus sp.*)	Bulge on bole; Broken branches; Decay; Bore holes	2	3	Remove	No	No	0
11404	61	61	Giant Sequoia (*Sequoiadendron giganteum*)		1	1	Remove	Yes	Yes	5
11405	14	14	Black Locust (*Robinia pseudoacacia*)	Scars; Decay; Invasive species	1	2	Remove	Yes	No	0
11436	14	14	Pear (*Pyrus sp.*)	Bulges; Cracks; Cavity; Decay	2	3	Remove	Yes	No	0
11460	12, 14	18	Walnut (*Juglans sp.*)	Dead	3	3	Remove	Yes	No	0
11467	15	15	Maple (*Acer sp.*)	Some dead branches	2	1	Remove	Yes	Yes	2
11474	16	16	Apple (*Malus sp.*)	Many bore holes; cavity; Decay; Broken branches	2	3	Remove	Yes	No	0
11516	6	6	Cherry (*Prunus sp.*)	Sparse foliage; Cavity; Decay; Cracks; Crooked	3	3	Remove	No	No	0
11521	25	25	Oregon Oak	Codominant 7' from ground with included bark; Sparse foliage	2	2	Remove	No	Yes	12
11523	18	18	Oregon Oak (*Quercus garryana*)	Sparse foliage	2	1	Remove	No	Yes	6
11528	12, 13, 13	22	Cherry (*Prunus sp.*)	Scars; Decay; Bore holes; Decay; Broken branches	2	3	Remove	No	No	0
11530	6, 6	8	Cherry (*Prunus sp.*)	Cavity; Decay; Bore holes; Sparse foliage	3	3	Remove	Yes	No	0
11537	16	16	Oregon Oak (*Quercus garryana*)	Very sparse foliage; Dead and broken branches; Declining	3	2	Remove	Yes	No	0
11539	20, 25	32	Oregon Oak (*Quercus garryana*)	Codominant; Some dead and broken branches	2	2	Remove	Yes	Yes	5
11540	13	13	Cherry (*Prunus sp.*)	Broken branches; Cracks; Bulges on bole; Decay	2	3	Remove	No	No	0
11659	12	12	Walnut (*Juglans sp.*)	Large 10' long & 6" wide scar with decay; Cracks; Sparse foliage	3	3	Remove	Yes	No	0
11665	6, 8	10	Cherry (*Prunus sp.*)	Codominant; Cavity; Decay; Cracks	2	3	Remove	No	No	0
11680	22	22	Cherry (*Prunus sp.*)	Many bore holes; Dead and broken branches; Cavities; Declining	2	3	Remove	Yes	No	0
11684	22	22	Walnut (*Juglans sp.*)	Large scars; Decay; Cracks; Dead and broken branches	3	3	Remove	Yes	No	0
11687	17	17	Mesquite (*Prosopis sp.*)	Sparse foliage; Dead and broken branches; Declining	3	3	Remove	Yes	No	0
11689	8	8	Cherry (*Prunus sp.*)	Crooked; Dead branches; Sweep; Cracks	2	3	Remove	No	No	0
11691	6, 7	9	Cherry (*Prunus sp.*)	Crooked; Dead branches; Sweep; Cracks	2	3	Remove	Yes	No	0
11694	22	22	Cedar (*Cedrus sp.*)		1	1	Remove	Yes	Yes	3
11698	15	15	Yellow Poplar (*Liriodendron tulipifera*)	Crooked; Bulges on bole	1	2	Remove	Yes	Yes	2
11738	13	13	Cedar (*Cedrus sp.*)		1	1	Remove	No	Yes	6
11741	18	18	Cedar (*Cedrus sp.*)	Sparse foliage; Dead branches; Declining	3	2	Remove	Yes	No	0
11803	12	12	Cherry (*Prunus sp.*)	Very crooked; Decay; Cracks; Sparse foliage	3	3	Remove	Yes	No	0
11804	9, 19	21	English Holly (*Ilex aquifolium*)	Bore holes; Crooked; Invasive species	2	2	Remove	Yes	No	0
11811	13	13	Cherry (*Prunus sp.*)	Crooked; Bulges on bole	2	2	Remove	Yes	Yes	2
11812	13	13	Spruce (*Picea sp.*)	Sparse foliage; Codominant top	2	2	Remove	Yes	Yes	2
11813	31	31	Douglas-fir (Pseudotsuga menziesii)	Large bore holes; Broken codominant stem; Cracks; Decay	3	3	Remove	No	No	0
11816	40	40	Douglas-fir (Pseudotsuga menziesii)		1	1	Remove	Yes	Yes	5
11818	11, 16	19	Cherry (*Prunus sp.*)	Twisted; Decay; Cracks	2	3	Remove	Yes	No	0
11829	7, 7, 11	15	Cherry (*Prunus sp.*)	Very sparse foliage; Broken branches; Decay; Broken top	3	3	Remove	Yes	No	0
11830	8, 10	13	Cherry (*Prunus sp.*)	Very sparse foliage; Broken branches; Decay	3	3	Remove	No	No	0
11831	24	24	Pine (*Pinus sp.*)	Some dead foliage	2	1	Remove	No	Yes	9
11832	6	6	Cherry (*Prunus sp.*)	Significant lean (W); Scars; Decay; Cracks	2	3	Remove	No	No	0
11834	41	41	Pine (*Pinus sp.*)		1	1	Remove	No	Yes	15
11852	6, 6, 6, 7, 7	14	English Holly (*Ilex aquifolium*)	Bore holes; Invasive species	2	2	Remove	Yes	No	0
11886	9, 9, 11, 22	28	Cherry (*Prunus sp.*)	Sparse foliage; Broken branches; Bulges; Cracks	3	3	Remove	No	No	0

Total # of Existing Trees Inventoried = 55
Total # of Trees to be Removed Requiring Mitigation = 13
Total # of Mitigation Trees Required = 74

Total # of Onsite Trees = 40
Total # of Onsite Trees to be Preserved = 0
Total # of Onsite Trees to be Removed = 40

Total # of Offsite Trees = 15
Total # of Offsite Trees to be Preserved = 15
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.

PRELIMINARY
ISA CERTIFIED ARBORIST
BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6666A
EXPIRATION DATE: 12/31/17

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12965 SW HERMAN RD STE 100
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LINDSAY ANNE ESTATES TOO

OREGON CITY, OREGON
TAX LOT 1400
CLACKAMAS COUNTY TAX MAP 3-2E-18

PRELIMINARY TREE PRESERVATION AND REMOVAL TABLE

DESIGNED BY: VHN
DRAWN BY: NMC
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 08/07/2017

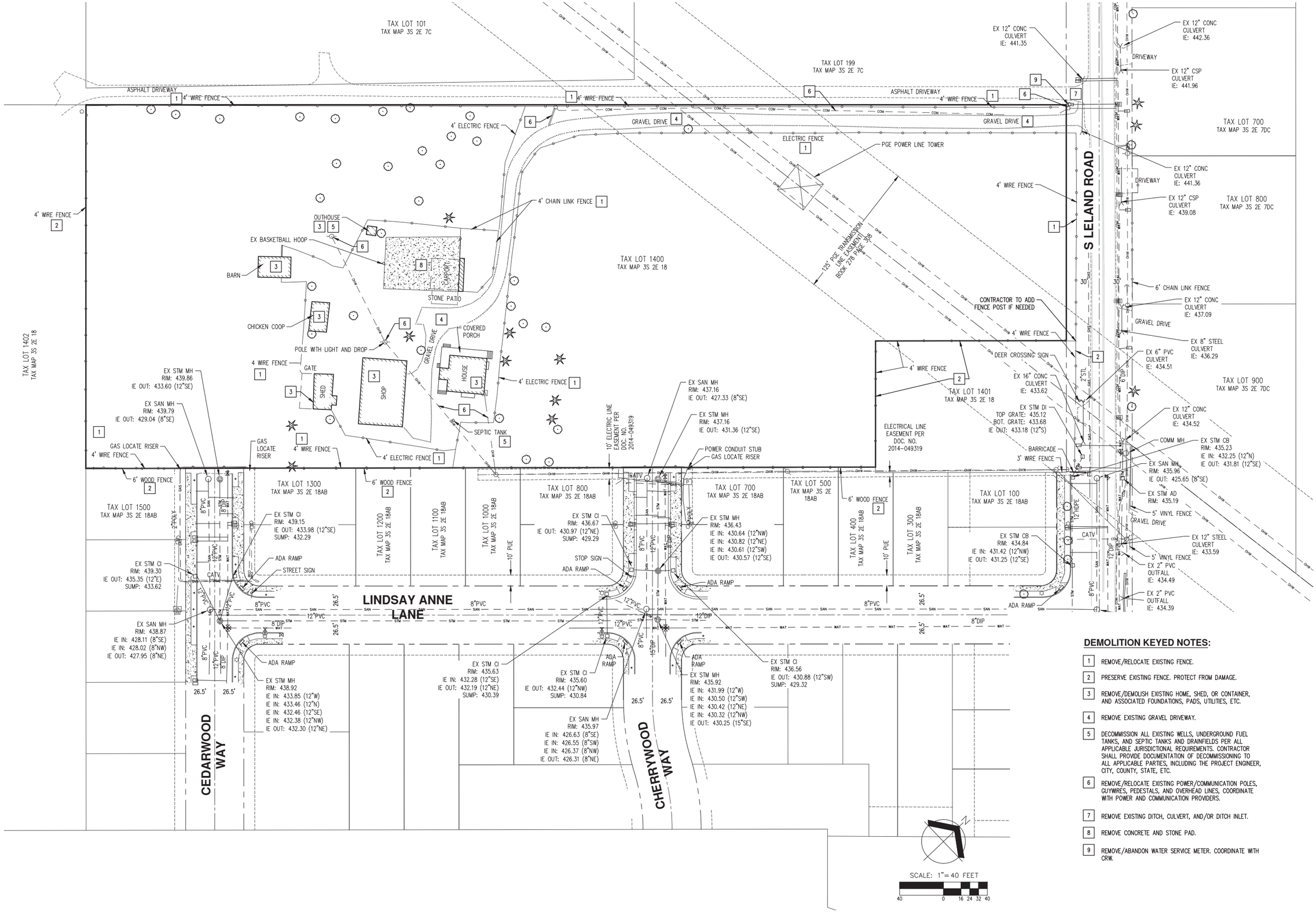
REGISTERED PROFESSIONAL FORESTER — OREGON — PRELIMINARY — NOT FOR CONSTRUCTION — MAY 9, 2002 — MONTGOMERY B. HURLEY
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER 5837

SHEET P1-11

AKS DRAWING FILE: 5837 TREE.DWG | LAYOUT: P1-11



DEMOLITION KEYED NOTES:

1. REMOVE/RELOCATE 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, AND 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 EXISTING POWER/COMMUNICATION POLES, GUYWIRES, PEDESTALS, AND OVERHEAD LINES. COORDINATE WITH POWER AND COMMUNICATION PROVIDERS.
7. REMOVE EXISTING DITCH, CULVERT, AND/OR DITCH INLET.
8. REMOVE CONCRETE AND STONE PAD.
9. REMOVE/ABANDON WATER SERVICE METER. COORDINATE WITH CRW.

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LINDSAY ANNE ESTATES TOO

OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18

OREGON CITY
TAX LOT 1400

PRELIMINARY DEMOLITION PLAN

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 08/07/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 13, 2006
MONTGOMERY B. HURLEY
RENEWAL DATE: 6/30/19

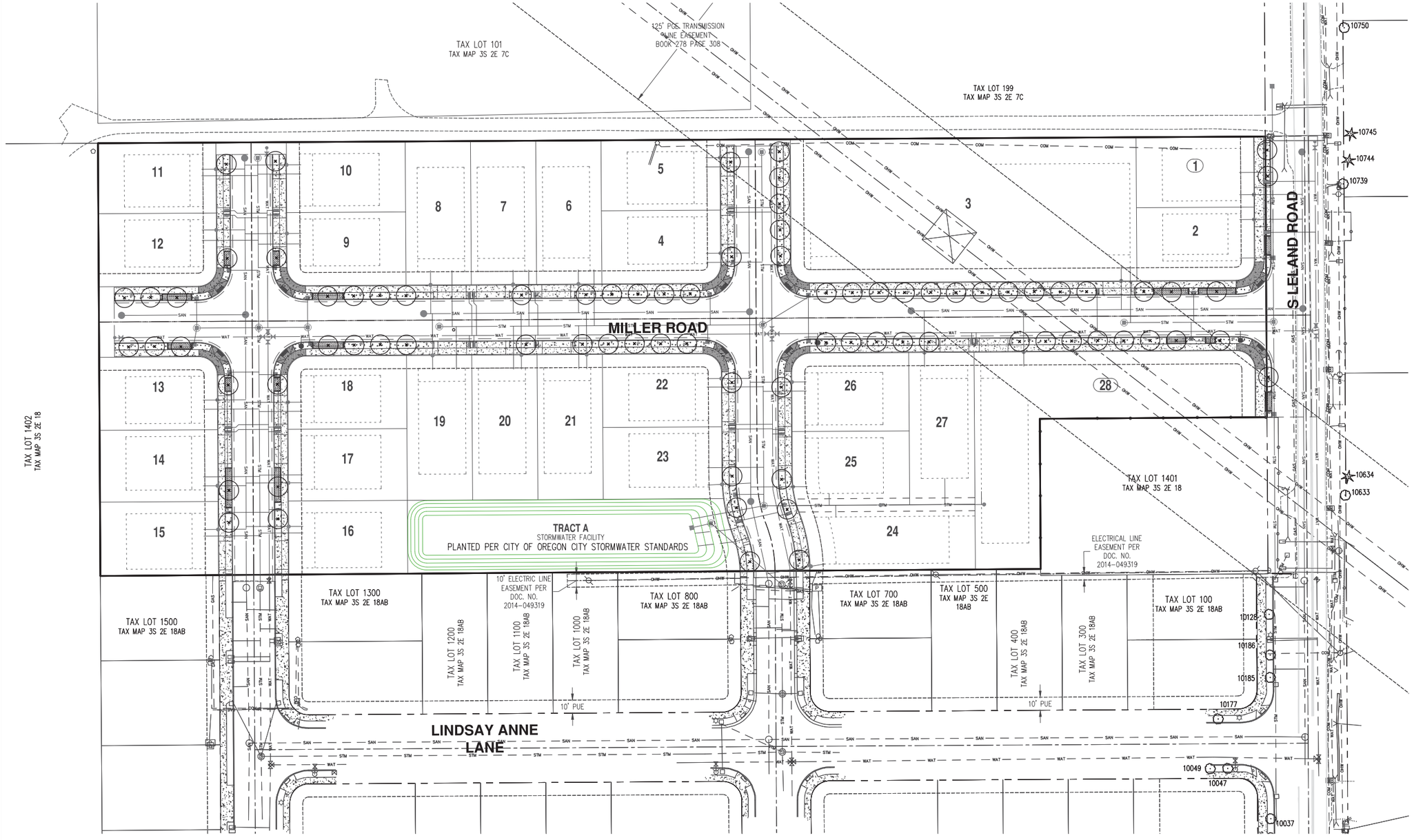
PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER
5837

SHEET
P1-12

AKS DRAWING FILE: 5837 DEMO.DWG | LAYOUT: P1-12



SCALE: 1" = 40 FEET

40 0 16 24 32 40

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 STORMWATER PLANTERS WILL BE SELECTED FROM TABLE A-1 IN THE OREGON CITY STORMWATER AND GRADING DESIGN STANDARDS MANUAL.
5. ALL PLANTER STRIPS ALONG THE STREET NOT PLANTED AS A STORMWATER PLANTER SHALL HAVE STREET TREES AND DROUGHT TOLERANT VEGETATIVE GROUNDCOVER, SUCH AS KINNIKINNICK, INSTALLED BY THE ADJACENT HOMEOWNER/HOME BUILDER AT THE TIME OF HOME CONSTRUCTION. CONTRACTOR SHALL INSTALL STREET TREES AND PLANTINGS IN STREET FRONTAGE ADJACENT TO TRACT A STORMWATER FACILITY.

TOTAL STREET TREES: 81

REQUIRED STREET TREES (1 FOR EVERY 35' PROP. FRONTAGE) = 81

NO FEE IN-LIEU OF STREET TREES IS NECESSARY IN ORDER TO MEET THE MINIMUM STREET TREE REQUIREMENT.

LEGEND:

81 - STREET TREE, 2" CAL. (MIN.)

EXISTING TREE TO REMAIN

SEE SHEET P1-11 FOR TREE PRESERVATION, REMOVAL, AND MITIGATION TABLE

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LINDSAY ANNE ESTATES TOO

OREGON CITY, OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18
TAX LOT 1400

PRELIMINARY STREET TREE PLAN

DESIGNED BY:	NKP
DRAWN BY:	NKP
CHECKED BY:	KAH
SCALE:	AS NOTED

DATE: 08/07/2017

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
OREGON
NOT FOR CONSTRUCTION
06/06/13

REVISIONS

JOB NUMBER 5837

SHEET P1-13

AKS DRAWING FILE: 5837 STREET TREE.DWG | LAYOUT: P1-13

Exhibit B: Clackamas County Assessor's Map

3 2 E 18

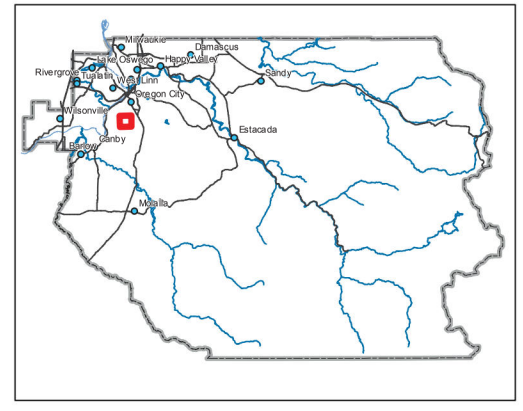
SECTION 18 T.3S. R.2E. W.M.
CLACKAMAS COUNTY
1" = 400'

D. L. C.'S
JOHN S. HOWLAND NO. 45
BENJAMIN MAILS NO. 50

Cancelled Taxlots

2700
2790
1201
1204
1205
1202
202
203
501
800
992
1090
1291
1292
1490
1690
2290
1282
1300
1206

- Parcel Boundary
- Private Road ROW
- Historical Boundary
- Railroad Centerline
- TaxCodeLines
- Map Index
- WaterLines
- Land Use Zoning
- Plats
- Water
- Corner
- Section Corner
- 1/16th Line
- Govt Lot Line
- DLC Line
- Meander Line
- PLSS Section Line
- Historic Corridor 40'
- Historic Corridor 20'



THIS MAP IS FOR ASSESSMENT PURPOSES ONLY

8/4/2016

3 2 E 18

Exhibit C: City Land Use Application Form 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 17-07 (Pre-Application Conference)

Proposed Land Use or Activity: A new subdivision for future construction of single-family detached residential homes.

Project Name: 19701 S. Leland Road Number of Lots Proposed (If Applicable): 28

Physical Address of Site: 19701 S. Leland Road

Clackamas County Map and Tax Lot Number(s): Map: 32E18 Tax Lot: 1400

Applicant(s):

Applicant(s) Signature:

Applicant(s) Name Printed: PDX Development, Inc. Date: 7/17/17

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: Bruce Raymond Miller and Shelly Alane Miller (Trustee) Date:

Mailing Address: 19701 S. Leland Road, Oregon City, OR 97045

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: July 2017

Mailing Address: 12965 SW Herman Road, Suite 100

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

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
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❑ 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

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Applicant(s):

Applicant(s) Signature: _____

Applicant(s) Name Printed: PDX 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: Bruce Raymond Miller (TTEE) Shelly Alane Miller Trustee

Property Owner(s) Name Printed: Bruce Raymond Miller and Shelly Alane Miller (Trustee) Date: 7/25/17

Mailing Address: 19701 S. Leland Road, 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: July 2017

Mailing Address: 12965 SW Herman Road, Suite 100

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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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
- N/A ☐ 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
- N/A ☐ 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. N/A **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
Company of Oregon

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein Fidelity National Title Company of Oregon hereby reports that it is prepared to issue, or cause to be issued, as of the specified date, a policy or policies of title insurance describing the land and the estate or interest hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.

The printed Exceptions and Exclusions from the coverage of said policy or policies are set forth in Exhibit One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a/an California corporation.

Please read the exceptions shown or referred to herein and the Exceptions and Exclusions set forth in Exhibit One of this report carefully. The Exceptions and Exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

This preliminary report is for the exclusive use of the parties to the contemplated transaction, and the Company does not have any liability to any third parties nor any liability until the full premium is paid and a policy is issued. Until all necessary documents are placed of record, the Company reserves the right to amend or supplement this preliminary report.

Countersigned

Fidelity National Title
Company of Oregon

12809 SE 93rd Avenue, Clackamas, OR 97015
(503)786-0340 FAX (503)786-0424

PRELIMINARY REPORT

ESCROW OFFICER: Melissa McSperitt
melissa.mcsperitt@fnf.com
TITLE OFFICER: David Boutin

ORDER NO.: 45141703211
Supplement 2nd - removing #'s 6, 7 and 9

TO: Fidelity National Title Company of Oregon
12809 SE 93rd Avenue
Clackamas, OR 97015

ESCROW LICENSE NO.: 900400383

OWNER/SELLER: Bruce Raymond Miller Trustee and Shelly Alane Miller Trustee

BUYER/BORROWER: PDX Development, Inc., an Oregon Corporation

PROPERTY ADDRESS: 19701 S Leland Road, Oregon City, OR 97045

EFFECTIVE DATE: March 3, 2017, 08:00 AM

1. THE POLICY AND ENDORSEMENTS TO BE ISSUED AND THE RELATED CHARGES ARE:

	AMOUNT	PREMIUM
ALTA Owner's Policy 2006 **Owner's Standard (Builder's Rate)**	$ 1,000,000.00	$ 1,365.00

2. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A Fee

3. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   Bruce Raymond Miller and Shelly Alane Miller, Trustees of the Bruce and Shelly Miller Revocable Living Trust dated the 4th day of February, 1997

4. THE LAND REFERRED TO IN THIS REPORT IS SITUATED IN THE COUNTY OF CLACKAMAS, STATE OF OREGON, AND IS DESCRIBED AS FOLLOWS:

   SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

EXHIBIT "A"

Legal Description

Parcel 1, PARTITION PLAT NO. 1992-78, County of Clackamas and State of Oregon.

AS OF THE DATE OF THIS REPORT, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN THE POLICY FORM WOULD BE AS FOLLOWS:

GENERAL EXCEPTIONS:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.

4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.

5. Any lien or right to a lien for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.

SPECIFIC ITEMS AND EXCEPTIONS

6. [Intentionally Deleted]

7. [Intentionally Deleted]

8. Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document:

In favor of:	Portland General Electric Company, an Oregon Corporation
Purpose:	Electric transmission line
Recording Date:	March 21, 1963
Recording No.:	Book 619, Page 42
Affects:	Reference is hereby made to said document for full particulars

9. [Intentionally Deleted]

10. The search did not disclose any open mortgages or deeds of trust of record, therefore the Company reserves the right to require further evidence to confirm that the property is unencumbered, and further reserves the right to make additional requirements or add additional items or exceptions upon receipt of the requested evidence.

11. Any invalidity or defect in the title of the vestees in the event that the trust referred to herein is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

    If title is to be insured in the trustee(s) of a trust (or if their act is to be insured), this Company will require a copy of said Trust Agreement or a Trust Certification pursuant to ORS Chapter 130.860.

    The Company reserves the right to make additional requirements or add additional items or exceptions after review of the requested documentation.

12. If requested to issue an extended coverage ALTA loan policy, the following matters must be addressed:

    a) The rights of tenants holding under unrecorded leases or tenancies
    b) Matters disclosed by a statement as to parties in possession and as to any construction, alterations or repairs to the Land within the last 75 days. The Company must be notified in the event that any funds are to be used for construction, alterations or repairs.
    c) Any facts which would be disclosed by an accurate survey of the Land

ADDITIONAL REQUIREMENTS/NOTES:

A. Property taxes for the fiscal year shown below are paid in full.

Fiscal Year:	2016-2017
Amount:	$2,413.48
Levy Code:	062-084
Account No.:	00885625
Map No.:	32E18 01400

Prior to close of escrow, please contact the Tax Collector's Office to confirm all amounts owing, including current fiscal year taxes, supplemental taxes, escaped assessments and any delinquencies.

B. In addition to the standard policy exceptions, the exceptions enumerated above shall appear on the final 2006 ALTA policy unless removed prior to issuance.

C. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance by the corporation named below.

Name of Corporation: PDX Development, Inc.

a) A Copy of the corporation By-laws and Articles of Incorporation

b) An original or certified copy of a resolution authorizing the transaction contemplated herein.

c) If the Articles and/or By-laws require approval by a "parent" organization, a copy of the Articles and By-laws of the parent.

The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

D. Note: There are no matters against the party(ies) shown below which would appear as exceptions to coverage in a title insurance product:

Parties: PDX Development, Inc., an Oregon Corporation

E. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

F. Note: No search has been made or will be made for water, sewer, or storm drainage charges unless the city/service district claims them as liens (i.e., foreclosable) and reflects them on its lien docket at the date of closing. Buyers should check with the appropriate city bureau or water/service district and obtain a billing cutoff. Such charges must be adjusted outside of escrow.

G. THE FOLLOWING NOTICE IS REQUIRED BY STATE LAW: YOU WILL BE REVIEWING, APPROVING AND SIGNING IMPORTANT DOCUMENTS AT CLOSING. LEGAL CONSEQUENCES FOLLOW FROM THE SELECTION AND USE OF THESE DOCUMENTS. YOU MAY CONSULT AN ATTORNEY ABOUT THESE DOCUMENTS. YOU SHOULD CONSULT AN ATTORNEY IF YOU HAVE QUESTIONS OR CONCERNS ABOUT THE TRANSACTION OR ABOUT THE DOCUMENTS. IF YOU WISH TO REVIEW TRANSACTION DOCUMENTS THAT YOU HAVE NOT SEEN, PLEASE CONTACT THE ESCROW AGENT.

H. Recording Charge (Per Document) is the following:

County	First Page	Each Additional Page
Multnomah	$42.00	$5.00
Washington	$41.00	$5.00
Clackamas	$53.00	$5.00

Note: When possible the company will record electronically. An additional charge of $5.00 applies to each document that is recorded electronically.

I. Note: Effective January 1, 2008, Oregon law (ORS 314.258) mandates withholding of Oregon income taxes from sellers who do not continue to be Oregon residents or qualify for an exemption. Please contact your Escrow Closer for further information.

J. Note: This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances or acreage shown thereon.

EXHIBIT ONE

2006 AMERICAN LAND TITLE ASSOCIATION LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses that arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning) restricting, regulating, prohibiting or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions or location of any improvement erected on the land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed or agreed to by the Insured Claimant;
   (b) not known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with the applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in the Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage.

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the Land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof, water rights, claims or title to water.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land. The term "encroachment" includes encroachments of existing improvements located on the Land onto adjoining land, and encroachments onto the Land of existing improvements located on adjoining land.
5. Any lien for services, labor or material heretofore or hereafter furnished, or for contributions due to the State of Oregon for unemployment compensation or worker's compensation, imposed by law and not shown by the Public Records.

2006 AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses that arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning) restricting, regulating, prohibiting or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions or location of any improvement erected on the land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed or agreed to by the Insured Claimant;
   (b) not known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in the Covered Risk 9 of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage.

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the Land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof, water rights, claims or title to water.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land. The term "encroachment" includes encroachments of existing improvements located on the Land onto adjoining land, and encroachments onto the Land of existing improvements located on adjoining land.
5. Any lien for services, labor or material heretofore or hereafter furnished, or for contributions due to the State of Oregon for unemployment compensation or worker's compensation, imposed by law and not shown by the Public Records.

FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE
Effective: May 1, 2015; Last Updated: March 1, 2017

At Fidelity National Financial, Inc., we respect and believe it is important to protect the privacy of consumers and our customers. This Privacy Notice explains how we collect, use, and protect any information that we collect from you, when and to whom we disclose such information, and the choices you have about the use of that information. A summary of the Privacy Notice is below, and we encourage you to review the entirety of the Privacy Notice following this summary. You can opt-out of certain disclosures by following our opt-out procedure set forth at the end of this Privacy Notice.

Types of Information Collected. You may provide us with certain personal information about you, like your contact information, address demographic information, social security number (SSN), driver's license, passport, other government ID numbers and/or financial information. We may also receive browsing information from your Internet browser, computer and/or mobile device if you visit or use our websites or applications.	**How Information is Collected**. We may collect personal information from you via applications, forms, and correspondence we receive from you and others related to our transactions with you. When you visit our websites from your computer or mobile device, we automatically collect and store certain information available to us through your Internet browser or computer equipment to optimize your website experience.
Use of Collected Information. We request and use your personal information to provide products and services to you, to improve our products and services, and to communicate with you about these products and services. We may also share your contact information with our affiliates for marketing purposes.	**When Information Is Disclosed**. We may disclose your information to our affiliates and/or nonaffiliated parties providing services for you or us, to law enforcement agencies or governmental authorities, as required by law, and to parties whose interest in title must be determined.
Choices With Your Information. Your decision to submit information to us is entirely up to you. You can opt-out of certain disclosure or use of your information or choose to not provide any personal information to us.	**Information From Children**. We do not knowingly collect information from children who are under the age of 13, and our website is not intended to attract children.
Privacy Outside the Website. We are not responsible for the privacy practices of third parties, even if our website links to those parties' websites.	**International Users**. By providing us with you information, you consent to its transfer, processing and storage outside of your country of residence, as well as the fact that we will handle such information consistent with this Privacy Notice.
The California Online Privacy Protection Act. Some FNF companies provide services to mortgage loan servicers and, in some cases, their websites collect information on behalf of mortgage loan servicers. The mortgage loan servicer is responsible for taking action or making changes to any consumer information submitted through those websites.	
Your Consent To This Privacy Notice. By submitting information to us or by using our website, you are accepting and agreeing to the terms of this Privacy Notice.	**Access and Correction; Contact Us**. If you desire to contact us regarding this notice or your information, please contact us at privacy@fnf.com or as directed at the end of this Privacy Notice.

FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE
Effective: May 1, 2015; Last Updated: March 1, 2017

Fidelity National Financial, Inc. and its majority-owned subsidiary companies providing title insurance, real estate- and loan-related services (collectively, "FNF", "our" or "we") respect and are committed to protecting your privacy. We will take reasonable steps to ensure that your Personal Information and Browsing Information will only be used in compliance with this Privacy Notice and applicable laws. This Privacy Notice is only in effect for Personal Information and Browsing Information collected and/or owned by or on behalf of FNF, including Personal Information and Browsing Information collected through any FNF website, online service or application (collectively, the "Website").

Types of Information Collected

We may collect two types of information from you: Personal Information and Browsing Information.

Personal Information. FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- social security number (SSN), driver's license, passport, and other government ID numbers;
- financial account information; and
- other personal information needed from you to provide title insurance, real estate- and loan-related services to you.

Browsing Information. FNF may collect the following categories of Browsing Information:

- Internet Protocol (or IP) address or device ID/UDID, protocol and sequence information;
- browser language and type;
- domain name system requests;
- browsing history, such as time spent at a domain, time and date of your visit and number of clicks;
- http headers, application client and server banners; and
- operating system and fingerprinting data.

How Information is Collected

In the course of our business, we may collect *Personal Information* about you from the following sources:

- applications or other forms we receive from you or your authorized representative;
- the correspondence you and others send to us;
- information we receive through the Website;
- information about your transactions with, or services performed by, us, our affiliates or nonaffiliated third parties; and
- information from consumer or other reporting agencies and public records maintained by governmental entities that we obtain directly from those entities, our affiliates or others.

If you visit or use our Website, we may collect *Browsing Information* from you as follows:

- Browser Log Files. Our servers automatically log each visitor to the Website and collect and record certain browsing information about each visitor. The Browsing Information includes generic information and reveals nothing personal about the user.
- Cookies. When you visit our Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. When you visit a website again, the cookie allows the website to recognize your computer. Cookies may store user preferences and other information. You can choose whether or not to accept cookies by changing your Internet browser settings, which may impair or limit some functionality of the Website.

Use of Collected Information

Information collected by FNF is used for three main purposes:

- To provide products and services to you or any affiliate or third party who is obtaining services on your behalf or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you and to inform you about our, our affiliates' and third parties' products and services, jointly or independently.

When Information Is Disclosed

We may provide your Personal Information (excluding information we receive from consumer or other credit reporting agencies) and Browsing Information to various individuals and companies, as permitted by law, without obtaining your prior authorization. Such laws do not allow consumers to restrict these disclosures. Please see the section "Choices With Your Personal Information" to learn how to limit the discretionary disclosure of your Personal Information and Browsing Information.

Disclosures of your Personal Information may be made to the following categories of affiliates and nonaffiliated third parties:

- to third parties to provide you with services you have requested, and to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to our affiliate financial service providers for their use to market their products or services to you;
- to nonaffiliated third party service providers who provide or perform services on our behalf and use the disclosed information only in connection with such services;
- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to market financial products or services to you;
- to law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoena or court order;
- to lenders, lien holders, judgment creditors, or other parties claiming an interest in title whose claim or interest must be determined, settled, paid, or released prior to closing; and
- other third parties for whom you have given us written authorization to disclose your Personal Information.

We may disclose Personal Information and/or Browsing Information when required by law or in the good-faith belief that such disclosure is necessary to:

- comply with a legal process or applicable laws;
- enforce this Privacy Notice;
- investigate or respond to claims that any material, document, image, graphic, logo, design, audio, video or any other information provided by you violates the rights of a third party; or
- protect the rights, property or personal safety of FNF, its users or the public.

We maintain reasonable safeguards to keep your Personal Information secure. When we provide Personal Information to our affiliates or third party service providers as discussed in this Privacy Notice, we expect that these parties process such information in compliance with our Privacy Notice or in a manner that is in compliance with applicable privacy laws. The use of your information by a business partner may be subject to that party's own Privacy Notice. Unless permitted by law, we do not disclose information we collect from consumer or credit reporting agencies with our affiliates or others without your consent.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of our bankruptcy, reorganization, insolvency, receivership or an assignment for the benefit of creditors. You expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings. We cannot and will not be responsible for any breach of security by a third party or for any actions of any third party that receives any of the information that is disclosed to us.

Choices With Your Information

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you. The uses of your Personal Information and/or Browsing Information that, by law, you cannot limit, include:

- for our everyday business purposes – to process your transactions, maintain your account(s), to respond to law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoenas or court orders, or report to credit bureaus;
- for our own marketing purposes;
- for joint marketing with financial companies; and
- for our affiliates' everyday business purposes – information about your transactions and experiences.

You may choose to prevent FNF from disclosing or using your Personal Information and/or Browsing Information under the following circumstances ("opt-out"):

- for our affiliates' everyday business purposes – information about your creditworthiness; and
- for our affiliates to market to you.

To the extent permitted above, you may opt-out of disclosure or use of your Personal Information and Browsing Information by notifying us by one of the methods at the end of this Privacy Notice. We do not share your personal information with non-affiliates for their direct marketing purposes.

For California Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties, except as permitted by California law. Currently, our policy is that we do not recognize "do not track" requests from Internet browsers and similar devices.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.

For Oregon Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties, except as permitted by Vermont law, such as to process your transactions or to maintain your account. In addition, we will not share information about your creditworthiness with our affiliates except with your authorization. For joint marketing in Vermont, we will only disclose your name, contact information and information about your transactions.

Information From Children

The Website is meant for adults and is not intended or designed to attract children under the age of thirteen (13).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian. By using the Website, you affirm that you are over the age of 13 and will abide by the terms of this Privacy Notice.

Privacy Outside the Website

The Website may contain links to other websites. FNF is not and cannot be responsible for the privacy practices or the content of any of those other websites.

International Users

FNF's headquarters is located within the United States. If you reside outside the United States or are a citizen of the European Union, please note that we may transfer your Personal Information and/or Browsing Information outside of your country of residence or the European Union for any of the purposes described in this Privacy Notice. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection and transfer of such information in accordance with this Privacy Notice.

The California Online Privacy Protection Act

For some FNF websites, such as the Customer CareNet ("CCN"), FNF is acting as a third party service provider to a mortgage loan servicer. In those instances, we may collect certain information on behalf of that mortgage loan servicer via the website. The information which we may collect on behalf of the mortgage loan servicer is as follows:

- first and last name;
- property address;
- user name and password;
- loan number;
- social security number - masked upon entry;
- email address;
- three security questions and answers; and
- IP address.

The information you submit through the website is then transferred to your mortgage loan servicer by way of CCN.

The mortgage loan servicer is responsible for taking action or making changes to any consumer information submitted through this website. For example, if you believe that your payment or user information is incorrect, you must contact your mortgage loan servicer.

CCN does not share consumer information with third parties, other than (1) those with which the mortgage loan servicer has contracted to interface with the CCN application, or (2) law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoenas or court orders. All sections of this Privacy Notice apply to your interaction with CCN, except for the sections titled "Choices with Your Information" and "Access and Correction." If you have questions regarding the choices you have with regard to your personal information or how to access or correct your personal information, you should contact your mortgage loan servicer.

Your Consent To This Privacy Notice

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information by us in compliance with this Privacy Notice. Amendments to the Privacy Notice will be posted on the Website. Each time you provide information to us, or we receive information about you, following any amendment of this Privacy Notice will signify your assent to and acceptance of its revised terms for all previously collected information and information collected from you in the future. We may use comments, information or feedback that you submit to us in any manner that we may choose without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to access or correct your Personal Information, or want to opt-out of information sharing with our affiliates for their marketing purposes, please send your requests to privacy@fnf.com or by mail or phone to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer
(888) 934-3354

Exhibit E: 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:
Lindsay Anne Estates Too

	TWP/RANGE:	SECTION#:	TAX LOT#(s):
Location of Plat:	32E	18	1400

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:
07/10/2017	(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: Monday, July 10, 2017 10:21 AM
To: Matt Scheidegger
Subject: RE: Subdivision Name
Attachments: 4412-P1.tif

Matt,
Your request to approve the name of "Lindsay Anne Estates Too" is approved.

Something is wrong with the section # in Lindsay Anne Estates-Plat 4412. Please see the attached plat of Lindsay Anne Estates. I am checking into it.

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 F: 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 28 , inclusive, as shown on Subdivision Plat Lindsay Anne Estates Too (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 Lindsay Anne Estates Too.

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 Lindsay Anne Estates Too.

2.2. Lot Designation. The Property is comprised of twenty-eight (28) 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 G: Traffic Impact Study

Lindsay Anne Estates Too
Annexation and Zone Change

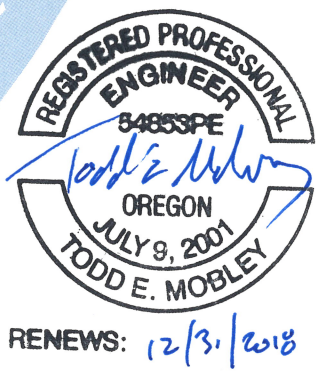
Traffic Impact Study

Oregon City, Oregon

Date:
August 3, 2017

Prepared for:
PDX Development, Inc.

Prepared by:
Todd Mobley, PE
Richard Martin, EI



LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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Executive Summary

1. A 6.32-acre property south and west of S Leland Road between S McCord Road and S Jessie Avenue is proposed for annexation into the City of Oregon City. Upon annexation, the property will be rezoned from FU-10 to R-6 zoning. A subdivision is proposed under the R-6 zoning that would accommodate 28 lots for construction of single-family homes.
2. Based on trip generation for the proposed development, the new subdivision could result in up to 20 additional trips during the morning peak hour, with 5 entering and 15 exiting the site. During the evening peak hour, 27 additional site trips are projected, with 17 entering and 10 exiting the site.
3. The operational analysis shows that the study area intersections are projected to meet the relevant operational standards of Oregon City under year 2019 (build out) and 2037 (planning horizon) traffic conditions either with or without the addition of site trips from the proposed subdivision.
4. Since all study area intersections will operate acceptably through the planning horizon either with or without the proposed rezone and development, the Transportation Planning Rule is satisfied, and the proposed zone change does not significantly affect the transportation system.

Introduction

A 6.32-acre property south and west of S Leland Road between S McCord Road and S Jessie Avenue is proposed for annexation into the City of Oregon City. Upon annexation, the property will be rezoned to R-6 zoning for the purpose of developing a subdivision, in conformance with the city's Comprehensive Plan.

The purpose of this study is to assess the potential impacts of the proposed annexation and address the transportation analysis requirements of Oregon City, the Oregon Department of Transportation (ODOT), and Oregon's Transportation Planning Rule. The report will identify the potential net increase in traffic and examine the transportation impacts of the added trips at the planning horizon. The report will include level of service calculations and volume-to-capacity calculations for existing conditions as well as year 2037 traffic conditions both with and without the proposed annexation. The analysis will also include a detailed examination of crash history at the study intersections.

This report addresses the impacts of the proposed project on the traffic and transportation conditions in the vicinity of the project site. The report includes safety and capacity analyses at three intersections:

- Leland Road at S McCord Road
- Leland Road at Lindsay Anne Lane
- Leland Road at the proposed site access

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 mitigations that might be necessary to do so.

Detailed information on traffic counts, crash data, and level of service calculations are included in the appendix to this report.

Location Description

The proposed development is in the southern part of Oregon City on the southwest side of Leland Road. Access to Leland Road will be available via a planned new roadway to be named Miller Road that intersects Leland Road approximately 330 feet northwest of its intersection with Lindsay Anne Lane. Further access will be provided by extensions to Cherrywood Way and Cedarwood Way. The configuration of these new streets is shown in the site plan in the appendix. In addition, lots 1 & 2 on the proposed site plan are proposed to take access directly to Leland Road. Based on preliminary conversations with the City of Oregon City, it is understood that these two driveways may need to share a common curb cut and be coordinated with Clackamas County. The final configuration of these driveways will be examined in further detail at the time of subdivision plan review.

Leland Road is classified as a Minor Arterial in the Oregon City Transportation System Plan. It is a two-lane facility with a posted speed limit of 35 mph. There are no bike lanes or sidewalks along Leland Road in the

vicinity of the site, although sidewalks and bike lanes exist on the more developed parts of Leland Road north of the project site.

A vicinity map showing the project site and the study area intersections is shown in Figure 1 on page 4.

Study Intersections

McCord Road, which is classified as a collector, intersects Leland Road northwest of the subject site. The intersection is three-legged, and controlled with a stop sign along McCord Road, which approaches the intersection from the southwest. Leland Road bends 90 degrees at the intersection, and so approaches the intersection from the southeast and northeast. There are no sidewalks or marked crosswalks, and each approach has one lane for all movements.

Lindsay Anne Lane, which is classified as a Local Road, creates a three-legged intersection with Leland Road. The northeast bound approach of Lindsay Anne Lane is stop controlled at the through road of Leland Road running southeast. There is an unmarked intersection available at the intersection across the Lindsay Anne Lane approach. Along this section of Leland Road there is on-street parking available on the southwest side of the road.

The proposed primary site access at Leland Road will occur along the new Miller Road. Miller Road will be classified as a Local Road and will create a three-legged intersection with Leland Road. The northeast bound approach of Miller Road will be stop controlled, while Leland Road will be a through movement in both directions. Each leg of the intersection will have one lane for all turning movements. Sidewalks and unmarked pedestrian crossings will be available along the length of Miller Road in the site vicinity.

Existing Traffic Volumes

To determine existing traffic volumes at the study intersections, traffic counts were conducted on Tuesday, April 18, 2017. Traffic was counted from 7:00 to 9:00 AM to obtain data for the morning peak hour and from 4:00 to 6:00 PM to obtain data for the evening peak hour. These existing volumes are shown in Figure 2 on page 5. The raw data is provided in the technical appendix.

Transit

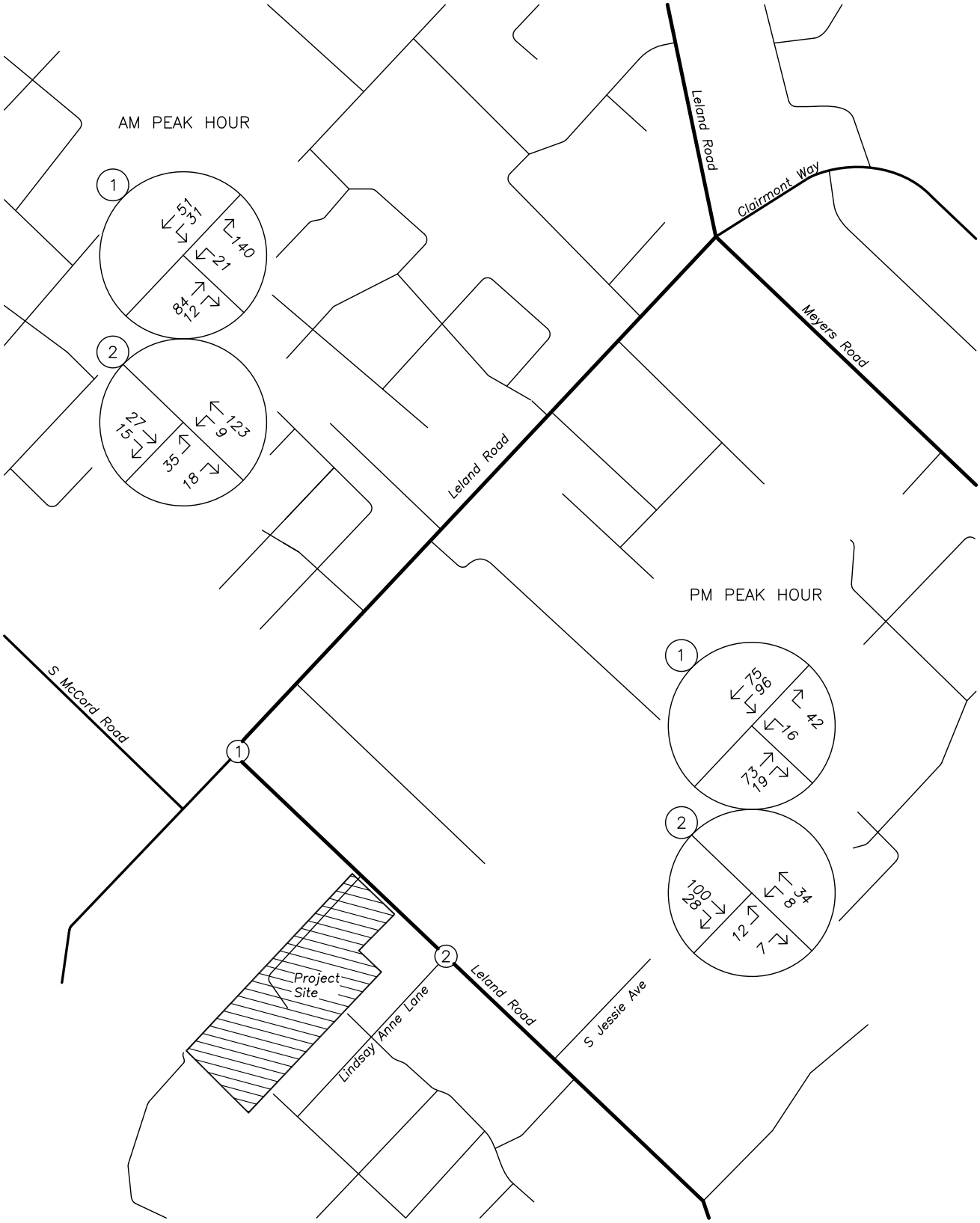
There are no public transit facilities in the site vicinity. The nearest bus facilities run along Warner Milne Road, Molalla Avenue, and Highway 99E.

VICINITY MAP

no scale

FIGURE 1

PAGE 4



TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours

no scale

FIGURE 2

PAGE 5

Site Trips

Trip Generation

To estimate the number of trips that will be generated by the proposed development, trip rates from the manual *TRIP GENERATION*[1] were used. The data utilized are for *Single-Family Detached Housing,* which is based on the number of dwelling units. The trip generation was calculated for the 28 single-family homes.

The trip generation calculations show that the proposed development is projected to result in a total of 20 additional trips during the morning peak hour and 27 additional trips during the evening peak hour. The development will generate 256 new trips each weekday. The trip generation estimates are summarized in Table 1 and detailed trip generation calculations are included in the technical appendix to this report.

Table 1: Trip Generation Calculations: Proposed Subdivision

	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									
Proposed Development	210	28 units	5	16	21	18	10	28	266
Existing House	210	1 unit	0	1	1	1	0	1	10
Potential Net Increase in Trips		**27 units**	**5**	**15**	**20**	**17**	**10**	**27**	**256**

Because a change in zoning is proposed for the site, a comparison of the reasonable worst-case development potential under both the R-10 zoning currently proposed for future development in the Oregon City TSP and the proposed R-6 zoning. Under the R-10 zoning, a total of 17 single-family dwelling units could be constructed. Under the proposed R-6 zoning, a total of 28 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.

Table 2: Trip Generation Comparison: Worst-Case Development

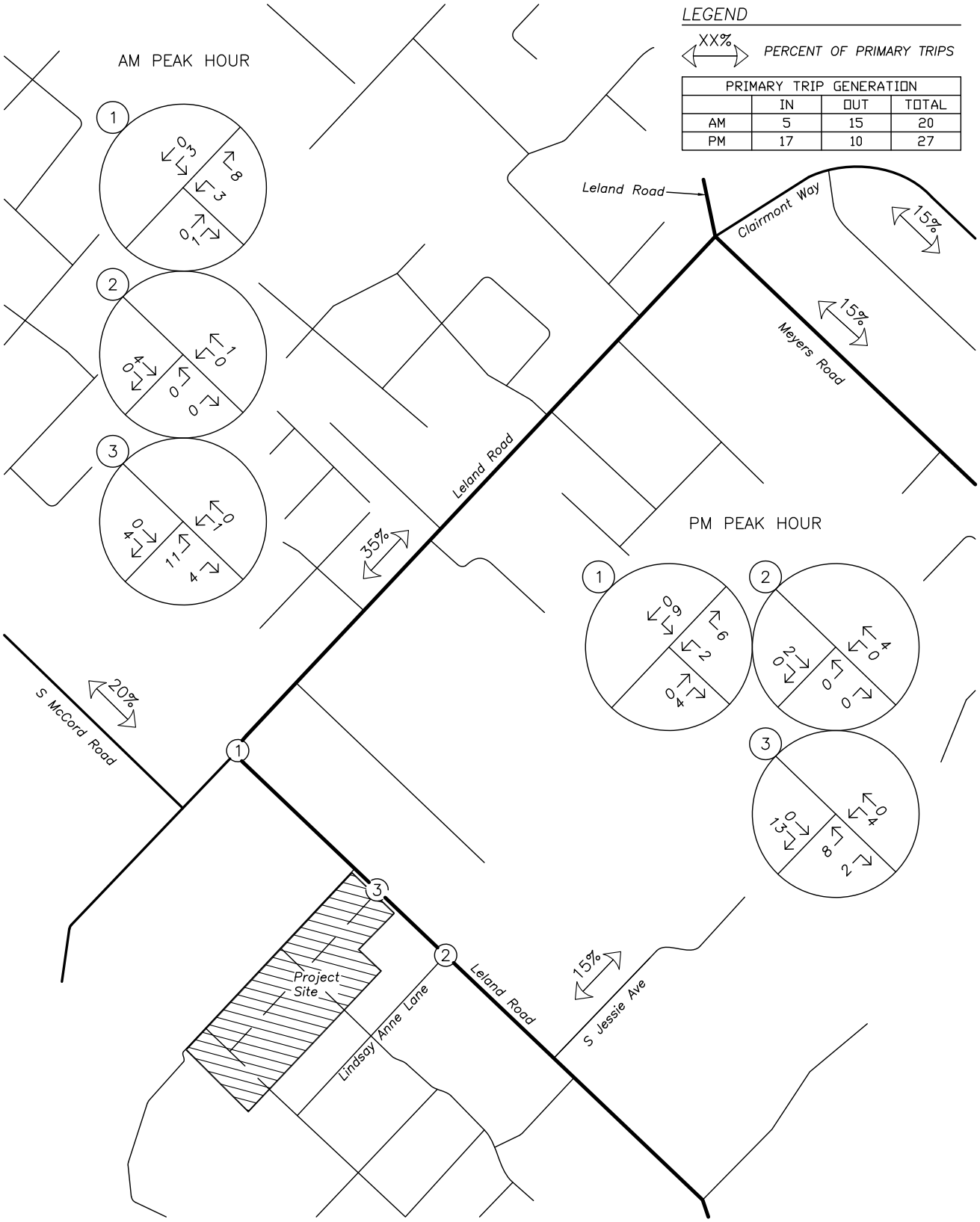
	ITE Code	Size	Morning Peak Hour In	Morning Peak Hour Out	Morning Peak Hour Total	Evening Peak Hour In	Evening Peak Hour Out	Evening Peak Hour Total	Weekday Total
Single-Family Detached Housing									
R-6 Zoning Potential	210	28 units	5	16	21	18	10	28	266
R-10 Zoning Potential	210	17 units	3	10	13	11	6	17	162
Potential Net Increase in Trips		**11 units**	**2**	**6**	**8**	**7**	**4**	**11**	**104**

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION, 9th Edition,* 2012.

Trip Distribution and Assignment

It is expected that 20% of site trips will utilize McCord Road to access Central Point Road and other connections and destinations to the west of the site. It is expected that 35% of all site trips will arrive from and depart toward the north along Leland Road in the direction of downtown Oregon City, 15% will arrive from and depart toward the northeast along Clairmont Way, and 15% will arrive from and depart toward the northeast along Meyers Road. Another 15% of all site trips will arrive from and depart toward the southeast along Meyers Road by utilizing Jessie Avenue/Frontier Way.

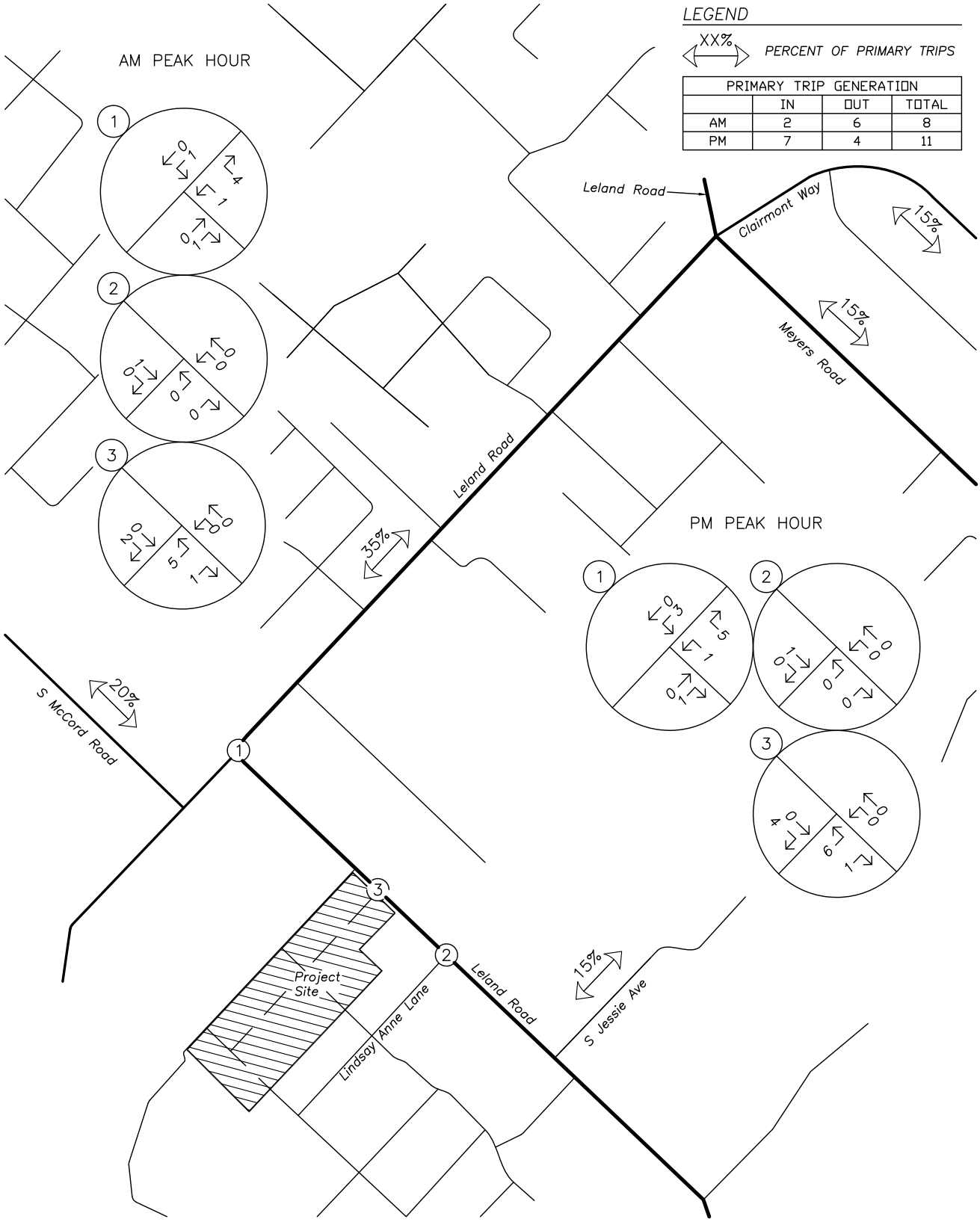
Figure 3 on page 8 shows the trip assignment for site trips generated by the proposed 28-lot development along with the trip distribution assumptions. Figure 4 on page 9 shows the net increase in trips from the zone change.



SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
AM & PM Peak Hours

no scale

FIGURE 3



SITE TRIP DISTRIBUTION & ASSIGNMENT
Net Increase in Trips from Zone Change
AM & PM Peak Hour

no scale

FIGURE 4

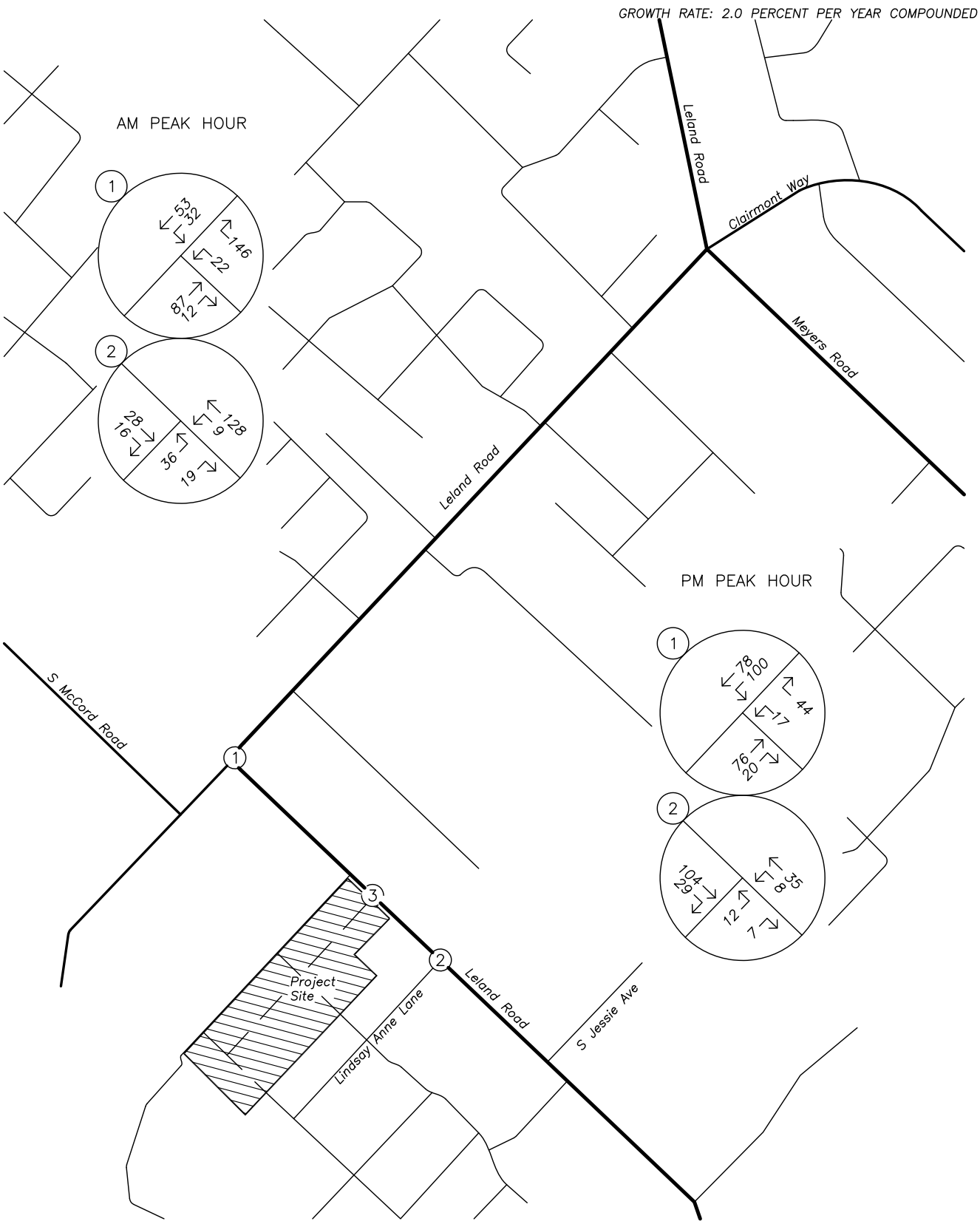
PAGE 9

Operational Analysis

Background Traffic Volumes

To gauge the effect on the proposed development relative to a *no-build* scenario, background volumes were calculated assuming a two-year build-out period and a 2% year-over-year growth in traffic volumes. The 2019 background conditions are represented in Figure 6 on page 12, while the 2019 background plus site trips conditions are represented in Figure 6 on page 12.

Since the proposed project includes a change in zoning, an analysis of conditions at the planning horizon is also required. To estimate growth during the 20-year planning period, the same 2% year-over-year growth assumption was used to estimate 2037 conditions. The 2037 background conditions are represented in Figure 7 on page 13, and the 2037 background plus the net increase in trips conditions are represented in Figure 8 on page 14.

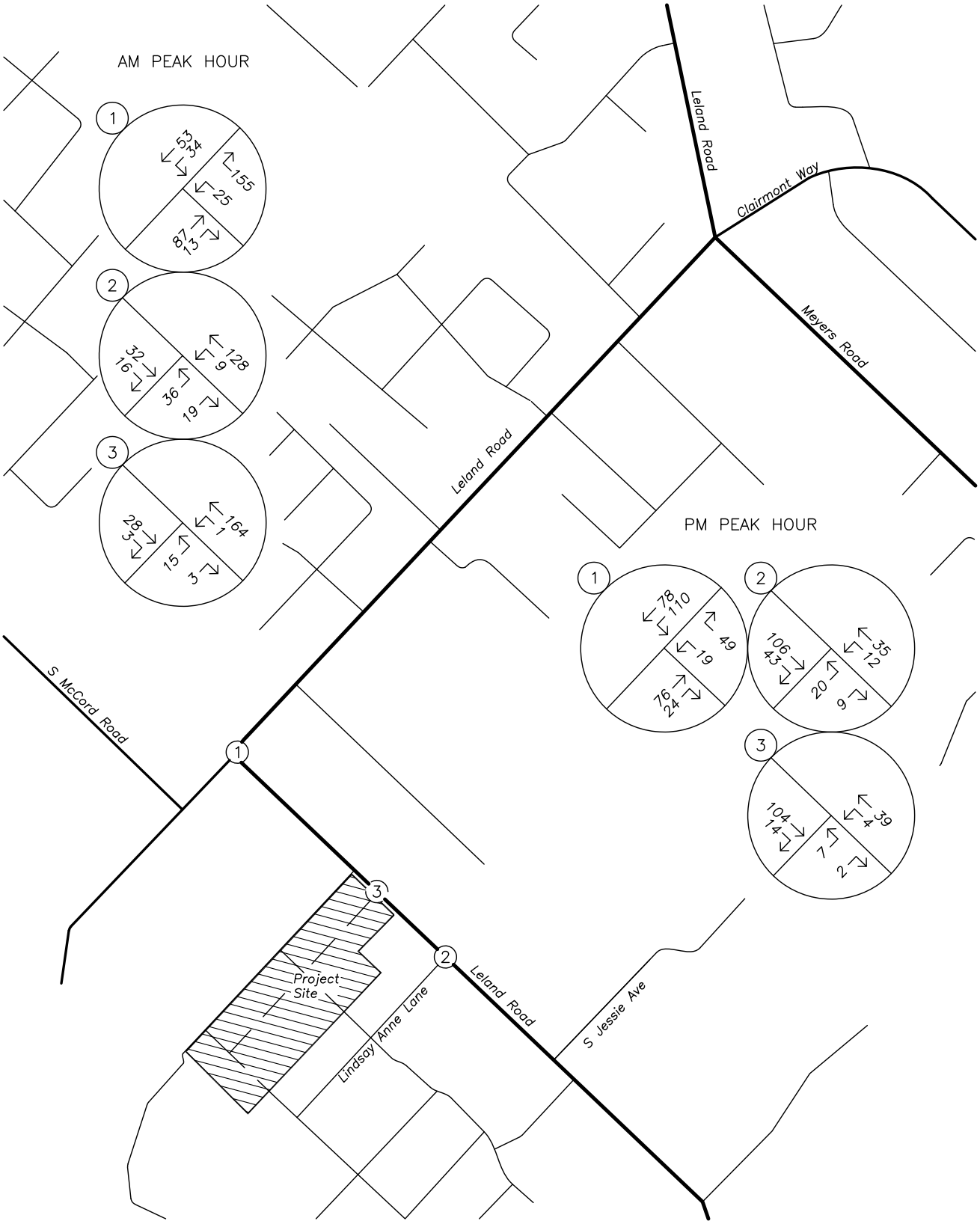


TRAFFIC VOLUMES
Year 2019 Background Conditions
AM & PM Peak Hours

no scale

FIGURE 5

PAGE 11

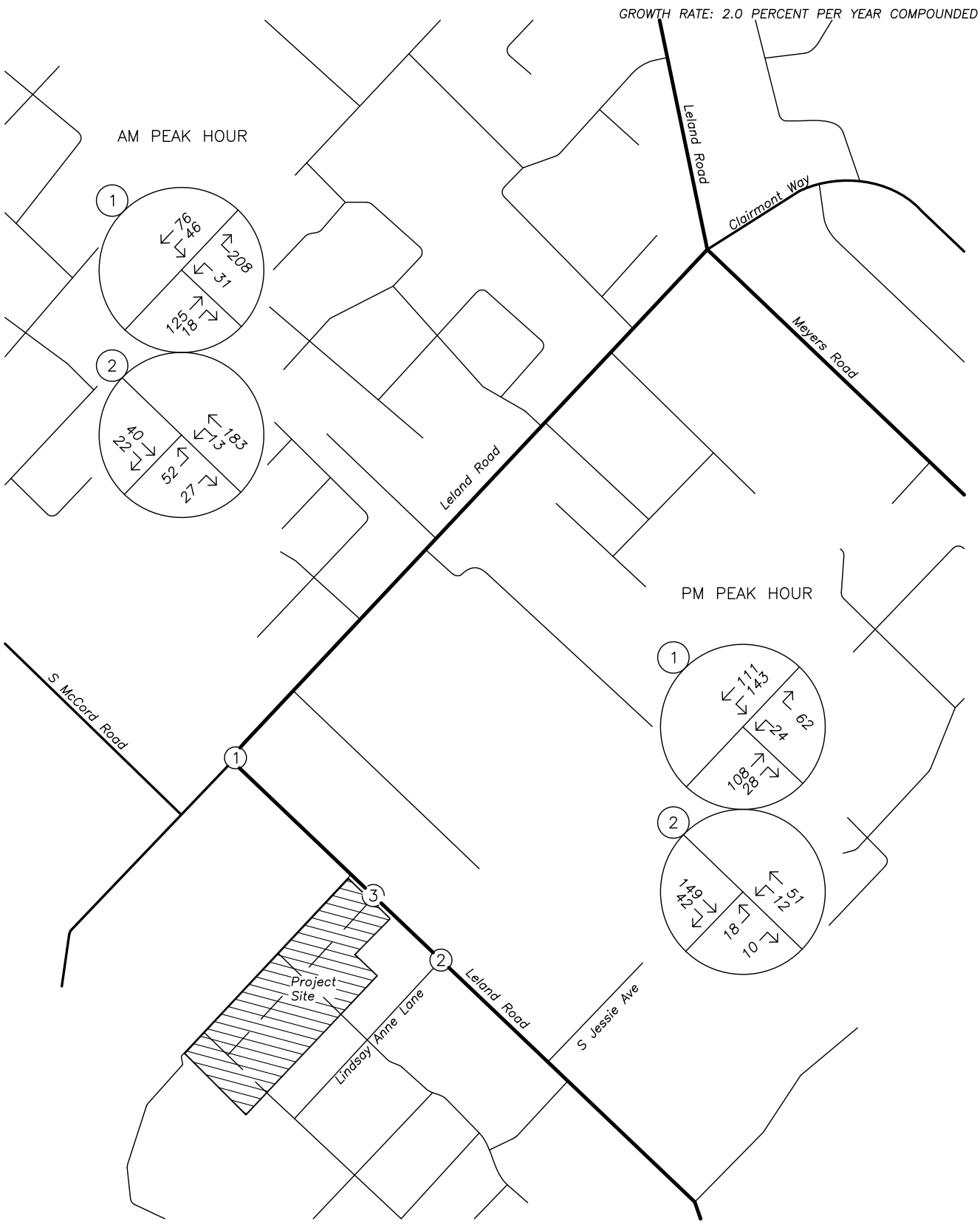


TRAFFIC VOLUMES
Year 2019 Background plus Site Trips
AM & PM Peak Hours

no scale

FIGURE 6

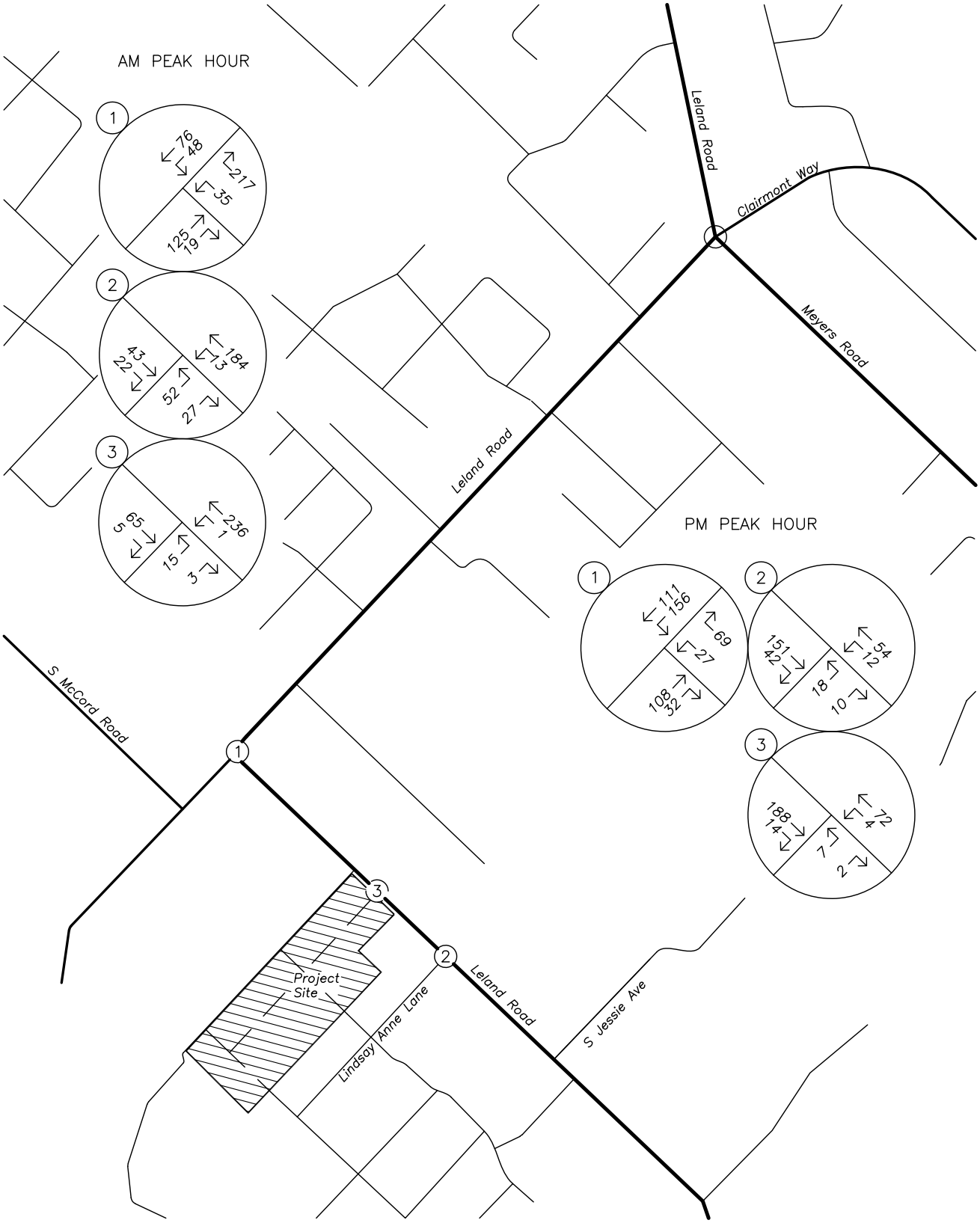
PAGE 12



TRAFFIC VOLUMES
Year 2037 Background Conditions
AM & PM Peak Hour

no scale

FIGURE 7



TRAFFIC VOLUMES
Year 2037 Existing plus Site Trips
AM & PM Peak Hours

no scale

FIGURE 8

Capacity Analysis

To determine the capacity and level-of-service at the study intersections, a capacity analysis was conducted. The analysis was conducted using the intersection analysis methodologies in the *Highway Capacity Manual (HCM)*[2]. Level-of-service (LOS) can range from A, which indicates little or no delay, to F, which indicates a significant amount of congestion and delay. Oregon City's operational standards require LOS D or better at both signalized and unsignalized intersections. Detailed LOS descriptions are included in the appendix to this report.

The results of the capacity analysis show that the intersection of Leland Road at McCord Road is currently operating at LOS A during both the morning and evening peak hours. Following the background growth and the addition of new trips from the proposed development, the intersection will continue to operate at LOS A during both peak hours.

The results of the capacity analysis show that the intersection of Leland Road at Lindsay Anne Lane is currently operating at LOS A during the morning and evening peak hours. Following the background growth and the addition of new trips from the proposed development, the intersection will continue to operate at LOS A during both peak hours.

The addition of site trips will not change the level of service of any study area intersection, which conforms to the operational standards outlined in the Oregon City TSP. As such, no mitigations are recommended.

Table 3 shows a summary of the capacity and level-of-service calculations at the study intersections under each of the scenarios examined. Detailed capacity analysis results are included in the appendix to this report.

[2] Transportation Research Board, *Highway Capacity Manual,* 4th Edition, 2000.

Table 3: Intersection Capacity and LOS Summary

	Morning Peak Hour		Evening Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)
Leland Road at McCord Road				
Existing Conditions	A	9	A	9
2019 Background Conditions	A	9	A	9
2019 Background + Site Conditions	A	9	A	9
2037 Background Conditions	A	9	A	10
2037 Background + Site Conditions	A	9	A	10
Leland Road at Lindsay Anne Lane				
Existing Conditions	A	10	A	9
2019 Background Conditions	A	10	A	9
2019 Background + Site Conditions	A	10	A	10
2037 Background Conditions	B	10	A	10
2037 Background + Site Conditions	B	10	B	10
Leland Road at Site Access				
2019 Background + Site Conditions	A	9	A	9
2037 Background + Site Conditions	B	10	B	10

Safety Analysis

Sight Distance

The planned development will take access to the existing street system via the intersection of Leland Road at Miller Road, a new public intersection. To ensure that this intersection can operate safely and efficiently, sight distance measurements were taken according to guidelines specified in *A Policy on Geometric Design of Highways and Streets*[3]. The measurements use driver's eye heights of 3.5 feet above the road for both vehicles exiting the driveway and vehicles on the main roadway, with the driver's eye 14.5 feet behind the edge of the near-side travel lane. The intersection sight distance necessary (ISD) at the driveways is based on the speed of traffic on Leland Road, and represents the sight distance needed such that traffic would not have to slow down excessively on Leland Road to accommodate vehicles entering the roadway from the driveways.

The proposed development will also have two lots taking direct access to Leland Road. During review of the application for the development that includes the access road, Clackamas County identified a necessary ISD of 445 feet at any site access to, and based upon the travel speeds along, Leland Road. Following construction of the site access as planned, the line of site available will exceed the required 445 feet. Exhibits showing the available lines of site at the access along with the grade of Leland Road in both directions are shown in the appendix.

Crash History

Using data obtained from ODOT's Crash Data System, a review of the most recent available five years of crash history (2011-2015) at the study intersections was performed. Crash rates were calculated under the common assumption that traffic counted during the PM peak period represents 10% of annual average daily traffic (AADT) at the intersection.

There were no reported crashes at the intersections of Leland Road at McCord Road and Leland Road at Lindsay Anne Lane during the analysis period.

Crash rates greater than 1.0 CMEV are generally indicative of a need for further investigation and possible mitigation. Since both study intersections have a crash rate well below this threshold, with one of the study intersections having no reported crashes during the analysis period, there are no apparent safety deficiencies at any study intersection, and on-site observations and available data suggest that all intersections will continue to operate safely in the future.

Detailed crash reports for the study intersections are included in the appendix to this report.

[3] American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.

Jessie Avenue & Frontier Parkway Traffic

The 15% of all site trips expected to arrive from and depart to the southeast along Meyers Road can do so by utilizing either of two routes: connecting directly to Meyers Road via Leland Road, or utilizing Jessie Avenue / Frontier Parkway. Jessie Avenue intersects Leland Road southeast of the site access, and becomes Frontier Parkway before intersecting with Meyers Road northeast of the intersection of Leland Road at Jessie Avenue. Both Jessie Avenue and Frontier Parkway are classified as Local Streets by Oregon City's Transportation System Plan.

The Jessie Avenue/Frontier Parkway route provides a more direct connection to traffic arriving from and departing to the southeast along Meyers, reducing the total travel distance by approximately 2,200 feet. However, the slower speed limits, culture, geometry and traffic-calming features of Jessie Avenue and Frontier Parkway serve to increase travel times and reduce cut-through traffic to Meyers Road along this route. Assuming that drivers travel at the legal speed limits on each road (except when slowing and stopping), the route utilizing Jessie Avenue and Frontier Parkway would result in a negligible difference in travel time. However, Jessie Avenue and Frontier Parkway have traffic calming measures including several horizontal curves and two speed humps, likely limiting average speeds to below the legal speed limit. While the average total travel time is expected to be similar along both routes, the Jessie Avenue/Frontier Parkway route will have a greater variation in control delay due to the fact that it is controlled by two-way (rather than four way) stop signs. Thus, travel times are likely to be more reliable along the Leland Road route.

Based on the geometry and travel speeds, it is anticipated that three site trips will utilize Jessie Avenue/Frontier Parkway during the morning peak hour, and four site trips will utilize this route during the evening peak hour.

As described above, Jessie Avenue and Frontier Way feature traffic calming, so the small number of new trips added to these roads would be expected to travel at safe and reasonable streets. Further, since the subject site is very close to these roads, these trips are local trips which is consistent with the classification of the streets.

The proposed development is not projected to adversely affect the safety, culture, or operation of Jessie Avenue or Frontier Parkway, and no mitigations are needed or 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 even with the addition of the net increase in trips from the zone change, all study area intersections will operate acceptably through the planning horizon.

The TPR is satisfied, since the proposed zone change does not significantly affect the transportation system.

Conclusions

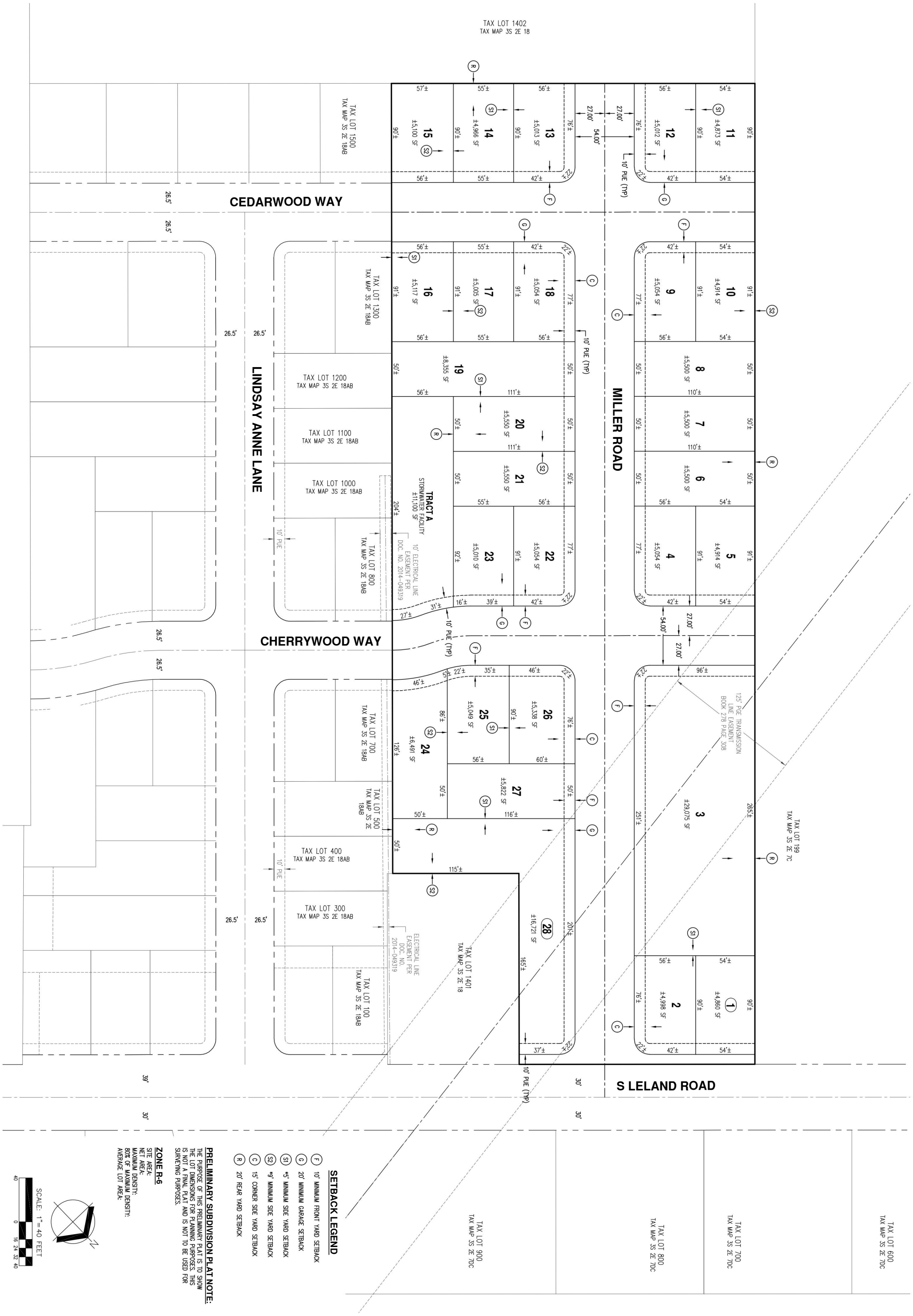
A 28-lot development is proposed at tax lot #1400, on the south side of Leland Road between the intersections with McCord Road and Lindsay Anne Lane in Oregon City, Oregon. When fully built-out, the development will generate 20 new trips during the morning peak hour, and 27 new trips during the evening peak hour.

The intersections of Leland Road at McCord Road, Leland Road at Lindsay Anne Lane, and the planned intersection of Leland Road at the proposed site access between Lindsay Anne Lane and McCord Road, and other facilities in the vicinity were found to have ample capacity to support the proposed development. No safety deficiencies were identified within the nearby transportation system, and none arise as a result of the proposed development.

The Transportation Planning Rule was analyzed and found to be satisfied, as the proposed zone change does not significantly affect the transportation system. The Oregon City Transportation System Plan accounts for growth as developments zoned FU-10 are rezoned for development.

The transportation system in the vicinity of the subject site can safely and efficiently accommodate the proposed development. No mitigations are needed or recommended.

Appendix



SETBACK LEGEND

- (F) 10' MINIMUM FRONT YARD SETBACK
- (G) 20' MINIMUM GARAGE SETBACK
- (S1) *5' MINIMUM SIDE YARD SETBACK
- (S2) *9' MINIMUM SIDE YARD SETBACK
- (C) 15' CORNER SIDE YARD SETBACK
- (R) 20' REAR YARD SETBACK

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-6
SITE AREA:
NET AREA:
MAXIMUM DENSITY:
80% OF MAXIMUM DENSITY:
AVERAGE LOT AREA:

SCALE: 1" = 40 FEET
40 0 16 24 32 40

PRELIMINARY SUBDIVISION PLAT

LELAND ROAD SUBDIVISION

OREGON CITY OREGON

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

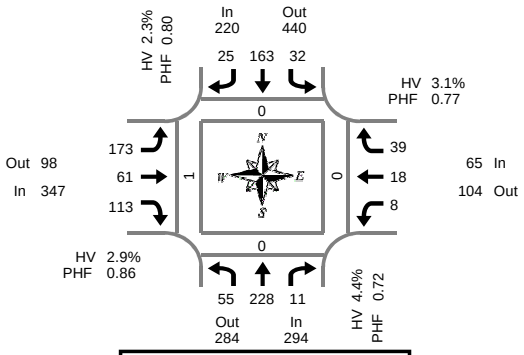
DESIGNED BY: VAN
DRAWN BY: NMC
CHECKED BY:
SCALE: AS NOTED
DATE: 07/11/2017

REVISIONS

JOB NUMBER 5837
SHEET ####

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Leland Rd & Clairmont Way

Tuesday, April 18, 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 Clairmont Way				Westbound Clairmont 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	1	10	1	0	0	4	2	0	4	5	8	0	0	2	2	0	39	0	0	0	0
7:05 AM	4	8	0	0	4	10	0	0	10	7	9	0	2	2	6	0	62	0	0	0	0
7:10 AM	3	10	1	0	2	12	2	0	16	3	11	0	2	1	1	0	64	0	0	0	0
7:15 AM	3	12	0	0	1	14	0	0	10	6	13	0	1	1	5	0	66	0	0	0	0
7:20 AM	1	21	0	0	1	14	3	0	19	4	7	0	1	3	4	0	78	0	0	0	0
7:25 AM	6	14	0	0	3	18	0	0	17	2	12	0	0	0	1	0	73	0	0	0	0
7:30 AM	3	22	0	0	2	21	2	0	9	2	11	0	0	4	2	0	78	0	0	0	0
7:35 AM	5	22	1	0	2	13	7	0	25	6	11	0	0	0	3	0	95	0	0	0	1
7:40 AM	3	25	1	0	5	14	3	0	18	4	12	0	0	1	4	0	90	0	0	0	0
7:45 AM	9	21	4	0	6	9	1	0	17	2	6	0	1	1	6	0	83	0	0	0	0
7:50 AM	5	25	1	0	4	15	3	0	11	6	5	0	0	1	1	0	77	0	0	0	0
7:55 AM	8	27	2	0	1	14	2	0	10	11	9	0	0	2	1	0	87	0	0	0	0
8:00 AM	5	21	1	0	1	9	2	0	11	8	7	0	1	2	5	0	73	0	0	0	0
8:05 AM	2	25	0	0	2	9	0	0	7	5	5	0	0	3	2	0	60	0	0	0	0
8:10 AM	6	28	0	0	0	4	1	0	4	3	3	0	0	1	4	0	54	0	0	0	0
8:15 AM	2	17	0	0	5	11	3	0	13	5	3	0	0	1	2	0	62	0	0	0	0
8:20 AM	3	21	1	0	1	9	3	0	6	3	3	0	0	3	4	1	57	0	0	0	0
8:25 AM	3	18	0	0	3	7	1	0	7	2	2	0	0	3	3	0	49	0	0	0	0
8:30 AM	2	9	1	0	2	18	3	0	10	5	5	0	0	3	2	0	60	0	0	0	0
8:35 AM	4	11	0	0	0	13	1	0	9	3	2	0	0	4	3	0	50	0	0	0	0
8:40 AM	1	23	0	0	0	9	3	0	6	3	6	0	1	4	0	0	56	0	0	0	0
8:45 AM	3	18	1	0	0	15	4	0	3	2	6	0	0	4	5	0	61	0	0	0	0
8:50 AM	1	18	0	0	5	8	2	0	7	4	3	0	0	3	1	0	52	0	0	0	0
8:55 AM	4	9	0	0	2	8	2	0	4	2	4	0	0	6	3	0	44	0	0	0	0
Total Survey	87	435	15	0	52	278	50	0	253	103	163	0	9	55	70	1	1,570	0	0	0	1

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	8	28	2	0	6	26	4	0	30	15	28	0	4	5	9	0	165	0	0	0	0
7:15 AM	10	47	0	0	5	46	3	0	46	12	32	0	2	4	10	0	217	0	0	0	0
7:30 AM	11	69	2	0	9	48	12	0	52	12	34	0	0	5	9	0	263	0	0	0	1
7:45 AM	22	73	7	0	11	38	6	0	38	19	20	0	1	4	8	0	247	0	0	0	0
8:00 AM	13	74	1	0	3	22	3	0	22	16	15	0	1	6	11	0	187	0	0	0	0
8:15 AM	8	56	1	0	9	27	7	0	26	10	8	0	0	7	9	1	168	0	0	0	0
8:30 AM	7	43	1	0	2	40	7	0	25	11	13	0	1	11	5	0	166	0	0	0	0
8:45 AM	8	45	1	0	7	31	8	0	14	8	13	0	0	13	9	0	157	0	0	0	0
Total Survey	87	435	15	0	52	278	50	0	253	103	163	0	9	55	70	1	1,570	0	0	0	1

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	294	284	578	0	220	440	660	0	347	98	445	0	65	104	169	0	926	0	0	0	1
%HV	4.4%				2.3%				2.9%				3.1%				3.2%				
PHF	0.72				0.80				0.86				0.77				0.86				

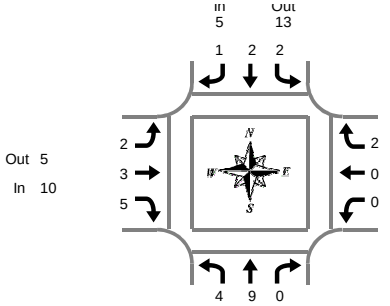
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	55	228	11	294	32	163	25	220	173	61	113	347	8	18	39	65	926
%HV	7.3%	3.9%	0.0%	4.4%	6.3%	1.2%	4.0%	2.3%	1.2%	4.9%	4.4%	2.9%	0.0%	0.0%	5.1%	3.1%	3.2%
PHF	0.63	0.78	0.39	0.72	0.53	0.77	0.52	0.80	0.72	0.61	0.83	0.86	0.40	0.64	0.75	0.77	0.86

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	51	217	11	0	31	158	25	0	166	58	114	0	7	18	36	0	892	0	0	0	1
7:15 AM	56	263	10	0	28	154	24	0	158	59	101	0	4	19	38	0	914	0	0	0	1
7:30 AM	54	272	11	0	32	135	28	0	138	57	77	0	2	22	37	1	865	0	0	0	1
7:45 AM	50	246	10	0	25	127	23	0	111	56	56	0	3	28	33	1	768	0	0	0	0
8:00 AM	36	218	4	0	21	120	25	0	87	45	49	0	2	37	34	1	678	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Clairmont Way

Tuesday, April 18, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	0	0	0	0	0	0	0	0	0	1	0	1	2
7:05 AM	1	0	0	1	1	0	0	1	0	1	0	1	0	0	0	0	3
7:10 AM	0	3	0	3	0	0	0	0	1	0	0	1	0	0	0	0	4
7:15 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
7:20 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:25 AM	1	1	0	2	1	0	0	1	0	0	1	1	0	0	0	0	4
7:30 AM	0	1	0	1	0	1	0	1	1	0	2	3	0	0	0	0	5
7:35 AM	0	0	0	0	0	0	1	1	0	1	1	2	0	0	1	1	4
7:40 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
7:45 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
7:50 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:55 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	1	0	1	4
8:10 AM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	1	1	0	2	0	0	1	1	0	1	1	2	0	0	0	0	5
8:20 AM	1	2	0	3	0	1	0	1	0	0	0	0	0	0	1	1	5
8:25 AM	1	1	0	2	0	1	0	1	1	0	0	1	0	0	1	1	5
8:30 AM	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	3
8:35 AM	0	0	0	0	0	5	0	5	1	0	1	2	0	0	0	0	7
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	1	2	0	2	1	3	0	0	0	0	0	0	0	0	5
8:50 AM	0	2	0	2	0	1	1	2	0	0	0	0	0	0	0	0	4
8:55 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	2
Total Survey	9	19	1	29	2	16	4	22	4	5	8	17	0	2	4	6	74

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	4	0	5	1	0	0	1	1	1	0	2	0	1	0	1	9
7:15 AM	1	3	0	4	1	0	0	1	0	0	2	2	0	0	0	0	7
7:30 AM	0	1	0	1	0	1	1	2	1	2	3	6	0	0	2	2	11
7:45 AM	2	2	0	4	0	1	0	1	0	0	0	0	0	0	0	0	5
8:00 AM	2	2	0	4	0	1	0	1	0	0	0	0	0	1	0	1	6
8:15 AM	3	4	0	7	0	2	1	3	1	1	1	3	0	0	2	2	15
8:30 AM	0	0	0	0	0	7	0	7	1	1	1	3	0	0	0	0	10
8:45 AM	0	3	1	4	0	4	2	6	0	0	1	1	0	0	0	0	11
Total Survey	9	19	1	29	2	16	4	22	4	5	8	17	0	2	4	6	74

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Clairmont Way			Westbound Clairmont Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	13	7	20	5	13	18	10	5	15	2	5	7	30
PHF	0.65			0.42			0.42			0.25			0.58

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	9	0	13	2	2	1	5	2	3	5	10	0	0	2	2	30
PHF	0.50	0.45	0.00	0.65	0.50	0.50	0.25	0.42	0.50	0.38	0.31	0.42	0.00	0.00	0.25	0.25	0.58

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

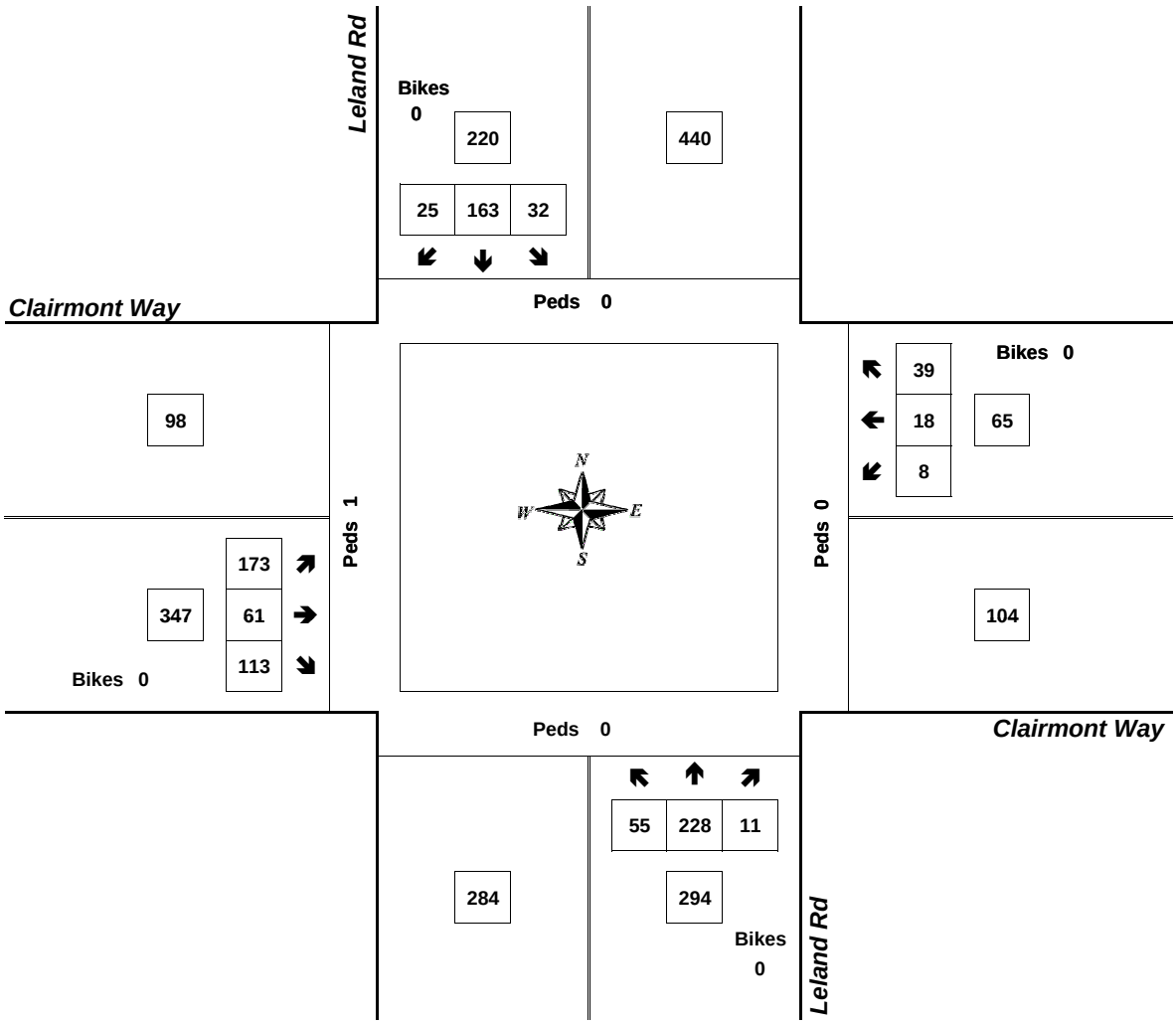
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	4	10	0	14	2	2	1	5	2	3	5	10	0	1	2	3	32
7:15 AM	5	8	0	13	1	3	1	5	1	2	5	8	0	1	2	3	29
7:30 AM	7	9	0	16	0	5	2	7	2	3	4	9	0	1	4	5	37
7:45 AM	7	8	0	15	0	11	1	12	2	2	2	6	0	1	2	3	36
8:00 AM	5	9	1	15	0	14	3	17	2	2	3	7	0	1	2	3	42

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leland Rd & Clairmont Way

7:05 AM to 8:05 AM
Tuesday, April 18, 2017

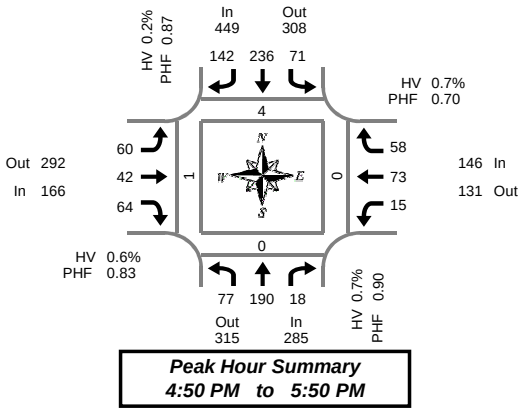


Approach	PHF	HV%	Volume
EB	0.86	2.9%	347
WB	0.77	3.1%	65
NB	0.72	4.4%	294
SB	0.80	2.3%	220
Intersection	0.86	3.2%	926

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
4:50 PM to 5:50 PM

Leland Rd & Clairmont Way

Tuesday, April 18, 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 Clairmont Way				Westbound Clairmont 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	5	11	1	0	4	19	5	0	1	5	2	0	2	6	3	0	64	0	0	0	0
4:05 PM	16	10	1	0	6	18	6	0	3	4	2	0	0	6	3	0	75	0	0	0	0
4:10 PM	2	10	1	0	6	16	2	0	9	10	4	0	1	8	6	0	75	0	0	0	0
4:15 PM	3	14	3	0	7	14	6	0	3	6	3	0	1	12	3	1	75	0	0	0	0
4:20 PM	6	14	0	0	2	18	14	0	5	7	9	0	1	3	4	0	83	0	0	0	0
4:25 PM	4	15	0	0	7	15	4	0	3	3	7	0	1	6	3	0	68	2	0	0	0
4:30 PM	9	12	1	0	3	21	7	0	4	3	6	0	0	12	5	0	83	0	0	0	0
4:35 PM	7	17	1	0	6	23	14	0	4	5	14	0	1	5	5	0	102	0	0	0	0
4:40 PM	5	9	2	0	7	13	10	0	1	6	1	0	0	3	6	0	63	0	0	0	0
4:45 PM	3	18	0	0	7	17	14	0	6	5	6	0	0	10	6	0	92	0	0	0	0
4:50 PM	7	15	1	0	5	14	9	0	6	3	6	0	2	8	2	0	78	0	0	0	0
4:55 PM	6	21	2	0	6	16	17	0	4	4	3	0	2	3	11	0	95	0	0	0	1
5:00 PM	9	16	0	0	3	15	12	0	3	2	5	0	2	4	9	0	80	0	0	0	0
5:05 PM	4	17	0	0	6	15	8	0	6	3	4	0	1	12	8	0	84	0	0	0	0
5:10 PM	6	21	2	0	4	25	9	0	3	2	12	0	0	7	3	0	94	0	0	0	0
5:15 PM	15	11	3	0	11	23	11	0	4	5	6	0	0	1	6	0	96	1	0	0	0
5:20 PM	3	14	2	0	5	28	13	0	8	3	4	0	1	3	4	0	88	0	0	0	0
5:25 PM	6	15	0	0	5	17	12	0	8	2	1	0	1	4	3	0	74	0	0	0	0
5:30 PM	5	11	3	0	8	21	11	0	3	1	5	0	2	10	1	0	81	0	0	0	0
5:35 PM	4	14	2	0	4	17	19	0	3	4	3	0	2	6	1	0	79	0	0	0	0
5:40 PM	8	17	1	0	3	28	10	0	3	5	10	0	0	8	5	0	98	0	0	0	0
5:45 PM	4	18	2	0	11	17	11	0	9	8	5	0	2	7	5	0	99	3	0	0	0
5:50 PM	2	12	1	0	4	22	7	0	6	4	3	0	0	7	3	0	71	0	1	0	0
5:55 PM	11	16	4	0	5	18	4	0	5	3	9	0	1	6	7	0	89	0	0	0	0
Total Survey	150	348	33	0	135	450	235	0	110	103	130	0	23	157	112	1	1,986	6	1	0	1

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	23	31	3	0	16	53	13	0	13	19	8	0	3	20	12	0	214	0	0	0	0
4:15 PM	13	43	3	0	16	47	24	0	11	16	19	0	3	21	10	1	226	2	0	0	0
4:30 PM	21	38	4	0	16	57	31	0	9	14	21	0	1	20	16	0	248	0	0	0	0
4:45 PM	16	54	3	0	18	47	40	0	16	12	15	0	4	21	19	0	265	0	0	0	1
5:00 PM	19	54	2	0	13	55	29	0	12	7	21	0	3	23	20	0	258	0	0	0	0
5:15 PM	24	40	5	0	21	68	36	0	20	10	11	0	2	8	13	0	258	1	0	0	0
5:30 PM	17	42	6	0	15	66	40	0	9	10	18	0	4	24	7	0	258	0	0	0	0
5:45 PM	17	46	7	0	20	57	22	0	20	15	17	0	3	20	15	0	259	3	1	0	0
Total Survey	150	348	33	0	135	450	235	0	110	103	130	0	23	157	112	1	1,986	6	1	0	1

Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	285	315	600	0	449	308	757	0	166	292	458	0	146	131	277	0	1,046	4	0	0	1
%HV	0.7%				0.2%				0.6%				0.7%				0.5%				
PHF	0.90				0.87				0.83				0.70				0.94				

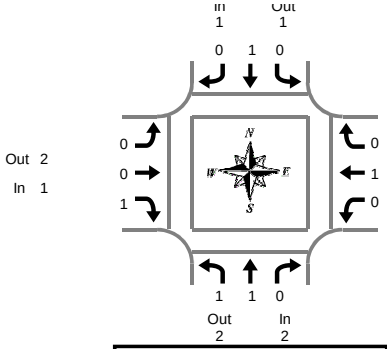
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	77	190	18	285	71	236	142	449	60	42	64	166	15	73	58	146	1,046
%HV	1.3%	0.5%	0.0%	0.7%	0.0%	0.4%	0.0%	0.2%	0.0%	0.0%	1.6%	0.6%	0.0%	1.4%	0.0%	0.7%	0.5%
PHF	0.77	0.88	0.64	0.90	0.85	0.78	0.85	0.87	0.75	0.62	0.73	0.83	0.63	0.76	0.52	0.70	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	73	166	13	0	66	204	108	0	49	61	63	0	11	82	57	1	953	2	0	0	1
4:15 PM	69	189	12	0	63	206	124	0	48	49	76	0	11	85	65	1	997	2	0	0	1
4:30 PM	80	186	14	0	68	227	136	0	57	43	68	0	10	72	68	0	1,029	1	0	0	1
4:45 PM	76	190	16	0	67	236	145	0	57	39	65	0	13	76	59	0	1,039	1	0	0	1
5:00 PM	77	182	20	0	69	246	127	0	61	42	67	0	12	75	55	0	1,033	4	1	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Clairmont Way

Tuesday, April 18, 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 Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont 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	0	2	0	0	0	0	0	0	0	0	2
4:05 PM	1	0	0	1	0	1	0	1	0	1	1	2	0	0	0	0	4
4:10 PM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	2	0	0	1	1	0	0	0	0	4
4:30 PM	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	3
4:35 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	3
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	0	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	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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	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	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	0	1	1	0	0	0	0	1
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	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Survey	2	3	0	5	1	8	1	10	1	2	7	10	0	1	0	1	26

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	0	0	1	0	3	0	3	1	1	2	4	0	0	0	0	8
4:15 PM	0	2	0	2	1	1	0	2	0	0	1	1	0	0	0	0	5
4:30 PM	0	0	0	0	0	2	1	3	0	1	2	3	0	0	0	0	6
4:45 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
5:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	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	2	3	0	5	1	8	1	10	1	2	7	10	0	1	0	1	26

Heavy Vehicle Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Clairmont Way			Westbound Clairmont Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	2	4	1	1	2	1	2	3	1	0	1	5
PHF	0.25			0.25			0.25			0.25			0.63

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	1	0	2	0	1	0	1	0	0	1	1	0	1	0	1	5
PHF	0.25	0.25	0.00	0.25	0.00	0.25	0.00	0.25	0.00	0.00	0.25	0.25	0.00	0.25	0.00	0.25	0.63

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

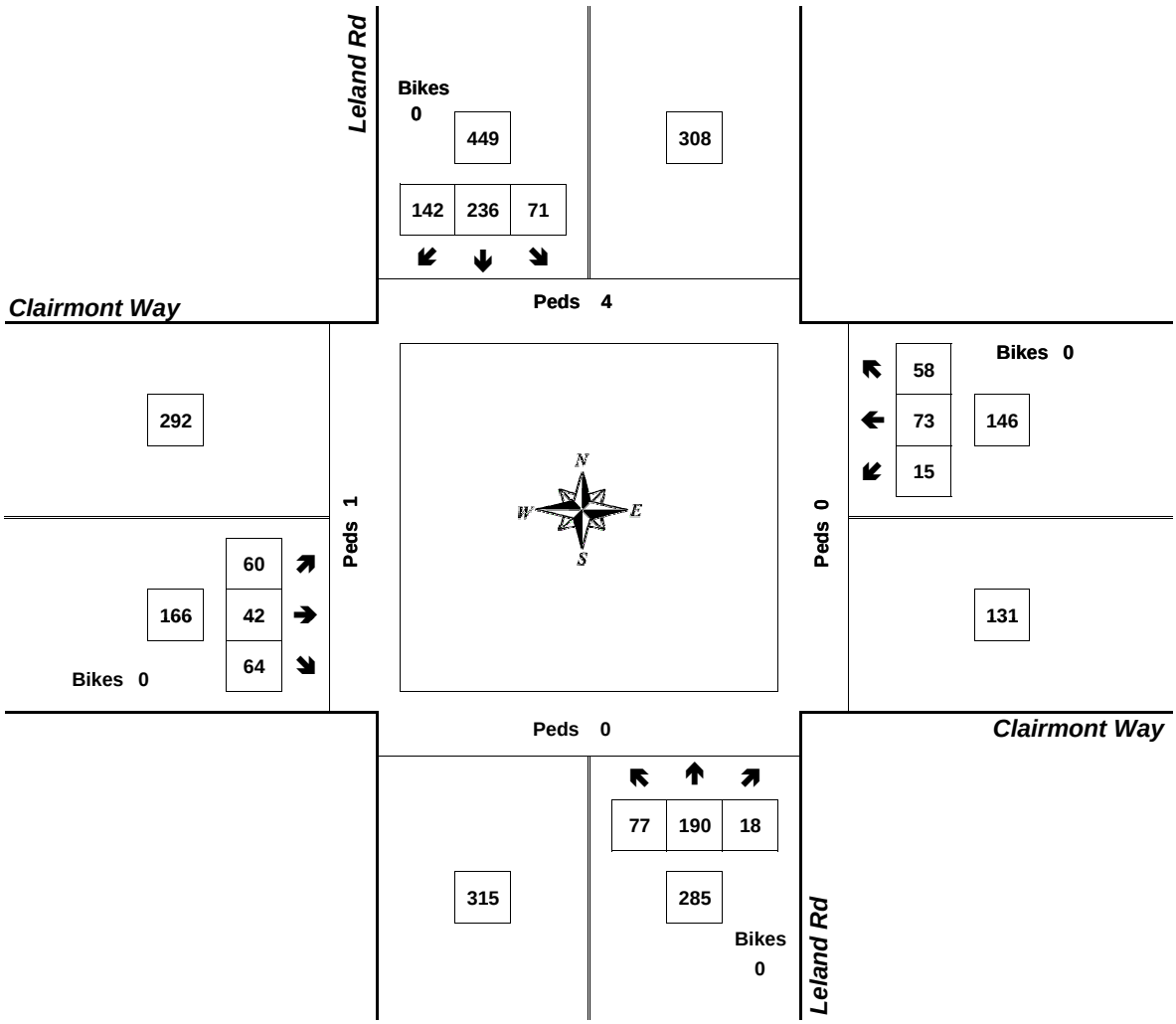
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Clairmont Way				Westbound Clairmont Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	3	0	4	1	6	1	8	1	2	6	9	0	0	0	0	21
4:15 PM	1	3	0	4	1	3	1	5	0	1	4	5	0	0	0	0	14
4:30 PM	1	1	0	2	0	3	1	4	0	1	3	4	0	1	0	1	11
4:45 PM	1	1	0	2	0	1	0	1	0	0	2	2	0	1	0	1	6
5:00 PM	1	0	0	1	0	2	0	2	0	0	1	1	0	1	0	1	5

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leland Rd & Clairmont Way

4:50 PM to 5:50 PM
Tuesday, April 18, 2017

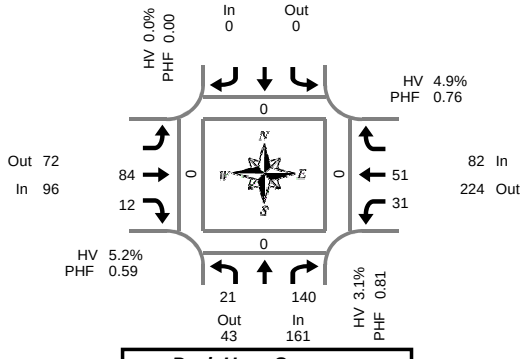


Approach	PHF	HV%	Volume
EB	0.83	0.6%	166
WB	0.70	0.7%	146
NB	0.90	0.7%	285
SB	0.87	0.2%	449
Intersection	0.94	0.5%	1,046

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:00 AM to 8:00 AM

Leland Rd & S Mccord Rd

Tuesday, April 18, 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 S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	2		6	1				0	6	1	0	3	1		0	19		0	0	0	0
7:05 AM	2		8	0				0	11	0	0	0	4		0	25		0	0	0	0
7:10 AM	0		8	0				0	10	1	0	4	4		0	27		0	0	0	0
7:15 AM	3		11	0				0	16	3	0	1	2		0	36		0	0	0	0
7:20 AM	3		17	0				0	11	0	0	4	2		1	37		0	0	0	0
7:25 AM	2		11	0				0	5	1	0	1	7		0	27		0	0	0	0
7:30 AM	1		10	0				0	2	0	0	3	6		0	22		0	0	0	0
7:35 AM	3		16	0				0	6	2	0	2	3		0	32		0	0	0	0
7:40 AM	0		12	0				0	3	0	0	5	6		0	26		0	0	0	0
7:45 AM	5		14	0				0	3	3	0	1	10		0	36		0	0	0	0
7:50 AM	0		10	0				0	5	0	0	1	4		0	20		0	0	0	0
7:55 AM	0		17	0				0	6	1	0	6	2		0	32		0	0	0	0
8:00 AM	1		6	0				0	4	0	0	3	4		0	18		0	0	0	0
8:05 AM	0		7	0				0	3	0	0	0	3		0	13		0	0	0	0
8:10 AM	1		6	0				0	2	1	0	2	6		0	18		0	0	0	0
8:15 AM	0		9	0				0	0	1	0	2	0		0	12		0	0	0	0
8:20 AM	1		7	0				0	4	0	0	3	5		1	20		0	0	0	0
8:25 AM	2		2	0				0	2	2	0	2	2		0	12		0	0	0	0
8:30 AM	1		3	0				0	3	0	0	7	2		0	16		0	0	0	0
8:35 AM	1		6	0				0	4	1	0	1	4		0	17		0	0	0	0
8:40 AM	0		4	0				0	3	2	0	0	5		0	14		0	0	0	0
8:45 AM	1		2	0				0	5	1	0	7	3		0	19		0	0	0	0
8:50 AM	0		8	0				0	2	2	0	1	3		0	16		0	0	0	0
8:55 AM	0		3	0				0	3	1	0	3	4		0	14		0	0	0	0
Total Survey	29		203	1				0	119	23	0	62	92		2	528		0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	4		22	1				0	27	2	0	7	9		0	71		0	0	0	0
7:15 AM	8		39	0				0	32	4	0	6	11		1	100		0	0	0	0
7:30 AM	4		38	0				0	11	2	0	10	15		0	80		0	0	0	0
7:45 AM	5		41	0				0	14	4	0	8	16		0	88		0	0	0	0
8:00 AM	2		19	0				0	9	1	0	5	13		0	49		0	0	0	0
8:15 AM	3		18	0				0	6	3	0	7	7		1	44		0	0	0	0
8:30 AM	2		13	0				0	10	3	0	8	11		0	47		0	0	0	0
8:45 AM	1		13	0				0	10	4	0	11	10		0	49		0	0	0	0
Total Survey	29		203	1				0	119	23	0	62	92		2	528		0	0	0	0

Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord 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	161	43	204	1	0	0	0	0	96	72	168	0	82	224	306	1	339	0	0	0	0
%HV	3.1%				0.0%				5.2%				4.9%				4.1%				
PHF	0.81				0.00				0.59				0.76				0.85				

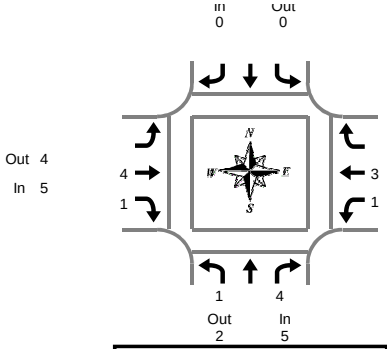
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	21		140	161				0		84	12	96	31	51		82	339
%HV	4.8%	NA	2.9%	3.1%	NA	NA	NA	0.0%	NA	4.8%	8.3%	5.2%	3.2%	5.9%	NA	4.9%	4.1%
PHF	0.66		0.83	0.81				0.00		0.57	0.60	0.59	0.78	0.64		0.76	0.85

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	21		140	1				0	84	12	0	31	51		1	339		0	0	0	0
7:15 AM	19		137	0				0	66	11	0	29	55		1	317		0	0	0	0
7:30 AM	14		116	0				0	40	10	0	30	51		1	261		0	0	0	0
7:45 AM	12		91	0				0	39	11	0	28	47		1	228		0	0	0	0
8:00 AM	8		63	0				0	35	11	0	31	41		1	189		0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & S Mccord Rd

Tuesday, April 18, 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 Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		1	1				0	1	0	1		0	0		0	2
7:05 AM	0		0	0				0	0	0	0		0	0		0	0
7:10 AM	0		0	0				0	1	0	1		0	0		0	1
7:15 AM	0		0	0				0	0	0	0		0	1		1	1
7:20 AM	0		0	0				0	0	0	0		0	0		0	0
7:25 AM	1		1	2				0	0	1	1		0	1		1	4
7:30 AM	0		2	2				0	0	0	0		0	1		1	3
7:35 AM	0		0	0				0	1	0	1		0	0		0	1
7:40 AM	0		0	0				0	0	0	0		1	0		1	1
7:45 AM	0		0	0				0	0	0	0		0	0		0	0
7:50 AM	0		0	0				0	1	0	1		0	0		0	1
7:55 AM	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
8:05 AM	0		0	0				0	0	0	0		0	0		0	0
8:10 AM	0		0	0				0	0	0	0		1	1		2	2
8:15 AM	0		1	1				0	0	1	1		0	0		0	2
8:20 AM	0		1	1				0	0	0	0		0	1		1	2
8:25 AM	0		0	0				0	0	0	0		0	0		0	0
8:30 AM	0		0	0				0	0	0	0		2	0		2	2
8:35 AM	1		2	3				0	0	0	0		0	0		0	3
8:40 AM	0		0	0				0	0	0	0		0	0		0	0
8:45 AM	1		0	1				0	0	0	0		0	0		0	1
8:50 AM	0		0	0				0	0	0	0		0	0		0	0
8:55 AM	0		1	1				0	1	0	1		0	0		0	2
Total Survey	3		9	12				0	5	2	7		4	5		9	28

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		1	1				0	2	0	2		0	0		0	3
7:15 AM	1		1	2				0	0	1	1		0	2		2	5
7:30 AM	0		2	2				0	1	0	1		1	1		2	5
7:45 AM	0		0	0				0	1	0	1		0	0		0	1
8:00 AM	0		0	0				0	0	0	0		1	1		2	2
8:15 AM	0		2	2				0	0	1	1		0	1		1	4
8:30 AM	1		2	3				0	0	0	0		2	0		2	5
8:45 AM	1		1	2				0	1	0	1		0	0		0	3
Total Survey	3		9	12				0	5	2	7		4	5		9	28

Heavy Vehicle Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound S Mccord Rd			Westbound S Mccord Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	2	7	0	0	0	5	4	9	4	8	12	14
PHF	0.31			0.00			0.63			0.50			0.44

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	1		4	5				0	4	1	5		1	3		4	14
PHF	0.25		0.33	0.31				0.00	0.50	0.25	0.63		0.25	0.38		0.50	0.44

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

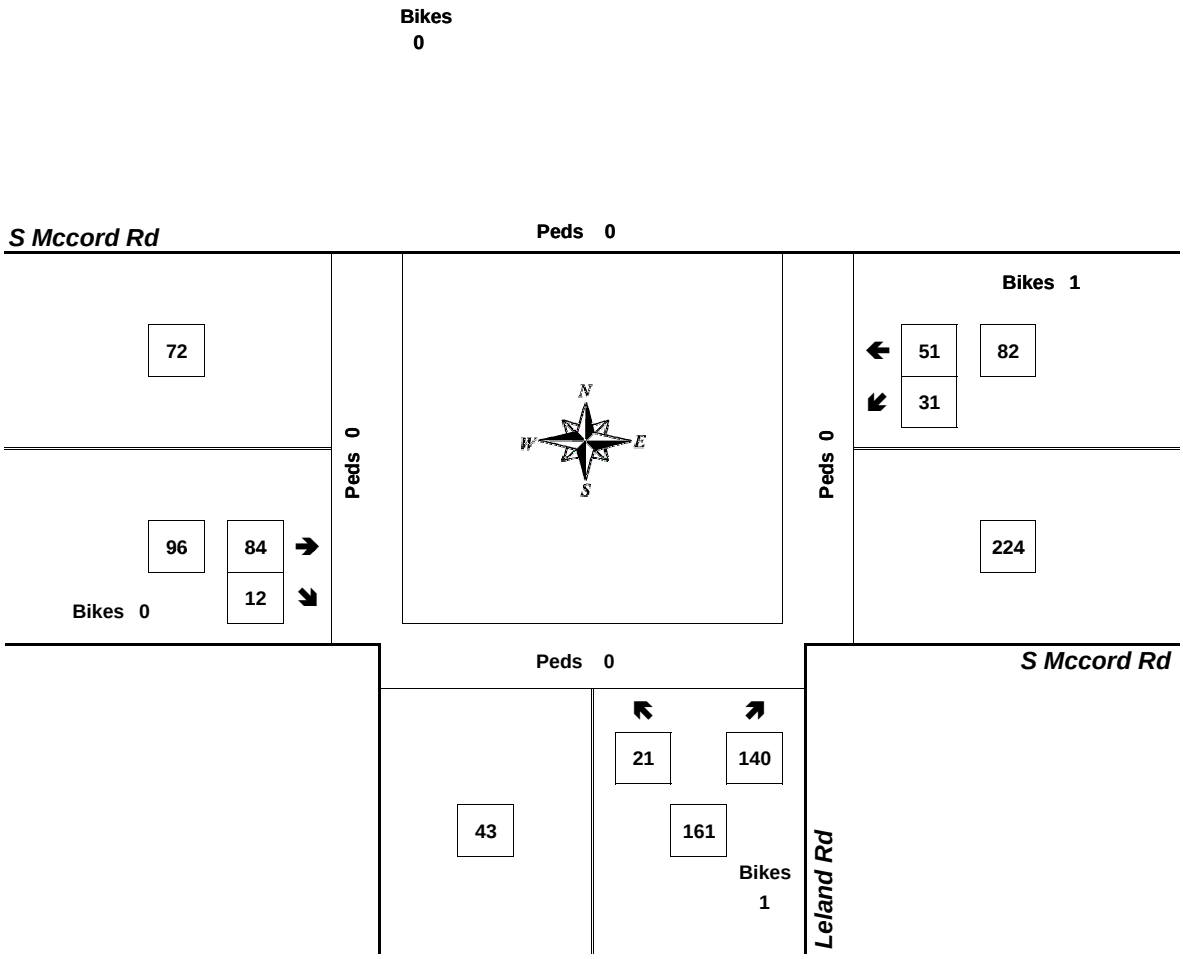
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	1		4	5				0	4	1	5		1	3		4	14
7:15 AM	1		3	4				0	2	1	3		2	4		6	13
7:30 AM	0		4	4				0	2	1	3		2	3		5	12
7:45 AM	1		4	5				0	1	1	2		3	2		5	12
8:00 AM	2		5	7				0	1	1	2		3	2		5	14

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leland Rd & S Mccord Rd

7:00 AM to 8:00 AM
Tuesday, April 18, 2017

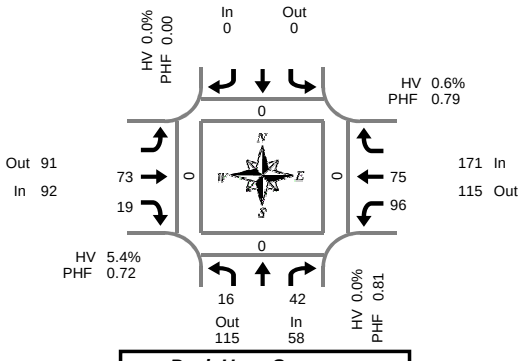


Approach	PHF	HV%	Volume
EB	0.59	5.2%	96
WB	0.76	4.9%	82
NB	0.81	3.1%	161
SB	0.00	0.0%	0
Intersection	0.85	4.1%	339

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
4:05 PM to 5:05 PM

Leland Rd & S Mccord Rd

Tuesday, April 18, 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 S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	0		2	0				0	5	0	0	6	5		0	18		0	0	0	0
4:05 PM	2		6	0				0	4	1	0	8	9		0	30		0	0	0	0
4:10 PM	2		5	1				0	8	0	0	4	10		0	29		0	0	0	0
4:15 PM	1		2	0				0	6	2	0	6	5		0	22		0	0	0	0
4:20 PM	1		6	0				0	12	4	0	8	7		0	38		0	0	0	0
4:25 PM	2		2	0				0	5	0	0	3	4		0	16		0	0	0	0
4:30 PM	1		3	0				0	6	2	0	6	5		0	23		0	0	0	0
4:35 PM	0		2	0				0	8	2	0	14	7		0	33		0	0	0	0
4:40 PM	1		1	0				0	5	2	0	11	6		0	26		0	0	0	0
4:45 PM	2		9	0				0	5	2	0	13	3		0	34		0	0	0	0
4:50 PM	1		1	0				0	3	2	0	7	7		0	21		0	0	0	0
4:55 PM	1		2	0				0	6	1	0	10	6		1	26		0	0	0	0
5:00 PM	2		3	0				0	5	1	0	6	6		0	23		0	0	0	0
5:05 PM	2		3	0				0	4	1	0	9	7		0	26		0	0	0	0
5:10 PM	0		2	0				0	8	1	0	5	6		0	22		0	0	0	0
5:15 PM	1		3	0				0	7	4	0	8	8		0	31		0	0	0	0
5:20 PM	1		3	0				0	2	3	0	7	3		1	19		0	0	0	0
5:25 PM	1		3	0				0	1	1	0	12	7		0	25		0	0	0	0
5:30 PM	0		2	0				0	3	3	0	4	10		0	22		0	0	0	0
5:35 PM	1		4	0				0	5	1	0	8	7		1	26		0	0	0	0
5:40 PM	1		5	0				0	8	3	0	15	6		0	38		0	0	0	0
5:45 PM	2		6	0				0	6	0	0	10	3		0	27		0	0	0	0
5:50 PM	2		1	0				0	6	1	0	9	2		0	21		0	0	0	0
5:55 PM	0		3	0				0	9	1	0	7	9		0	29		0	0	0	0
Total Survey	27		79	1				0	137	38	0	196	148		3	625		0	0	0	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	4		13	1				0	17	1	0	18	24		0	77		0	0	0	0
4:15 PM	4		10	0				0	23	6	0	17	16		0	76		0	0	0	0
4:30 PM	2		6	0				0	19	6	0	31	18		0	82		0	0	0	0
4:45 PM	4		12	0				0	14	5	0	30	16		1	81		0	0	0	0
5:00 PM	4		8	0				0	17	3	0	20	19		0	71		0	0	0	0
5:15 PM	3		9	0				0	10	8	0	27	18		1	75		0	0	0	0
5:30 PM	2		11	0				0	16	7	0	27	23		1	86		0	0	0	0
5:45 PM	4		10	0				0	21	2	0	26	14		0	77		0	0	0	0
Total Survey	27		79	1				0	137	38	0	196	148		3	625		0	0	0	0

Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord 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	58	115	173	1	0	0	0	0	92	91	183	0	171	115	286	1	321	0	0	0	0
%HV	0.0%				0.0%				5.4%				0.6%				1.9%				
PHF	0.81				0.00				0.72				0.79				0.86				

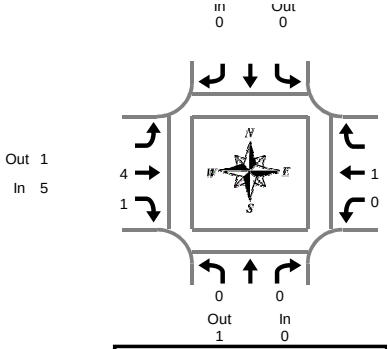
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	16		42	58				0		73	19	92	96	75		171	321
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	5.5%	5.3%	5.4%	0.0%	1.3%	NA	0.6%	1.9%
PHF	0.80		0.81	0.81				0.00		0.70	0.79	0.72	0.63	0.78		0.79	0.86

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
4:00 PM	14		41	1				0	73	18	0	96	74		1	316		0	0	0	0
4:15 PM	14		36	0				0	73	20	0	98	69		1	310		0	0	0	0
4:30 PM	13		35	0				0	60	22	0	108	71		2	309		0	0	0	0
4:45 PM	13		40	0				0	57	23	0	104	76		3	313		0	0	0	0
5:00 PM	13		38	0				0	64	20	0	100	74		2	309		0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & S Mccord Rd

Tuesday, April 18, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:05 PM to 5:05 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	0	0	0		0	0		0	0
4:05 PM	0		0	0				0	1	0	1		0	0		0	1
4:10 PM	0		0	0				0	1	0	1		0	1		1	2
4:15 PM	0		0	0				0	0	0	0		0	0		0	0
4:20 PM	0		0	0				0	0	1	1		0	0		0	1
4:25 PM	0		0	0				0	0	0	0		0	0		0	0
4:30 PM	0		0	0				0	1	0	1		0	0		0	1
4:35 PM	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
4:45 PM	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
4:55 PM	0		0	0				0	0	0	0		0	0		0	0
5:00 PM	0		0	0				0	1	0	1		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	0	0	0		0	0		0	0
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	0		0	0				0	0	0	0		0	1		1	1
5:30 PM	0		0	0				0	0	0	0		0	0		0	0
5:35 PM	0		1	1				0	0	0	0		1	0		1	2
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	0	0	0		0	0		0	0
5:55 PM	0		0	0				0	0	0	0		0	0		0	0
Total Survey	0		1	1				0	4	1	5		1	2		3	9

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	2	0	2		0	1		1	3
4:15 PM	0		0	0				0	0	1	1		0	0		0	1
4:30 PM	0		0	0				0	1	0	1		0	0		0	1
4:45 PM	0		0	0				0	0	0	0		0	0		0	0
5:00 PM	0		0	0				0	1	0	1		0	0		0	1
5:15 PM	0		0	0				0	0	0	0		0	1		1	1
5:30 PM	0		1	1				0	0	0	0		1	0		1	2
5:45 PM	0		0	0				0	0	0	0		0	0		0	0
Total Survey	0		1	1				0	4	1	5		1	2		3	9

Heavy Vehicle Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound S Mccord Rd			Westbound S Mccord Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	1	1	0	0	0	5	1	6	1	4	5	6
PHF	0.00			0.00			0.63			0.25			0.50

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	0		0	0				0	4	1	5		0	1		1	6
PHF	0.00		0.00	0.00				0.00	0.50	0.25	0.63		0.00	0.25		0.25	0.50

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

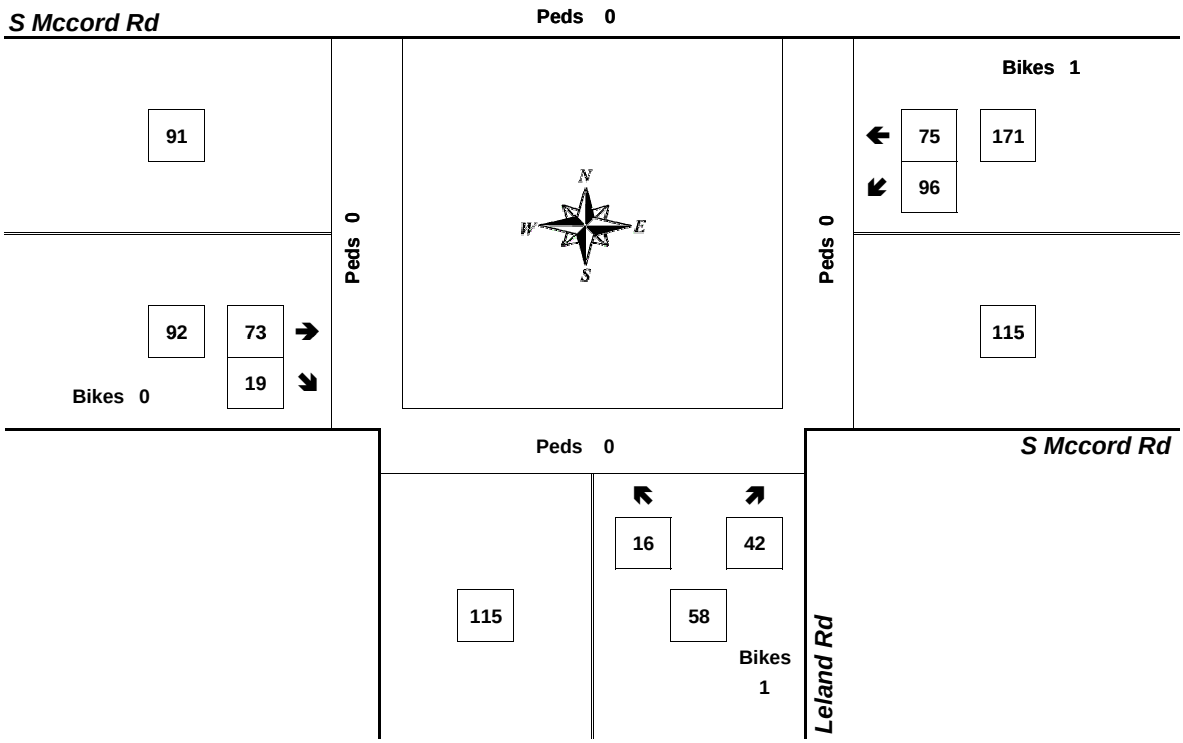
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound S Mccord Rd				Westbound S Mccord Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	3	1	4		0	1		1	5
4:15 PM	0		0	0				0	2	1	3		0	0		0	3
4:30 PM	0		0	0				0	2	0	2		0	1		1	3
4:45 PM	0		1	1				0	1	0	1		1	1		2	4
5:00 PM	0		1	1				0	1	0	1		1	1		2	4

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leland Rd & S Mccord Rd

4:05 PM to 5:05 PM
Tuesday, April 18, 2017

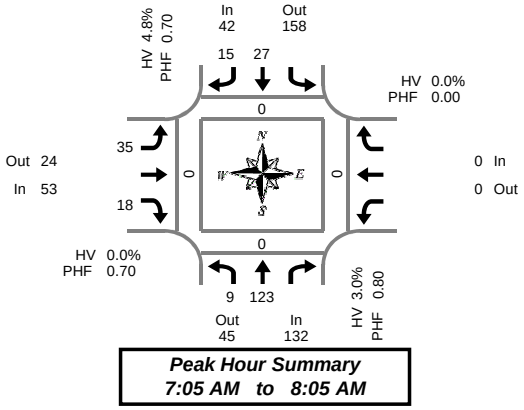


Approach	PHF	HV%	Volume
EB	0.72	5.4%	92
WB	0.79	0.6%	171
NB	0.81	0.0%	58
SB	0.00	0.0%	0
Intersection	0.86	1.9%	321

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Leland Rd & Lindsay Anne Ln

Tuesday, April 18, 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 Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
7:00 AM	0	6		0	2	1	0	0		0	0				0	9	0	0	0	0
7:05 AM	1	7		0	0	1	0	3		2	0				0	14	0	0	0	0
7:10 AM	1	3		0	5	0	0	4		5	0				0	18	0	0	0	0
7:15 AM	0	12		0	3	0	0	3		1	0				0	19	0	0	0	0
7:20 AM	2	14		0	2	2	0	5		1	0				0	26	0	0	0	0
7:25 AM	0	13		0	2	1	0	0		0	0				0	16	0	0	0	0
7:30 AM	1	9		0	1	0	0	2		0	0				0	13	0	0	0	0
7:35 AM	0	13		0	3	1	0	4		2	0				0	23	0	0	0	0
7:40 AM	0	11		0	2	5	0	3		1	0				0	22	0	0	0	0
7:45 AM	1	16		0	3	1	0	3		3	0				0	27	0	0	0	0
7:50 AM	1	9		0	1	0	0	2		2	0				0	15	0	0	0	0
7:55 AM	1	11		0	2	3	0	3		1	0				0	21	0	0	0	0
8:00 AM	1	5		0	3	1	0	3		0	0				0	13	0	0	0	0
8:05 AM	2	6		0	0	0	0	1		1	0				0	10	0	0	0	0
8:10 AM	1	3		0	1	1	0	2		1	0				0	9	0	0	0	0
8:15 AM	0	7		0	0	1	0	3		0	0				0	11	0	0	0	0
8:20 AM	0	3		0	2	1	0	3		1	0				0	10	0	0	0	0
8:25 AM	1	5		0	3	3	0	1		0	0				0	13	0	0	0	0
8:30 AM	2	2		0	5	0	0	2		1	0				0	12	0	0	0	0
8:35 AM	0	2		0	2	0	0	2		0	0				0	6	0	0	0	0
8:40 AM	0	3		0	2	0	0	3		1	0				0	9	0	0	0	0
8:45 AM	0	3		0	5	2	0	0		1	0				0	11	0	0	0	0
8:50 AM	0	4		0	2	0	0	3		0	0				0	9	0	0	0	0
8:55 AM	1	2		0	2	2	0	0		1	0				0	8	0	0	0	0
Total Survey	16	169		0	53	26	0	55		25	0				0	344	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
7:00 AM	2	16		0	7	2	0	7		7	0				0	41	0	0	0	0
7:15 AM	2	39		0	7	3	0	8		2	0				0	61	0	0	0	0
7:30 AM	1	33		0	6	6	0	9		3	0				0	58	0	0	0	0
7:45 AM	3	36		0	6	4	0	8		6	0				0	63	0	0	0	0
8:00 AM	4	14		0	4	2	0	6		2	0				0	32	0	0	0	0
8:15 AM	1	15		0	5	5	0	7		1	0				0	34	0	0	0	0
8:30 AM	2	7		0	9	0	0	7		2	0				0	27	0	0	0	0
8:45 AM	1	9		0	9	4	0	3		2	0				0	28	0	0	0	0
Total Survey	16	169		0	53	26	0	55		25	0				0	344	0	0	0	0

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				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	45	177	0	42	158	200	0	53	24	77	0	0	0	0	0	227	0	0	0	0
%HV	3.0%				4.8%				0.0%				0.0%				2.6%				
PHF	0.80				0.70				0.70				0.00				0.79				

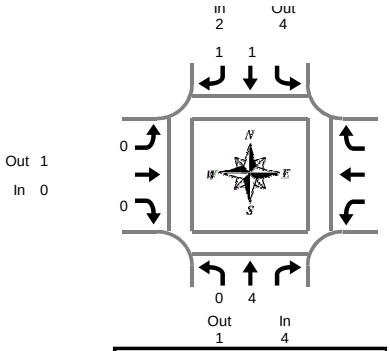
By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total
	L	T		Total	T	R	Total		L		R	Total				Total	
Volume	9	123		132	27	15	42		35		18	53				0	227
%HV	0.0%	3.3%	NA	3.0%	3.7%	6.7%	4.8%		0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	2.6%
PHF	0.75	0.77		0.80	0.68	0.54	0.70		0.73		0.56	0.70				0.00	0.79

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
7:00 AM	8	124		0	26	15	0	32		18	0				0	223	0	0	0	0
7:15 AM	10	122		0	23	15	0	31		13	0				0	214	0	0	0	0
7:30 AM	9	98		0	21	17	0	30		12	0				0	187	0	0	0	0
7:45 AM	10	72		0	24	11	0	28		11	0				0	156	0	0	0	0
8:00 AM	8	45		0	27	11	0	23		7	0				0	121	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Leland Rd & Lindsay Anne Ln

Tuesday, April 18, 2017
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	0	1		1	0	0	0		0		0	0				0	1
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	0	2		2	1	0	1		0		0	0				0	3
7:30 AM	0	2		2	0	0	0		0		0	0				0	2
7:35 AM	0	0		0	0	0	0		0		0	0				0	0
7:40 AM	0	0		0	0	1	1		0		0	0				0	1
7:45 AM	0	0		0	0	0	0		0		0	0				0	0
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	0	0		0		0	0				0	0
8:05 AM	0	0		0	0	0	0		0		0	0				0	0
8:10 AM	0	0		0	0	0	0		0		0	0				0	0
8:15 AM	0	0		0	0	0	0		1		0	1				0	1
8:20 AM	0	0		0	0	1	1		0		0	0				0	1
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	0	0		1		0	1				0	1
8:40 AM	0	1		1	0	0	0		0		0	0				0	1
8:45 AM	0	1		1	1	0	1		0		0	0				0	2
8:50 AM	0	0		0	0	0	0		0		0	0				0	0
8:55 AM	0	1		1	0	0	0		0		1	1				0	2
Total Survey	0	8		8	2	2	4		2		1	3				0	15

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	0	1		1	0	0	0		0		0	0				0	1
7:15 AM	0	2		2	1	0	1		0		0	0				0	3
7:30 AM	0	2		2	0	1	1		0		0	0				0	3
7:45 AM	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
8:15 AM	0	0		0	0	1	1		1		0	1				0	2
8:30 AM	0	1		1	0	0	0		1		0	1				0	2
8:45 AM	0	2		2	1	0	1		0		1	1				0	4
Total Survey	0	8		8	2	2	4		2		1	3				0	15

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Lindsay Anne Ln			Westbound Lindsay Anne Ln			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	1	5	2	4	6	0	1	1	0	0	0	6
PHF	0.25			0.50			0.00			0.00			0.30

By Movement	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total
	L	T		Total	T	R	Total		L		R	Total				Total	
Volume	0	4		4	1	1	2		0		0	0				0	6
PHF	0.00	0.25		0.25	0.25	0.25	0.50		0.00		0.00	0.00				0.00	0.30

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

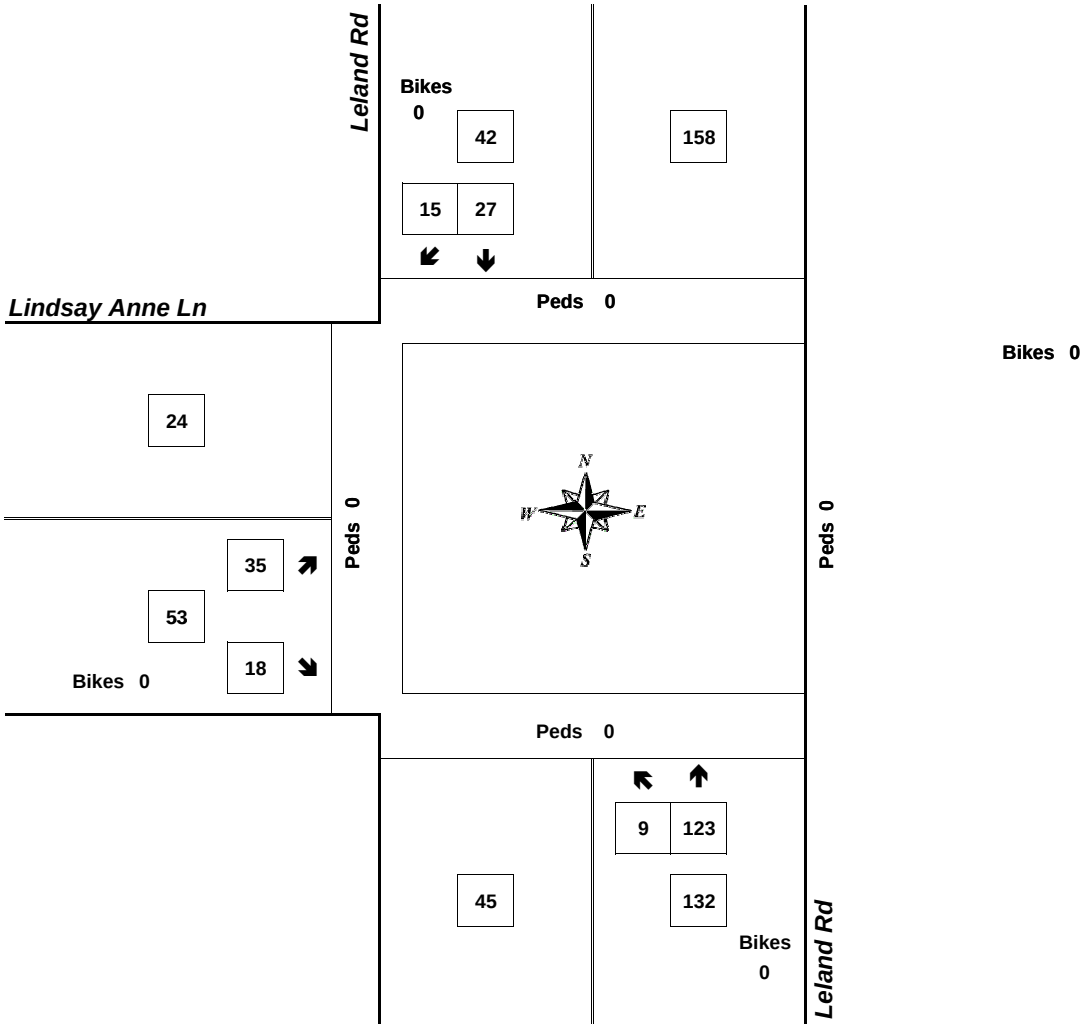
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	0	5		5	1	1	2		0		0	0				0	7
7:15 AM	0	4		4	1	1	2		0		0	0				0	6
7:30 AM	0	2		2	0	2	2		1		0	1				0	5
7:45 AM	0	1		1	0	1	1		2		0	2				0	4
8:00 AM	0	3		3	1	1	2		2		1	3				0	8

Peak Hour Summary

Clay Carney
(503) 833-2740

Leland Rd & Lindsay Anne Ln

7:05 AM to 8:05 AM
Tuesday, April 18, 2017

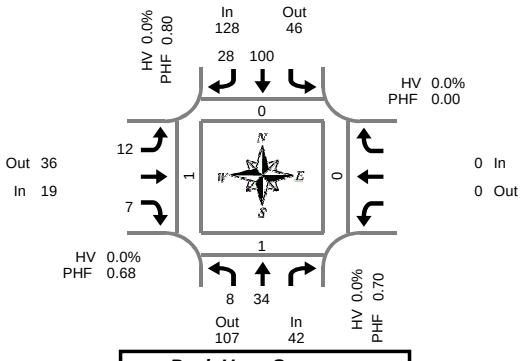


Approach	PHF	HV%	Volume
EB	0.70	0.0%	53
WB	0.00	0.0%	0
NB	0.80	3.0%	132
SB	0.70	4.8%	42
Intersection	0.79	2.6%	227

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
4:35 PM to 5:35 PM

Leland Rd & Lindsay Anne Ln

Tuesday, April 18, 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 Lindsay Anne Ln			Westbound Lindsay Anne Ln			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	0	2		0	7	2	0	0	2	0			0	13	0	0	0	0
4:05 PM	1	4		0	3	3	0	3	0	0			0	14	0	0	0	0
4:10 PM	0	5		0	4	2	0	1	1	0			0	13	0	0	0	0
4:15 PM	1	1		0	3	1	0	2	0	0			0	8	0	0	0	0
4:20 PM	2	4		0	10	3	0	2	0	0			0	21	0	0	0	0
4:25 PM	1	2		0	0	2	0	2	2	0			0	9	0	0	0	0
4:30 PM	0	2		0	6	1	0	2	0	0			0	11	0	0	0	0
4:35 PM	0	1		0	13	1	0	0	0	0			0	15	0	0	0	0
4:40 PM	1	2		0	11	2	0	1	1	0			0	18	0	0	0	0
4:45 PM	1	7		0	10	3	0	2	1	0			0	24	0	0	0	0
4:50 PM	1	2		0	8	3	0	1	1	0			0	16	0	0	0	0
4:55 PM	0	4		0	10	1	0	0	0	0			0	15	0	0	0	0
5:00 PM	0	2		0	7	3	0	2	0	0			0	14	0	0	0	0
5:05 PM	2	4		0	8	3	0	1	1	0			0	19	0	0	0	0
5:10 PM	0	1		0	2	1	0	1	1	0			0	6	0	0	0	0
5:15 PM	1	2		0	11	3	0	3	0	0			0	20	0	0	0	1
5:20 PM	0	2		0	9	1	0	1	1	0			0	14	0	0	0	0
5:25 PM	0	3		0	8	2	0	0	0	0			0	13	0	1	0	0
5:30 PM	2	4		0	3	5	0	0	1	1			0	15	0	0	0	0
5:35 PM	1	4		0	7	1	1	1	0	0			0	14	0	0	0	0
5:40 PM	0	4		0	10	2	0	2	0	0			0	18	0	0	0	0
5:45 PM	0	6		0	12	1	0	2	0	0			0	21	0	0	0	0
5:50 PM	3	2		0	8	4	0	1	1	0			0	19	0	0	0	0
5:55 PM	1	1		0	5	2	0	2	0	0			0	11	0	0	0	0
Total Survey	18	71		0	175	52	1	32	13	1			0	361	0	1	0	1

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln			Westbound Lindsay Anne Ln			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	1	11		0	14	7	0	4	3	0			0	40	0	0	0	0
4:15 PM	4	7		0	13	6	0	6	2	0			0	38	0	0	0	0
4:30 PM	1	5		0	30	4	0	3	1	0			0	44	0	0	0	0
4:45 PM	2	13		0	28	7	0	3	2	0			0	55	0	0	0	0
5:00 PM	2	7		0	17	7	0	4	2	0			0	39	0	0	0	0
5:15 PM	1	7		0	28	6	0	4	1	0			0	47	0	1	0	1
5:30 PM	3	12		0	20	8	1	3	1	1			0	47	0	0	0	0
5:45 PM	4	9		0	25	7	0	5	1	0			0	51	0	0	0	0
Total Survey	18	71		0	175	52	1	32	13	1			0	361	0	1	0	1

Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Leland Rd				Southbound Leland Rd				Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	42	107	149	0	128	46	174	0	19	36	55	1	0	0	0	0	189	0	1	0	1
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.70				0.80				0.68				0.00				0.81				

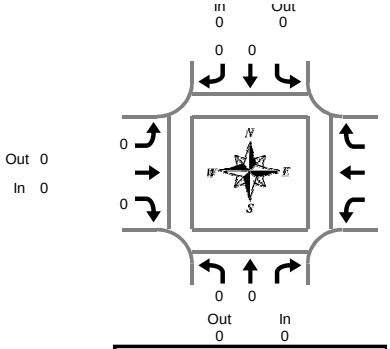
By Movement	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total
	L	T		Total	T	R	Total	L		R	Total				Total	
Volume	8	34		42	100	28	128	12		7	19				0	189
%HV	0.0%	0.0%	NA	0.0%	NA	0.0%	0.0%	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	0.0%
PHF	0.67	0.65		0.70	0.74	0.88	0.80	0.60		0.58	0.68				0.00	0.81

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln			Westbound Lindsay Anne Ln			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	8	36		0	85	24	0	16	8	0			0	177	0	0	0	0
4:15 PM	9	32		0	88	24	0	16	7	0			0	176	0	0	0	0
4:30 PM	6	32		0	103	24	0	14	6	0			0	185	0	1	0	1
4:45 PM	8	39		0	93	28	1	14	6	1			0	188	0	1	0	1
5:00 PM	10	35		0	90	28	1	16	5	1			0	184	0	1	0	1

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leland Rd & Lindsay Anne Ln

Tuesday, April 18, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:35 PM to 5:35 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	0	0		0	1	0	1	0		0	0				0	1
4:05 PM	0	0		0	0	0	0	0		0	0				0	0
4:10 PM	0	0		0	0	0	0	0		0	0				0	0
4:15 PM	0	0		0	0	0	0	0		0	0				0	0
4:20 PM	0	0		0	1	0	1	0		0	0				0	1
4:25 PM	0	0		0	0	0	0	0		0	0				0	0
4:30 PM	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
4:40 PM	0	0		0	0	0	0	0		0	0				0	0
4:45 PM	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
4:55 PM	0	0		0	0	0	0	0		0	0				0	0
5:00 PM	0	0		0	0	0	0	0		0	0				0	0
5:05 PM	0	0		0	0	0	0	0		0	0				0	0
5:10 PM	0	0		0	0	0	0	0		0	0				0	0
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	0	0		0	0	0	0	0		0	0				0	0
5:30 PM	0	0		0	0	0	0	0		0	0				0	0
5:35 PM	0	1		1	0	0	0	1		0	1				0	2
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	0	0	0		0	0				0	0
5:55 PM	0	0		0	0	0	0	0		0	0				0	0
Total Survey	0	1		1	2	0	2	1		0	1				0	4

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	0	0		0	1	0	1	0		0	0				0	1
4:15 PM	0	0		0	1	0	1	0		0	0				0	1
4:30 PM	0	0		0	0	0	0	0		0	0				0	0
4:45 PM	0	0		0	0	0	0	0		0	0				0	0
5:00 PM	0	0		0	0	0	0	0		0	0				0	0
5:15 PM	0	0		0	0	0	0	0		0	0				0	0
5:30 PM	0	1		1	0	0	0	1		0	1				0	2
5:45 PM	0	0		0	0	0	0	0		0	0				0	0
Total Survey	0	1		1	2	0	2	1		0	1				0	4

Heavy Vehicle Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Leland Rd			Southbound Leland Rd			Eastbound Lindsay Anne Ln			Westbound Lindsay Anne Ln			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.00			0.00			0.00			0.00			0.00

By Movement	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Total
	L	T		Total	T	R	Total	L		R	Total				Total	
Volume	0	0		0	0	0	0	0		0	0				0	0
PHF	0.00	0.00		0.00	0.00	0.00	0.00	0.00		0.00	0.00				0.00	0.00

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

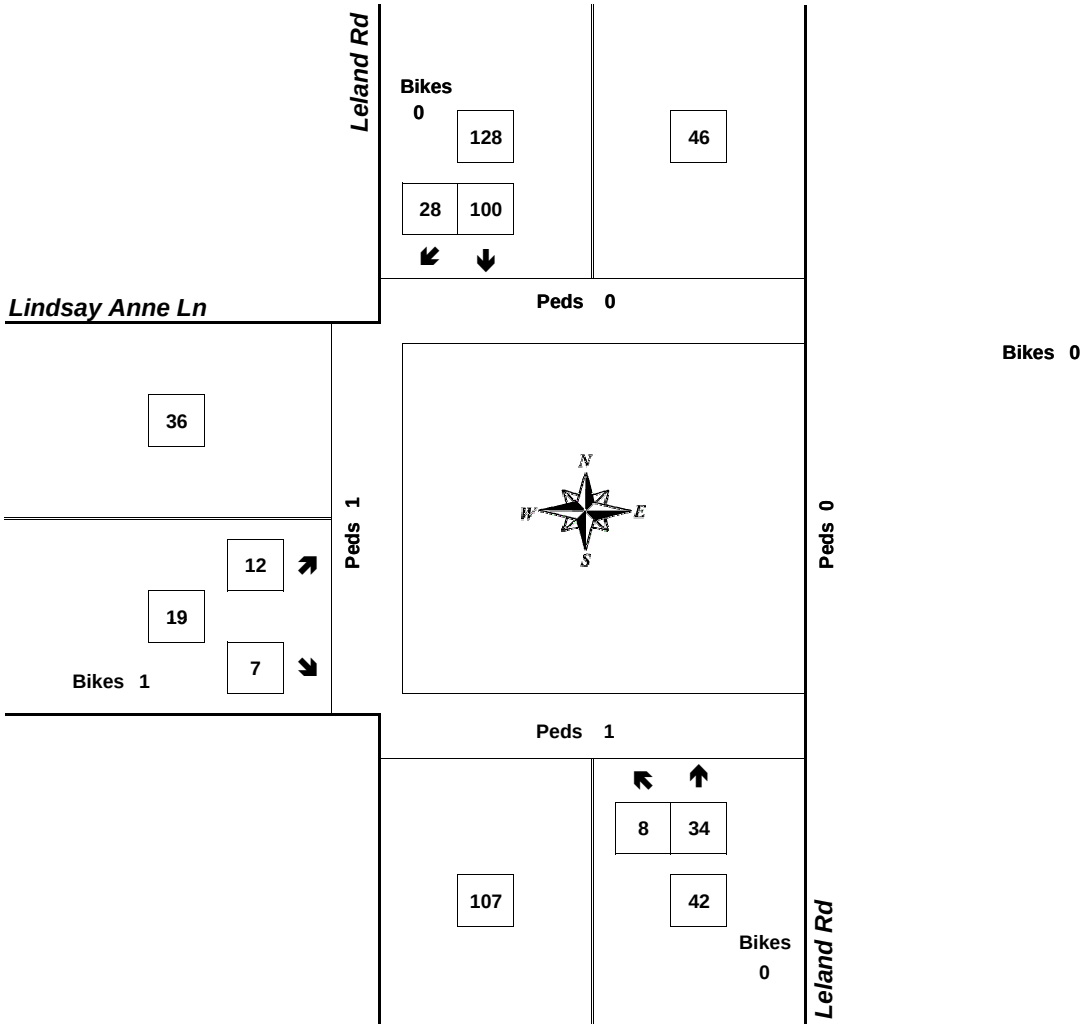
Interval Start Time	Northbound Leland Rd				Southbound Leland Rd			Eastbound Lindsay Anne Ln				Westbound Lindsay Anne Ln				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	0	0		0	2	0	2	0		0	0				0	2
4:15 PM	0	0		0	1	0	1	0		0	0				0	1
4:30 PM	0	0		0	0	0	0	0		0	0				0	0
4:45 PM	0	1		1	0	0	0	1		0	1				0	2
5:00 PM	0	1		1	0	0	0	1		0	1				0	2

Peak Hour Summary

Clay Carney
(503) 833-2740

Leland Rd & Lindsay Anne Ln

4:35 PM to 5:35 PM
Tuesday, April 18, 2017



Approach	PHF	HV%	Volume
EB	0.68	0.0%	19
WB	0.00	0.0%	0
NB	0.70	0.0%	42
SB	0.80	0.0%	128
Intersection	0.81	0.0%	189

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:	28

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**5**	**16**	**21**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**18**	**10**	**28**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**133**	**133**	**266**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**139**	**139**	**278**

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	3.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	21	140	84	12	31	51
Future Vol, veh/h	21	140	84	12	31	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	23	152	91	13	34	55

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	55	0	321	55	152	0
Stage 1	-	-	123	-	-	-
Stage 2	-	-	198	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1550	-	596	1012	1429	-
Stage 1	-	-	794	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1550	-	0	1012	1429	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	9	2.9
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	1012	1550	-	1429	-
HCM Lane V/C Ratio	0.103	0.015	-	0.024	-
HCM Control Delay (s)	9	7.4	-	7.6	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.3	0	-	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	27	15	9	123	35	18
Future Vol, veh/h	27	15	9	123	35	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	29	16	10	134	38	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	46	0	191	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	153	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1562	-	798	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1562	-	792	1034
Mov Cap-2 Maneuver	-	-	-	-	792	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	869	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	860	1562	-	-	-
HCM Lane V/C Ratio	0.067	0.006	-	-	-
HCM Control Delay (s)	9.5	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	16	42	73	17	96	75
Future Vol, veh/h	16	42	73	17	96	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	17	46	79	18	104	82

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	82	0	370	82	46	0
Stage 1	-	-	290	-	-	-
Stage 2	-	-	80	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1515	-	560	978	1562	-
Stage 1	-	-	672	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1515	-	0	978	1562	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2	9.1	4.2
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	978	1515	-	1562	-
HCM Lane V/C Ratio	0.1	0.011	-	0.067	-
HCM Control Delay (s)	9.1	7.4	-	7.5	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.3	0	-	0.2	-

Intersection	
Int Delay, s/veh	1.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	100	28	8	34	12	7
Future Vol, veh/h	100	28	8	34	12	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	109	30	9	37	13	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	178	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	54	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1445	-	812	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	969	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1445	-	807	927
Mov Cap-2 Maneuver	-	-	-	-	807	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	963	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.4	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	847	1445	-	-	-
HCM Lane V/C Ratio	0.024	0.006	-	-	-
HCM Control Delay (s)	9.4	7.5	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	22	146	87	12	32	53
Future Vol, veh/h	22	146	87	12	32	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	24	159	95	13	35	58

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	58	0	334	58	159	0
Stage 1	-	-	127	-	-	-
Stage 2	-	-	207	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1546	-	586	1008	1420	-
Stage 1	-	-	791	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1546	-	0	1008	1420	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	9	2.9
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	1008	1546	-	1420	-
HCM Lane V/C Ratio	0.107	0.015	-	0.024	-
HCM Control Delay (s)	9	7.4	-	7.6	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.4	0	-	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	28	16	9	128	36	19
Future Vol, veh/h	28	16	9	128	36	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	30	17	10	139	39	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	48	0	198	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1559	-	791	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1559	-	785	1033
Mov Cap-2 Maneuver	-	-	-	-	785	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	864	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	856	1559	-	-	-
HCM Lane V/C Ratio	0.07	0.006	-	-	-
HCM Control Delay (s)	9.5	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	17	44	76	20	100	78
Future Vol, veh/h	17	44	76	20	100	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	18	48	83	22	109	85

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	85	0	387	85	48	0
Stage 1	-	-	302	-	-	-
Stage 2	-	-	85	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1512	-	547	974	1559	-
Stage 1	-	-	664	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1512	-	0	974	1559	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2.1	9.1	4.2
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	974	1512	-	1559	-
HCM Lane V/C Ratio	0.107	0.012	-	0.07	-
HCM Control Delay (s)	9.1	7.4	-	7.5	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.4	0	-	0.2	-

Intersection	
Int Delay, s/veh	1.2

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	104	29	8	35	12	7
Future Vol, veh/h	104	29	8	35	12	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	113	32	9	38	13	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	145	0	184	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	55	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1437	-	805	921
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1437	-	800	921
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	962	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.4	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	841	1437	-	-	-
HCM Lane V/C Ratio	0.025	0.006	-	-	-
HCM Control Delay (s)	9.4	7.5	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	25	155	87	13	35	53
Future Vol, veh/h	25	155	87	13	35	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	27	168	95	14	38	58

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	58	0	357	58	168	0
Stage 1	-	-	134	-	-	-
Stage 2	-	-	223	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1546	-	569	1008	1410	-
Stage 1	-	-	785	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1546	-	543	1008	1410	-
Mov Cap-2 Maneuver	-	-	543	-	-	-
Stage 1	-	-	763	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	12.7	3
HCM LOS		B	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	578	1546	-	1410	-
HCM Lane V/C Ratio	0.188	0.018	-	0.027	-
HCM Control Delay (s)	12.7	7.4	-	7.6	0
HCM Lane LOS	B	A	-	A	A
HCM 95th %tile Q(veh)	0.7	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	32	16	9	128	36	19
Future Vol, veh/h	32	16	9	128	36	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	35	17	10	139	39	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	202	43
Stage 1	-	-	-	-	43	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1554	-	787	1027
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1554	-	781	1027
Mov Cap-2 Maneuver	-	-	-	-	781	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	864	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	851	1554	-	-	-
HCM Lane V/C Ratio	0.07	0.006	-	-	-
HCM Control Delay (s)	9.6	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	28	4	1	164	12	4
Future Vol, veh/h	28	4	1	164	12	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	30	4	1	178	13	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	35	0	213	33
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1576	-	775	1041
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1576	-	774	1041
Mov Cap-2 Maneuver	-	-	-	-	774	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	850	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	827	1576	-	-	-
HCM Lane V/C Ratio	0.021	0.001	-	-	-
HCM Control Delay (s)	9.4	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	19	50	76	24	110	78
Future Vol, veh/h	19	50	76	24	110	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	21	54	83	26	120	85

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	85	0	420	85	54	0
Stage 1	-	-	324	-	-	-
Stage 2	-	-	96	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1512	-	525	974	1551	-
Stage 1	-	-	650	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1512	-	0	974	1551	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2	9.2	4.4
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	974	1512	-	1551	-
HCM Lane V/C Ratio	0.112	0.014	-	0.077	-
HCM Control Delay (s)	9.2	7.4	-	7.5	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.4	0	-	0.2	-

Intersection	
Int Delay, s/veh	1.6

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	106	43	12	35	20	9
Future Vol, veh/h	106	43	12	35	20	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	115	47	13	38	22	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	162	0	203	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1417	-	786	909
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1417	-	779	909
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	950	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.9	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	815	1417	-	-	-
HCM Lane V/C Ratio	0.039	0.009	-	-	-
HCM Control Delay (s)	9.6	7.6	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	104	14	4	39	8	2
Future Vol, veh/h	104	14	4	39	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	113	15	4	42	9	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	128	0	172	121
Stage 1	-	-	-	-	121	-
Stage 2	-	-	-	-	51	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1458	-	818	930
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1458	-	816	930
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	968	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.7	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	837	1458	-	-	-
HCM Lane V/C Ratio	0.013	0.003	-	-	-
HCM Control Delay (s)	9.4	7.5	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	31	208	125	18	46	76
Future Vol, veh/h	31	208	125	18	46	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	34	226	136	20	50	83

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	83	0	476	83	226	0
Stage 1	-	-	183	-	-	-
Stage 2	-	-	293	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1514	-	488	976	1342	-
Stage 1	-	-	748	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1514	-	0	976	1342	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	9.4	2.9
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	976	1514	-	1342	-
HCM Lane V/C Ratio	0.159	0.022	-	0.037	-
HCM Control Delay (s)	9.4	7.4	-	7.8	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.6	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2.7

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	40	22	13	183	52	27
Future Vol, veh/h	40	22	13	183	52	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	43	24	14	199	57	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	67	0	282	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	227	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1535	-	708	1012
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1535	-	701	1012
Mov Cap-2 Maneuver	-	-	-	-	701	-
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	803	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	783	1535	-	-	-
HCM Lane V/C Ratio	0.11	0.009	-	-	-
HCM Control Delay (s)	10.2	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0	-	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	24	62	108	28	143	111
Future Vol, veh/h	24	62	108	28	143	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	26	67	117	30	155	121

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	121	0	552	121	67	0
Stage 1	-	-	432	-	-	-
Stage 2	-	-	120	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1467	-	442	930	1535	-
Stage 1	-	-	582	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1467	-	0	930	1535	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2.1	9.6	4.3
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	930	1467	-	1535	-
HCM Lane V/C Ratio	0.159	0.018	-	0.101	-
HCM Control Delay (s)	9.6	7.5	-	7.6	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.6	0.1	-	0.3	-

Intersection	
Int Delay, s/veh	1.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	149	42	12	51	18	10
Future Vol, veh/h	149	42	12	51	18	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	162	46	13	55	20	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	208	0	267	185
Stage 1	-	-	-	-	185	-
Stage 2	-	-	-	-	82	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1363	-	722	857
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1363	-	715	857
Mov Cap-2 Maneuver	-	-	-	-	715	-
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	932	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.5	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	760	1363	-	-	-
HCM Lane V/C Ratio	0.04	0.01	-	-	-
HCM Control Delay (s)	9.9	7.7	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	35	217	125	19	49	76
Future Vol, veh/h	35	217	125	19	49	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	38	236	136	21	53	83

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	83	0	501	83	236	0
Stage 1	-	-	189	-	-	-
Stage 2	-	-	312	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1514	-	472	976	1331	-
Stage 1	-	-	744	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1514	-	0	976	1331	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	1	9.4	3.1
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	976	1514	-	1331	-
HCM Lane V/C Ratio	0.16	0.025	-	0.04	-
HCM Control Delay (s)	9.4	7.4	-	7.8	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.6	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2.7

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	43	22	13	184	52	27
Future Vol, veh/h	43	22	13	184	52	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	47	24	14	200	57	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	71	0	287	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	228	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1529	-	703	1007
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1529	-	696	1007
Mov Cap-2 Maneuver	-	-	-	-	696	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	802	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	778	1529	-	-	-
HCM Lane V/C Ratio	0.11	0.009	-	-	-
HCM Control Delay (s)	10.2	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	65	6	1	236	15	3
Future Vol, veh/h	65	6	1	236	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	71	7	1	257	16	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	77	0	333	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	259	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1522	-	662	988
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1522	-	661	988
Mov Cap-2 Maneuver	-	-	-	-	661	-
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	783	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	700	1522	-	-	-
HCM Lane V/C Ratio	0.028	0.001	-	-	-
HCM Control Delay (s)	10.3	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	27	70	108	32	156	111
Future Vol, veh/h	27	70	108	32	156	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	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	29	76	117	35	170	121

Major/Minor	Major1		Minor2		Major2	
Conflicting Flow All	121	0	595	121	76	0
Stage 1	-	-	460	-	-	-
Stage 2	-	-	135	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	4.12	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	1467	-	417	930	1523	-
Stage 1	-	-	566	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-				-
Mov Cap-1 Maneuver	1467	-	0	930	1523	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	2.1	9.6	4.5
HCM LOS		A	

Minor Lane/Major Mvmt	NELn1	NWL	NWR	SWL	SWT
Capacity (veh/h)	930	1467	-	1523	-
HCM Lane V/C Ratio	0.164	0.02	-	0.111	-
HCM Control Delay (s)	9.6	7.5	-	7.7	0
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q(veh)	0.6	0.1	-	0.4	-

Intersection	
Int Delay, s/veh	1.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	151	42	12	54	18	10
Future Vol, veh/h	151	42	12	54	18	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	164	46	13	59	20	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	210	0	272	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	85	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1361	-	717	855
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	938	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1361	-	710	855
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	929	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	756	1361	-	-	-
HCM Lane V/C Ratio	0.04	0.01	-	-	-
HCM Control Delay (s)	10	7.7	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	188	14	4	72	8	2
Future Vol, veh/h	188	14	4	72	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	204	15	4	78	9	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	220	0	299	212
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1349	-	692	828
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1349	-	690	828
Mov Cap-2 Maneuver	-	-	-	-	690	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	933	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.4	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	714	1349	-	-	-
HCM Lane V/C Ratio	0.015	0.003	-	-	-
HCM Control Delay (s)	10.1	7.7	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LELAND RD and Intersectional Crashes at LELAND 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	0	0	0
REAR-END	0	2	0	2	0	2	0	1	1	1	1	2	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	0	0	0
YEAR 2015 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**3**	**1**	**3**	**1**	**2**	**0**	**0**
YEAR: 2014														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	0	1	1	0	1
REAR-END	0	2	0	2	0	2	0	2	0	2	0	0	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**3**	**1**	**3**	**1**	**2**	**0**	**1**
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
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2012														
ANGLE	0	1	1	2	0	2	0	1	1	0	2	2	0	0
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	0	1	0	1	0	0	1
REAR-END	0	1	1	2	0	1	0	1	0	1	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	0	0	0
YEAR 2012 TOTAL	**0**	**4**	**2**	**6**	**0**	**5**	**0**	**3**	**2**	**2**	**4**	**3**	**0**	**1**

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LELAND RD and Intersectional Crashes at LELAND 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: 2011														
FIXED / OTHER OBJECT	0	2	1	3	0	3	0	1	2	1	2	0	0	3
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	1	1	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**5**	**1**	**6**	**0**	**7**	**0**	**3**	**3**	**3**	**3**	**3**	**0**	**3**
FINAL TOTAL	**0**	**14**	**9**	**23**	**0**	**17**	**0**	**14**	**8**	**13**	**10**	**13**	**0**	**5**

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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 and Intersectional Crashes at LELAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	R U S	S G L	W C H	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
04286	Y	Y	N				11/13/2011	16	LELAND RD	STRGHT		N	Y	RAIN	FIX OBJ	01	NONE 0	STRGHT										062,010,088	01
CITY							SU	160	LOT WHITCOMB DR	NW	(NONE)	NONE	N	WET	FIX		PRVTE	SE-NW									001	062,010,088	00
							3A			08			N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	25	M	OR-Y		047,080	000		01
											(02)														OR<25					
																01	NONE 0	STRGHT											
																	PRVTE	SE-NW									001	062,010,088	00
																	PSNGR CAR		02	PSNG	INJB	27	M			000	000		00
04741	Y	N	N	N	N		12/09/2011	16	LELAND RD	STRGHT		N	Y	FOG	FIX OBJ	01	NONE 0	STRGHT										124,053	01,05
CITY							FR	150	JESSIE AVE	SE	(NONE)	UNKNOWN	N	ICE	FIX		PRVTE	NW-SE									000	124,053	00
							8A			08			N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	61	F	OR-Y		047,083,081	017		01,05
											(02)														OR<25					
03336	N	N	N				09/07/2012	16	DALLAS ST	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE							FR	0	LELAND RD	S		UNKNOWN	N	UNK	REAR		PRVTE	SE-NW									000		00
							11P			06	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000		07
																									UNK					
																02	NONE 0	STOP											
																	PRVTE	SE-NW									012		00
																	PSNGR CAR		01	DRVR	NONE	22	F	OR-Y		000	000		00
																									OR<25					
03079	N	N	N				08/19/2012	16	LELAND RD	ALLEY		N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
CITY							SU	110	REDDAWAY AVE	SW	(NONE)	UNKNOWN	N	DRY	TURN		PRVTE	SW-NE									000		00
							4P			08			N	DAY	INJ		MTRCYCLE		01	DRVR	INJB	29	M	OR-Y		000	000		00
											(02)														OR<25					
																02	NONE 0	TURN-L											
																	PRVTE	NE-SE									019		00
																	PSNGR CAR		01	DRVR	NONE	67	F	OR-Y		028,004	000		02
																									OR<25					
01898	N	N	N				05/17/2014	16	MARYSVILLE LN	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NO RPT							SA	0	LELAND RD	CN		UNKNOWN	N	DRY	TURN		PRVTE	N -S									000		00
							10A			01	0		Y	DAY	PDO		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y		000	000		00
																									OR<25					
																02	NONE 0	TURN-L											
																	PRVTE	W -N									018		00
																	PSNGR CAR		01	DRVR	NONE	38	F	OR-Y		028	000		02
																									OR<25					
																02	NONE 0	TURN-L											
																	PRVTE	W -N									018		00
																	PSNGR CAR		02	PSNG	NO<5	02	M			000	000		00
04856	N	N	N				12/17/2011	16	CARMELITA DR	INTER	CROSS	N	N	FOG	ANGL-OTH	01	NONE 0	STRGHT											02
CITY							SA	0	LELAND RD	CN		STOP SIGN	N	WET	TURN		PRVTE	NE-SW									007		00
							5P			04	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y		000	000		00
																									OR<25					
																02	NONE 0	TURN-L											
																	PRVTE	NW-NE									000		00
																	PSNGR CAR		01	DRVR	INJC	19	M	OTH-Y		028	000		02
																									N-RES					
																02	NONE 0	TURN-L											
																	PRVTE	NW-NE									000		00
																	PSNGR CAR		02	PSNG	INJC	18	M			000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

LELAND RD and Intersectional Crashes at LELAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	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
04254	N	N	N			10/24/2014	16	LELAND RD	INTER	4-LEG	N	Y	RAIN	FIX OBJ	01	NONE 0	TURN-R										100	03,08
NONE						FR	0	S MEYERS RD	SE		STOP SIGN	N	WET	FIX		PRVTE	SW-SE									000	100	00
						11P			06	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		021,001	017		03,08
00238	N	N	N			01/20/2011	16	LELAND RD	INTER	4-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						TH	0	S MEYERS RD	SW		STOP SIGN	N	DRY	REAR		PRVTE	SW-NE									000		00
						7A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	INJC	18	F	OR-Y OR<25		000	000		00
03638	N	N	N			10/01/2012	16	LELAND RD	INTER	4-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						MO	0	S MEYERS RD	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SW-NE									015		00
						8P			01	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		028	000		02
															02	NONE 0	STRGHT											
																PRVTE	N -S									000		00
																PSNGR CAR		01	DRVR	NONE	36	M	OR-Y OR<25		000	000		00
04648	Y	Y	N	N	N	12/03/2011	16	LELAND RD	STRGHT		N	Y	CLR	FIX OBJ	01	NONE 0	TURN-R										040,062,088	33,01,10
CITY						SA	300	S MEYERS RD	N	(NONE)	UNKNOWN	N	DRY	FIX		PRVTE	SE-N									000	040,062,088	00
						12A			08	(02)		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y OR<25		051,047,081	017		33,01,10
05208	N	N	N			12/07/2015	16	LELAND RD	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE						MO	0	PEASE RD	SW		STOP SIGN	N	WET	REAR		PRVTE	SW-NE									000		00
						7A			06	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	INJC	39	M	OR-Y OR<25		000	000		00
00787	N	N	N	N	Y	03/05/2011	16	LELAND RD	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L											02
NO RPT						SA	0	PEASE RD	CN		STOP SIGN	N	DRY	TURN		PRVTE	SW-N									015		00
						2P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		028	000		02
															01	NONE 0	TURN-L											
																PRVTE	SW-N									015		00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000		00
															01	NONE 0	TURN-L											
																PRVTE	SW-N									015		00
																PSNGR CAR		03	PSNG	NO<5	04	M			000	000		00
															02	NONE 0	STRGHT											
																PRVTE	N -S									000		00
																PSNGR CAR		01	DRVR	INJC	18	M	OR-Y OR<25		000	000		00
00397	N	N	N			01/31/2015	16	LELAND RD	ALLEY		N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02

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CITY OF OREGON CITY, CLACKAMAS COUNTY

LELAND RD and Intersectional Crashes at LELAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
NONE						SA	69	PEASE RD	N	(NONE)	UNKNOWN	N	DRY	BACK		PRVTE	S -N									000		00
						8A			07			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	48	F	OR-Y		000	000		00
										(02)													OR<25					
															02	NONE 0	BACK											
																PRVTE	E -W									018		00
																PSNGR CAR		01	DRVR	NONE	44	M	OR-Y		028	000		02
																							OR<25					
02086	N	N	N			06/12/2013	16	LELAND RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						WE	0	WARNER-MILNE RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						7A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y		000	000		00
																							OR<25					
03835	N	N	N			10/15/2012	16	LELAND RD	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						MO	0	WARNER-MILNE RD	CN		TRF SIGNAL	N	WET	ANGL		PRVTE	E -W									000		00
						5P			02	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJC	48	M	OR-Y		000	000		00
																							OR<25					
															01	NONE 0	STRGHT											
																PRVTE	E -W									000		00
																PSNGR CAR		02	PSNG	INJC	16	F			000	000		00
															02	NONE 0	STRGHT											
																PRVTE	S -N									000		00
																PSNGR CAR		01	DRVR	NONE	51	F	OR-Y		020	038		04
																							OR<25					
02245	N	N	N			06/09/2015	16	LELAND RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										004	29
NONE						TU	0	WARNER-MILNE RD	CN		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
						8A			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	E -N									013	004	00
																PSNGR CAR		01	DRVR	INJC	27	M	OR-Y		000	000		00
																							OR<25					
01113	N	N	N			03/30/2015	16	LELAND RD	ALLEY		N	N	CLR	S-OTHER	01	NONE 0	TURN-L											08
NONE						MO	80	WARNER-MILNE RD	S	(NONE)	UNKNOWN	N	DRY	TURN		PRVTE	W -N									018		00
						4P			07			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		001	000		08
										(02)													UNK					
															02	NONE 0	STOP											
																PRVTE	W -E									011		00
																PSNGR CAR		01	DRVR	NONE	54	F	OR-Y		000	000		00
																							OR<25					
01720	N	N	N			05/10/2012	16	LELAND RD	STRGHT		N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TH	137	WARNER-MILNE RD	S	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	S -N									000		00
						7A			08			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	51	M	OR-Y		026	000		07
										(02)													OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	43	M	OR-Y		000	000		00
																							OR<25					

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CITY OF OREGON CITY, CLACKAMAS COUNTY

LELAND RD and Intersectional Crashes at LELAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03220	N	N	N			08/20/2014	16	LELAND RD	STRGHT		N	N	CLR	S-1STOP	01	NONE 0	STRGHT										099	29
NONE						WE	150	WARNER-MILNE RD	S	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	S -N									000		00
						UNK			08			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000	099	29
										(02)													OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	17	F	OR-Y		000	000		00
																							OR<25					
03175	N	N	N			08/17/2014	16	LELAND RD	STRGHT		N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						SU	520	WARNER-MILNE RD	S	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	N -S									000		00
						2P			07			N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	57	F	OR-Y		026	000		29
										(02)													OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		01	DRVR	NONE	43	M	OR-Y		000	000		00
																							OR<25					
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		029	000		02
																							OR<25					
																	- 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		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	E -W									000		00
																PSNGR CAR		01	DRVR	NONE	16	F	OR-Y		020	000		04
																							OR<25					
04405	Y	N	N	N	N	11/17/2012	16	LELAND RD	STRGHT		N	Y	RAIN	FIX OBJ	01	NONE 0	STRGHT										088,093,053	33,27,01
CITY						SA	31	WARNER-PARROTT RD	S	(NONE)	UNKNOWN	N	WET	FIX		PRVTE	N -S									000	010,040,037	00
						8P			05			N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	21	M	SUSP		051,016,081	038	093	33,27,01
										(02)													OR<25					

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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 JESSIE AVE, 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	SPCL USE / TRLR QTY / OWNER V#	MOVE / FROM / TO	PRTC P#	TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

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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	SPCL USE / TRLR QTY / OWNER V#	MOVE / FROM / TO	PRTC P#	TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

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Exhibit H: 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: PDX Development, Inc. Business name: PDX Development, Inc. Contact address, phone number, and e-mail: P.O. Box 2559 Oregon City, OR 97045
	Project location	Site address: 19701 S Leland Road, Oregon City Site description: The property is located north of Lindsay Anne Estates Subdivision and west of S Leland Road. 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): 28 single-family residential lots.
	Size of site	Size of site: 6.33± (acres) Number of existing/proposed tax lots: 1/28 Amount of new and replaced impervious area: 150,447 (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 Infiltration not recommended (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-6
	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: 150,447 (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)]: 150,447 (SF)

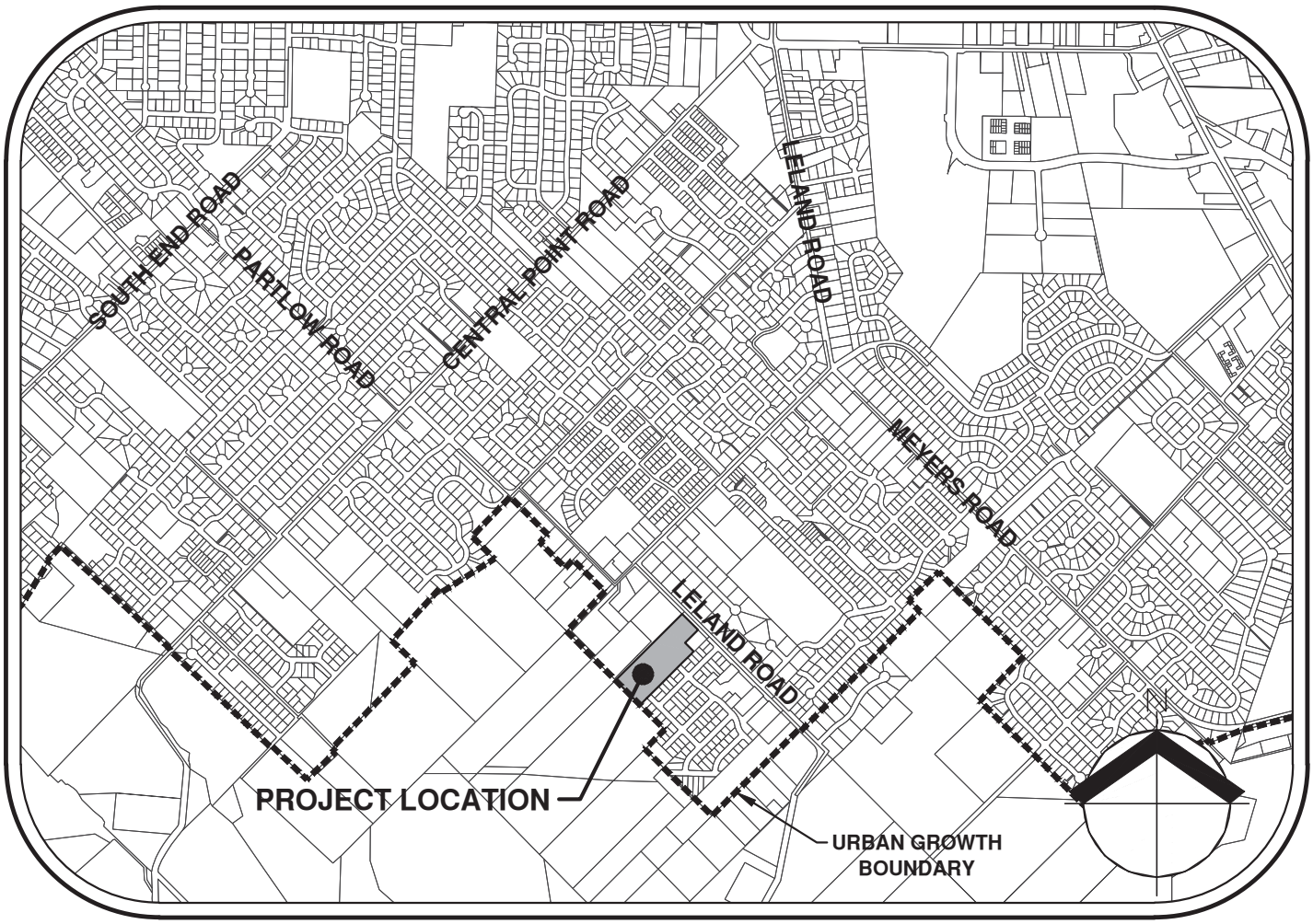
SITE ASSESSMENT AND PLANNING CHECKLIST

2.2.4 Proposed Stormwater Management Strategy

	Proposed Stormwater Management Strategy	_____ Infiltration facilities _____ Surface Infiltration facilities to the MEP _____ Full onsite retention/infiltration up to the 10-year storm event X 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 X 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 X Filtration Stormwater Planter _____ Infiltration Rain Garden _____ Filtration Rain Garden _____ 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: 10,786 (SF) B. Calculate MEP surface area of surface infiltration facilities for sites with limiting conditions: Total new/replaced impervious area (SF) x 0.10 = 15,045 (SF) C. Calculate required surface area of onsite LID facilities: Smaller of [A] or [B]: 10,786 (SF) D. Proposed surface infiltration facility size(s): From site plan: 10,786 (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

NOTES:
- NRCS HYDROLOGICAL SOIL TYPE: BORNSTEDL SILT LOAM AND JORY SILTY CLAY LOAM
- INFILTRATION ASSESSMENT: INFILTRATION NOT RECOMMENDED PER GEOTECH ENGINEERING
- LAND USE AND ZONING: R-6

SCALE: 1" = 40 FEET
ON 34" X 24" PAPER

N46°20'29"W 331.56'
N43°40'13"E 893.94'
S43°34'15"W 719.97'
S43°34'29"W 173.97'
S46°19'21"E 115.02'
S46°21'05"E 215.00'

CEDARWOOD WAY
CHERRYWOOD WAY
S LELAND ROAD
LINDSAY ANNE LANE
ASPHALT DRIVEWAY
GRAVEL DRIVE

TAX LOT 1500 TAX MAP 3S 2E 18AB
TAX LOT 1300 TAX MAP 3S 2E 18AB
TAX LOT 1200 TAX MAP 3S 2E 18AB
TAX LOT 1100 TAX MAP 3S 2E 18AB
TAX LOT 1000 TAX MAP 3S 2E 18AB
TAX LOT 800 TAX MAP 3S 2E 18AB
TAX LOT 700 TAX MAP 3S 2E 18AB
TAX LOT 500 TAX MAP 3S 2E 18AB
TAX LOT 400 TAX MAP 3S 2E 18AB
TAX LOT 300 TAX MAP 3S 2E 18AB
TAX LOT 100 TAX MAP 3S 2E 18AB
TAX LOT 1400 TAX MAP 3S 2E 18
TAX LOT 1401 TAX MAP 3S 2E 18
TAX LOT 101 TAX MAP 3S 2E 7C
TAX LOT 199 TAX MAP 3S 2E 7C
TAX LOT 900 TAX MAP 3S 2E 7DC
TAX LOT 800 TAX MAP 3S 2E 7DC
TAX LOT 700 TAX MAP 3S 2E 7DC
TAX LOT 600 TAX MAP 3S 2E 7DC

EX STM MH RIM: 438.92 IE IN: 433.85 (12"W) IE IN: 433.46 (12"N) IE IN: 432.46 (12"SE) IE IN: 432.38 (12"NW) IE OUT: 432.30 (12"NE)
EX STM CI RIM: 439.30 IE OUT: 435.35 (12"E) SUMP: 433.62
EX STM MH RIM: 439.86 IE OUT: 433.60 (12"SE)
STORMWATER DISCHARGE CONNECTION POINT
EX STM CI RIM: 439.15 IE OUT: 433.98 (12"SE) SUMP: 432.29
EX STM CI RIM: 435.63 IE IN: 432.28 (12"SE) IE OUT: 432.19 (12"NE) SUMP: 430.39
EX STM CI RIM: 435.60 IE OUT: 432.44 (12"NW) SUMP: 430.84
EX STM CI RIM: 436.67 IE OUT: 430.97 (12"NE) SUMP: 429.29
EX STM MH RIM: 435.92 IE IN: 431.99 (12"W) IE IN: 430.50 (12"SW) IE IN: 430.42 (12"NE) IE IN: 430.32 (12"NW) IE OUT: 430.25 (15"SE)
EX STM CI RIM: 436.56 IE OUT: 430.88 (12"SW) SUMP: 429.32
EX STM MH RIM: 436.43 IE IN: 430.64 (12"NW) IE IN: 430.82 (12"NE) IE IN: 430.61 (12"SW) IE OUT: 430.57 (12"SE)
EX STM MH RIM: 437.16 IE OUT: 431.36 (12"SE)
POWER CONDUIT STUB
STORMWATER DISCHARGE CONNECTION POINT
EX STM CB RIM: 434.84 IE IN: 431.42 (12"NW) IE OUT: 431.25 (12"SE)
EX STM DI TOP GRATE: 435.12 BOT. GRATE: 433.68 IE OUT: 433.18 (12"S)
BARRICADE
STORMWATER DISCHARGE CONNECTION POINT
EX STM CB RIM: 435.29 IE IN: 430.90 (12"NW) IE OUT: 430.85 (12"SE)
EX STM CB RIM: 435.23 IE IN: 432.25 (12"N) IE OUT: 431.81 (12"SE)

10' PUE
10' ELECTRIC LINE EASEMENT PER DOC. NO. 2014-049319
125' PGE TRANSMISSION LINE EASEMENT BOOK 278 PAGE 308
PGE POWER LINE TOWER

BARN
CHICKEN COOP
EX BASKETBALL HOOP
POLE WITH LIGHT AND DROP
OUTHOUSE
SHED
SHOP
GRAVEL DRIVE
STONE PATIO
CARPORT
HOUSE
COVERED PORCH

EX 12" CONC CULVERT IE: 441.35
EX 16" CONC CULVERT IE: 433.62
EX 2" PVC OUTFALL IE: 435.65
EX 12" CONC CULVERT IE: 433.45
EX 2" PVC OUTFALL IE: 436.10
EX 12" CONC CULVERT IE: 433.63
EX STONE RETAINING WALL
EX 12" CONC CULVERT IE: 433.74
EX 2" PVC OUTFALL IE: 434.39
EX 2" PVC OUTFALL IE: 434.49
EX 12" STEEL CULVERT IE: 433.59
EX 6" PVC CULVERT IE: 434.51
EX 8" STEEL CULVERT IE: 436.29
EX 12" CONC CULVERT IE: 434.52
EX 12" CONC CULVERT IE: 437.09
EX 12" CSP CULVERT IE: 439.08
EX 12" CONC CULVERT IE: 441.36
EX 12" CSP CULVERT IE: 441.96
EX 12" CONC CULVERT IE: 442.36

12"PVC
15"DIP
12"HDPE

DESIGNED BY:	
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 07/26/2017	

REVISIONS

JOB NUMBER 5837
SHEET 1

SITE ASSESSMENT MAP

LINDSAY ANNE ESTATES TOO

OREGON CITY OREGON
TAX LOT 1400 CLACKAMAS COUNTY TAX MAP 3-2E-18

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
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ENGINEERING · SURVEYING · NATURAL RESOURCES
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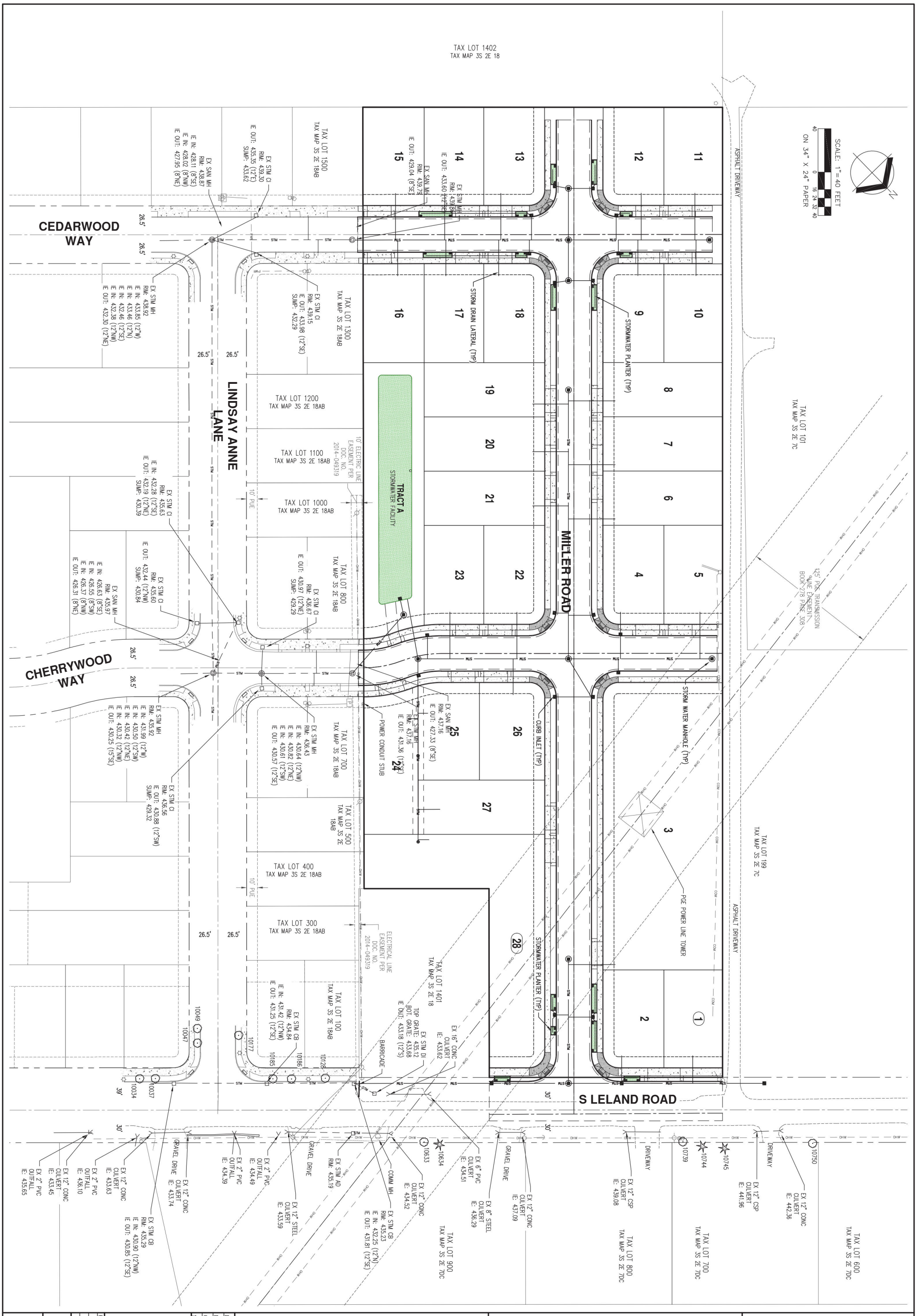
PRELIMINARY SITE PLAN



PRELIMINARY SITE PLAN

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	08/03/2017
REVISIONS	
JOB NUMBER	5837
SHEET	1

LINDSAY ANNE ESTATES TOO

OREGON CITY — TAX LOT 1400

OREGON — CLACKAMAS COUNTY TAX MAP 3-2E-18

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BMP SIZING TOOL REPORT

WES BMP Sizing Software Version 1.6.0.1, August 2015

WES BMP Sizing Report

Project Information

Project Name	Lindsay Anne Estates Too
Project Type	Subdivision
Location	19701 S Leland Road, Oregon City
Stormwater Management Area	0
Project Applicant	PDX Development, Inc.
Jurisdiction	OutofDistrict

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
Basin 2 - Roof	2,640	Forested	Roofs	C	Basin 2 - Planter
Basin 1 - Pervious	2,471	Forested	Grass	C	Basin 1 - Planter
Basin 1 - Impervious	2,354	Forested	ConventionalConcrete	C	Basin 1 - Planter
Basin 1 - Roof	2,640	Forested	Roofs	C	Pond
Basin 2 - Impervious	3,120	Forested	ConventionalConcrete	C	Basin 2 - Planter
Basin 2 - Pervious	2,840	Forested	Grass	C	Basin 2 - Planter
Basin 3 - Roof	2,640	Forested	Roofs	C	Basin 3 - Planter
Basin 3 - Impervious	1,660	Forested	ConventionalConcrete	C	Basin 3 - Planter
Basin 3 - Pervious	2,774	Forested	Grass	C	Basin 3 - Planter
Basin 4 - Roof	5,280	Forested	Roofs	C	Basin 4 - Planter
Basin 4 - Impervious	5,160	Forested	ConventionalConcrete	C	Basin 4 - Planter
Basin 4 - Pervious	5,294	Forested	Grass	C	Basin 4 - Planter
Basin 5 - Roof	5,280	Forested	Roofs	C	Basin 5 - Planter
Basin 5 - Impervious	3,670	Forested	ConventionalConcrete	C	Basin 5 - Planter

Basin 5 - Pervious	5,311	Forested	Grass	C	Basin 5 - Planter
Basin 6 - Roof	2,640	Forested	Roofs	C	Basin 6 - Planter
Basin 6 - Impervious	3,200	Forested	ConventionalConcrete	C	Basin 6 - Planter
Basin 6 - Pervious	2,820	Forested	Grass	C	Basin 6 - Planter
Basin 7 - Roof	2,640	Forested	Roofs	C	Basin 7 - Planter
Basin 7 - Impervious	3,050	Forested	ConventionalConcrete	C	Basin 7 - Planter
Basin 7 - Pervious	2,910	Forested	Grass	C	Basin 7 - Planter
Basin 8 - Roof	2,640	Forested	Roofs	C	Pond
Basin 8 - Impervious	2,344	Forested	ConventionalConcrete	C	Basin 8 - Planter
Basin 8 - Pervious	2,522	Forested	Grass	C	Basin 8 - Planter
Basin 20 - Roof	39,600	Forested	Roofs	C	Pond
Basin 20 - Impervious	36,327	Forested	ConventionalConcrete	C	Pond
Basin 20 - Pervious	74,206	Forested	Grass	C	Pond
Basin 43 - Roof	7,920	Forested	Roofs	C	Basin 43 - Planter
Basin 43 - Impervious	5,410	Forested	ConventionalConcrete	C	Basin 43 - Planter
Basin 43 - Pervious	10,446	Forested	Grass	C	Basin 43 - Planter
Basin 42 - Impervious	3,150	Forested	ConventionalConcrete	C	Basin 42 - Planter
Basin 42 - Pervious	8,991	Forested	Grass	C	Basin 42 - Planter
Basin 40 - Impervious	3,658	Forested	ConventionalConcrete	C	Basin 40 - Planter
Basin 40 - Pervious	470	Forested	Grass	C	Basin 40 - Planter
Basin 41 - Impervious	3,424	Forested	ConventionalConcrete	C	Basin 41 - Planter
Basin 41 - Pervious	350	Forested	Grass	C	Basin 41 - Planter

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
Basin 1 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	46.1	47.0	0.3
Basin 2 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	98.8	99.0	0.5
Basin 3 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	76.6	81.0	0.4
Basin 4 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	179.6	180.0	0.6
Basin 5 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	157.4	162.0	0.6
Basin 6 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	99.9	104.0	0.5
Basin 7 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	98.0	104.0	0.5
Basin 8 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	46.1	47.0	0.3
Basin 43 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	245.4	246.0	0.7
Basin 42 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	86.4	90.0	0.4
Basin 40 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	56.9	63.0	0.3
Basin 41 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	52.9	63.0	0.3

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	Lined	5.50	9,500.0	3	36,555.7	26,791.7	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.

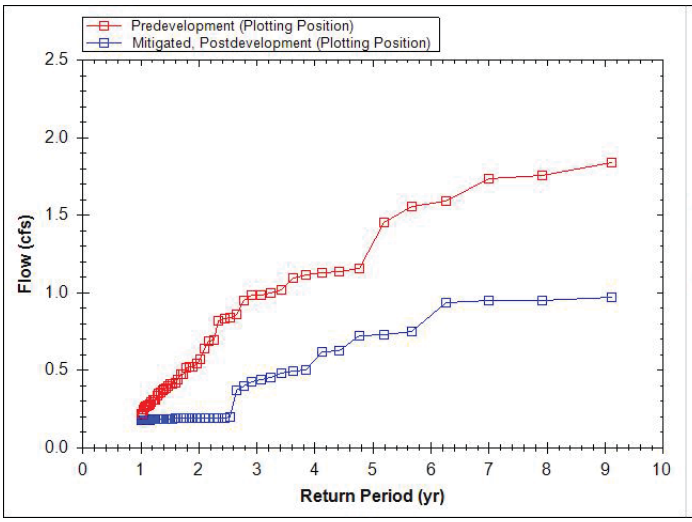
Custom Pond Geometry Configuration

Pond ID: Pond
Design: FlowControlAndTreatment

Shape Curve

Depth (ft)	Area (sq ft)	Discharge (cfs)
NaN	NaN	NaN

Flow Frequency Chart



Flow Duration Chart

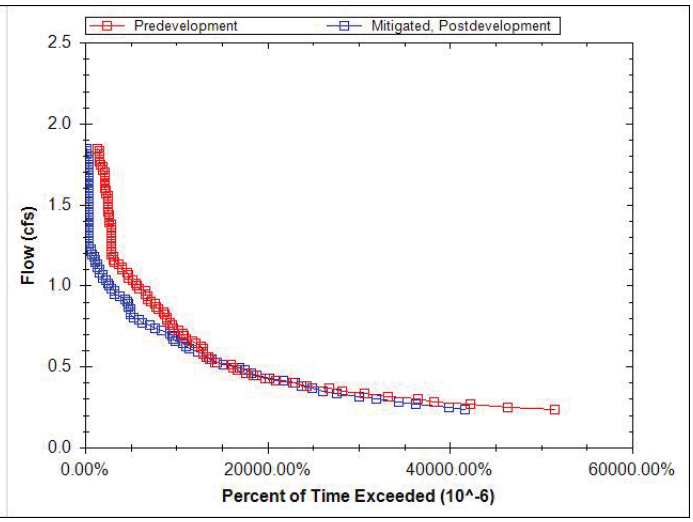


Exhibit I: Geotechnical Engineering Report

Real-World Geotechnical Solutions
Investigation • Design • Construction Support

Revised August 2, 2017
Project No. 17-4623

PDX Development, Inc.

PO Box 2559
Oregon City, Oregon 97045
Email: bament2001@aol.com

Via email with hard copies mailed upon request

SUBJECT: GEOTECHNICAL ENGINEERING REPORT
LINDSAY ANNE ESTATES TOO
19701 SOUTH LELAND ROAD
TAX LOT 3S2E18 01400
OREGON CITY, OREGON

This report presents the results of a geotechnical explorations 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 study was performed in accordance with GeoPacific Proposal No. P-6079 dated April 27, 2017, and your subsequent authorization of our proposals and *General Conditions for Geotechnical Services*.

SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The subject site is located on the southwest side of Leland Road in Oregon City, Clackamas County, Oregon. The site consists of Tax lot 3S2E18 01400 and is approximately 6.3 acres in size. Based on topographical mapping provided by AKS Engineering and Forestry, topography is gently undulating, with site elevations ranging between 435 to 445 feet AMSL. Vegetation on the site generally consists of grass, with some small to large trees in the central and western portions of the site. There is one existing residence in the central portion of the site, with several outbuildings. A PGE transmission line crosses the northern corner of the site.

Preliminary site plans indicate that the proposed development will consist of construction of a 28 lot subdivision for single family home construction, new public streets, associated underground utilities, and the construction of a stormwater detention pond. Based on our review of the grading plan provided by AKS Engineering and Forestry, LLC, we anticipate that maximum cuts and fills will be on the order of 5 feet or less. The existing residences and outbuildings will be demolished and removed from the site. We understand that a stormwater facility is proposed in Tract A, in the central-eastern portion of the site.

SITE GEOLOGY

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. Valley-fill sediment in the adjacent basin achieves a maximum thickness of 1,500 feet and overlies Miocene Columbia River Basalt at depth (Madin, 1990; Yeats et al., 1996).

The subject site lies on a broad volcanic plateau underlain by the Boring Lava 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.

REGIONAL SEISMIC SETTING

At least three major fault zones capable of generating damaging earthquakes are thought to exist in the vicinity of the subject site. These include the Portland Hills Fault Zone, the Gales Creek-Newberg-Mt. Angel Structural Zone, and the Cascadia Subduction Zone.

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 4.9 miles northeast of the site. The East Bank Fault occurs along the eastern margin of the Willamette River, and is located approximately 9.9 miles northeast of the subject site. The Oatfield Fault occurs along the western side of the Portland Hills, and is about 4.7 miles northeast of the site. The Oatfield Fault is considered to be potentially seismogenic (Wong, et al., 2000). Mabey et al., (1996) indicate the Portland Hills Fault Zone has experienced Late Quaternary (last 780,000 years) fault movement; however, movement has not been detected in the last 20,000 years. 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 18 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 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 Fault or Newberg Fault (the fault 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 between 20 and 40 miles.

SUBSURFACE CONDITIONS

Our site-specific exploration for this report was conducted on June 2, 2017. A total of 6 exploratory test pits were excavated with a small track-mounted excavator to depths ranging from 4.5 to 9.5 feet bgs (below ground surface) at the approximate locations indicated on Figures 2 & 3. It should be noted that test pit locations were located in the field by pacing 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.

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

A GeoPacific engineer continuously monitored the field exploration program and logged the test pits. 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, GeoPacific also noted geotechnical conditions such as soil consistency, moisture and groundwater conditions. Logs of test pits are attached to this report. The following report sections are based on the exploration program and summarize subsurface conditions encountered at the site.

Topsoil Horizon: Directly underlying the ground surface in all test pits, we observed low to moderately organic SILT (OL-ML). This organic silt layer was classified as topsoil horizon. The topsoil horizon consisted of a moist, low to moderately organic upper layer that extended to a depth of 10-15 inches bgs with fine roots extending to depths ranging from 5 to 13 inches.

Table 2 – Depth of Topsoil Horizon in Test Pit Explorations

Test Pit Designation	Topsoil Horizon Thickness (in)
TP-1	14
TP-2	15
TP-3	13
TP-4	10
TP-5	13
TP-6	13

Residual Soil: Underlying the topsoil horizon in all test pits we encountered residual soil derived from in-place weathering of the underlying Boring Lava Formation. The residual soil generally consisted of stiff to very stiff, moist, reddish-brown CLAY (CL), with trace black staining, subtle orange and gray mottling, and vesicular basalt gravels. These soils extended to depths of 4.0 feet in test pits TP-1, TP-2, TP-4, TP-5, and TP-6 and a depth of 3.5 feet in test pit TP-3. The residual soil grades to hard between the depths of 3.5 feet and 4 feet in test pits TP-1, TP-2, and TP-4.

***Boring Lava* –** Beneath the residual soil, we encountered weathered rock belonging to the Boring Lava Formation in all test pit explorations. The upper two to three feet of the weathered rock was generally extremely soft to very soft (R0-R1), but below that the weathered rock graded to very soft to soft (R1-R2). In test pit TP-6, a large boulder was encountered in the north side of the test pit. We experienced practical refusal on medium hard (R3) basalt at a depth of 9 feet in test pit TP-1. Very soft to soft (R1-R2) basalt extended beyond the maximum depth of exploration in all other test pits.

Soil Moisture and Groundwater

On June 2, 2017, GeoPacific observed groundwater seepage in test pits TP-1 and TP-5 at depths of 6 feet and 8.5 feet, respectively. Groundwater seepage was not found in the other explorations to a depth of 9.5 feet below the ground surface. Soil moisture conditions were moist in test pits TP-2, TP-3, TP-4, and TP-6 and ranged from moist to wet in test pits TP-1 and TP-5. According to the *Estimated Depth to Groundwater in the Portland, Oregon Area, (United States Geological Survey, Snyder, 2017 website)*, groundwater is expected to be present at an approximate depth of 20 feet below the ground surface. It is anticipated that groundwater

conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors. Perched groundwater may be encountered in localized areas. Seeps and springs may exist in areas not explored, and may become evident during site grading.

CONCLUSIONS AND RECOMMENDATIONS

Based on our review, we consider the proposed development to be geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. In our opinion, the primary geotechnical concern associated with development at the site are the presence of bedrock at relatively shallow depths across the site and site preparation due to the thickness of topsoil layer across the site. Topsoil was found at depths ranging from 10 to 15 inches in all test pits during our explorations. This thick layer of topsoil will either have to be removed or structural foundations may have to be deepened in order to bear on competent native soils. It is possible that portions of the topsoil containing medium to large roots, but not much other organic content, may be remediated by ripping/tilling, root-picking, and recompacting. The Boring Lava Formation, which underlies the site, is known for rounded residual boulders, which could hamper excavations, such as for utility trenching. The potential for encountering boulders should be anticipated. The following report sections provide recommendations for site development and construction in accordance with the current applicable codes and local standards of practice.

Site Preparation

Areas of proposed buildings, streets, and areas to receive fill should be cleared of vegetation and any organic and inorganic debris. Existing structures should be demolished and any cavities structurally backfilled. Inorganic debris should be removed from the site. Organic materials from clearing should either be removed from the site or placed as landscape fill in areas not planned for structures.

Organic-rich topsoil should then be stripped from construction areas of the site or where engineered fill is to be placed. The estimated average necessary depth of removal in undisturbed areas for low to moderately organic soils is 6 inches. Deeper stripping to remove large tree roots or other organics may be necessary in portions of the site. It is possible that portions of the topsoil containing medium to large roots, but not much other organic content, may be remediated by ripping/tilling, root-picking, and recompacting.

The final depth of soil removal will be determined based on a site inspection after the stripping/ excavation has been performed. Stripped 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. Disturbed native soil should either be removed and replaced, or should be ripped/tilled, root-picked, and recompacted in place. Undocumented fill soils were not encountered in our test pit explorations, but may be present in areas outside of our explorations. Undocumented fill material likely exists in the vicinity of the existing homes and structures.

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.

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 percent 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. 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.

Excavating Conditions and Utility Trenches

Subsurface test pit exploration indicates that, in general, utility trenches can be excavated using conventional heavy equipment such as dozers and trackhoes. 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. All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Heath 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. The existing bedrock classifies as Type A Soil and temporary excavation side slope inclinations as steep as 3/4H:1V may be assumed for planning purposes. These cut slope inclinations are 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 Standard Proctor ASTM D698 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.

Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion. 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 waddles 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.

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
- Straw waddles and/or geotextile silt fences 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.

Pavement Design – Light-Duty Public Streets

We understand that plans for development include on-site light-duty public streets. An assumed CBR value of 6 and a corresponding roadbed soil resilient modulus of 9,000 psi were used for our analysis for the design of the new pavement section. Table 3 presents our flexible pavement design input parameters for the on-site light-duty public streets. The calculated design structural number is 2.03. We estimated the ADT to be 280 by considering the number of houses that will be serviced by the proposed new section of road. We assume 3 percent heavy trucks. Table 4 presents our recommended minimum dry-weather pavement section for both the new on-site public streets, supporting 20 years of vehicle traffic. Table 4 presents our recommended minimum dry-weather pavement section for the new public streets supporting 20 years of vehicle traffic. Pavement design calculations are attached to this report.

Table 3 – Flexible Pavement Section Design Input Parameters for On-Site Light-Duty Public Streets

Input Parameter	Design Value
18-kip ESAL Initial Performance Period (20 Years)	78,850
Initial Serviceability	4.2
Terminal Serviceability	2.5
Reliability Level	85 Percent
Overall Standard Deviation	0.44
Roadbed Soil Resilient Modulus (PSI)	9,000
Design Structural Number	**2.03**

Table 4 - Recommended Minimum Dry-Weather Pavement Section for On-Site Light-Duty Public Streets

Material Layer	Section Thickness (in.)	Structural Coefficient	Compaction Standard
Asphaltic Concrete (AC)	3	0.44	91%/ 92% of Rice Density AASHTO T-209
Crushed Aggregate Base ¾"-0 (leveling course)	2	0.12	95% of Modified Proctor ASTM D1557 or equivalent
Crushed Aggregate Base 1½"-0	8	0.12	95% of Modified Proctor ASTM D1557 or equivalent
Subgrade	12	9,000 PSI	95% of Standard Proctor ASTM D698 or equivalent
Total Calculated Structural Number		**2.52**	

Pavement subgrade should be ripped/tilled, root-picked, moisture-conditioned, and compacted to at least 95% of Standard Proctor (ASTM D698 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.

Anticipated 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 12 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 homes.

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 0.42, 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.

Footing and Roof Drains

If the proposed structures will have a raised floor, and no concrete slab-on-grade floors 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 (excluding garage slabs), perimeter footing drains should be installed as recommended below.

Where used, 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. Water collected from the footing drains should be directed to the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. The footing drains should include clean-outs to allow periodic maintenance and inspection. 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 the street.

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 exposed 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 in order to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

Concrete Slabs-on-Grade

Preparation of areas beneath concrete slab-on-grade floors should be performed as recommended in the *Site Preparation* section. Care should be taken during excavation for foundations and floor slabs, to avoid disturbing subgrade soils. If subgrade soils have been adversely impacted by wet weather or otherwise disturbed, the surficial soils should be scarified to a minimum depth of 8 inches, moisture conditioned to within about 3 percent of optimum moisture content, and compacted to engineered fill specifications. Alternatively, disturbed soils may be removed and the removal zone backfilled with additional crushed rock.

For evaluation of the concrete slab-on-grade floors using the beam on elastic foundation method, a modulus of subgrade reaction of 150 kcf (87 pci) should be assumed for the stiff native clay soils anticipated at subgrade depth. This value assumes the concrete slab system is designed and constructed as recommended herein, with a minimum thickness of crushed rock of 8 inches beneath the slab.

Interior slab-on-grade floors (excluding garage slabs) should be provided with an adequate moisture break. The capillary break material should consist of ODOT open graded aggregate per ODOT Standard Specifications 02630-2. The minimum recommended thickness of capillary break materials on re-compacted soil subgrade is 8 inches. The total thickness of crushed aggregate will be dependent on the subgrade conditions at the time of construction, and should be verified visually by proof-rolling. Under-slab aggregate should be compacted to at least 95 percent of its maximum dry density as determined by ASTM D698 (Standard Proctor) or equivalent.

In areas where moisture will be detrimental to floor coverings or equipment inside the proposed structure, appropriate vapor barrier and damp-proofing measures should be implemented. Appropriate design professionals should be consulted regarding vapor barrier and damp proofing systems, ventilation, building material selection and mold prevention issues, which are outside GeoPacific's area of expertise.

Permanent Below-Grade Walls

Lateral earth pressures against below-grade retaining walls will depend upon the inclination of any adjacent slopes, type of backfill, degree of wall restraint, method of backfill placement, degree of backfill compaction, drainage provisions, and magnitude and location of any adjacent

surcharge loads. At-rest soil pressure is exerted on a retaining wall when it is restrained against rotation. In contrast, active soil pressure will be exerted on a wall if its top is allowed to rotate or yield a distance of roughly 0.001 times its height or greater.

If the subject retaining walls will be free to rotate at the top, they should be designed for an active earth pressure equivalent to that generated by a fluid weighing 35 pcf for level backfill against the wall. For restrained wall, an at-rest equivalent fluid pressure of 55 pcf should be used in design, again assuming level backfill against the wall. These values assume that the recommended drainage provisions are incorporated, and hydrostatic pressures are not allowed to develop against the wall.

During a seismic event, lateral earth pressures acting on below-grade structural walls will increase by an incremental amount that corresponds to the earthquake loading. Based on the Mononobe-Okabe equation and peak horizontal accelerations appropriate for the site location, seismic loading should be modeled using the active or at-rest earth pressures recommended above, plus an incremental rectangular-shaped seismic load of magnitude 6.5H, where H is the total height of the wall.

We assume relatively level ground surface below the base of the walls. As such, we recommend passive earth pressure of 320 pcf for use in design, assuming wall footings are cast against competent native soils or engineered fill. If the ground surface slopes down and away from the base of any of the walls, a lower passive earth pressure should be used and GeoPacific should be contacted for additional recommendations.

A coefficient of friction of 0.42 may be assumed along the interface between the base of the wall footing and subgrade soils. The recommended coefficient of friction and passive earth pressure values do not include a safety factor, and an appropriate safety factor should be included in design. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

The above recommendations for lateral earth pressures assume that the backfill behind the subsurface walls will consist of properly compacted structural fill, and no adjacent surcharge loading. If the walls will be subjected to the influence of surcharge loading within a horizontal distance equal to or less than the height of the wall, the walls should be designed for the additional horizontal pressure. For uniform surcharge pressures, a uniformly distributed lateral pressure of 0.3 times the surcharge pressure should be added. Traffic surcharges may be estimated using an additional vertical load of 250 psf (2 feet of additional fill), in accordance with local practice.

The recommended equivalent fluid densities assume a free-draining condition behind the walls so that hydrostatic pressures do not build-up. This can be accomplished by placing a 12 to 18-inch wide zone of sand and gravel containing less than 5 percent passing the No. 200 sieve against the walls. A 3-inch minimum diameter perforated, plastic drain pipe should be installed at the base of the walls and connected to a suitable discharge point to remove water in this zone of sand and gravel. The drain pipe should be wrapped in filter fabric (Mirafi 140N or other as approved by the geotechnical engineer) to minimize clogging.

Wall drains are recommended to prevent detrimental effects of surface water runoff on foundations – not to dewater groundwater. Drains should not be expected to eliminate all potential sources of water entering a basement or beneath a slab-on-grade. An adequate grade to a low point outlet drain in the crawlspace is required by code. Underslab drains are sometimes added beneath the slab when placed over soils of low permeability and shallow, perched groundwater.

Water collected from the wall drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. Down spouts and roof drains should not be connected to the wall drains in order to reduce the potential for clogging. The drains should include clean-outs to allow periodic maintenance and inspection. Grades around the proposed structure should be sloped such that surface water drains away from the building.

GeoPacific should be contacted during construction to verify subgrade strength in wall keyway excavations, to verify that backslope soils are in accordance with our assumptions, and to take density tests on the wall backfill materials.

Structures should be located a horizontal distance of at least 1.5H away from the back of the retaining wall, where H is the total height of the wall. GeoPacific should be contacted for additional foundation recommendations where structures are located closer than 1.5H to the top of any wall.

Feasibility of Subsurface Infiltration

We understand that it is desired to incorporate subsurface infiltration of stormwater into the design of stormwater management facilities. However, during our geotechnical investigation of the site, we encountered rock at relatively shallow depths across the site. In our test pits, rock was generally encountered at 3.5 to 4 feet below the ground surface. Generally, at least 5 feet of separation is recommended between infiltration facilities and rock. Also, on June 2, 2017, we encountered groundwater seepage at a depth of 6 feet in test pit TP-1 and at 8.5 feet in TP-6, indicating that the rock underlying the site does not infiltrate well.

Based on the subsurface conditions encountered, subsurface infiltration of stormwater is not recommended for this site. Our opinion is based on the fact that the native soil layer overlying bedrock is generally less than 5 feet thick and that perched groundwater was encountered during a period of dry weather.

Stormwater management systems should be constructed as specified by the designer and/or in accordance with jurisdictional design manuals. Stormwater exceeding storage capacities will need to be directed to a suitable surface discharge location, away from structures. Stormwater management systems may need to include overflow outlets, surface water control measures and/or be connected to the street storm drain system, if available. In no case should uncontrolled stormwater be allowed to flow over slopes.

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. Structures should be designed to resist earthquake loading in accordance with the methodology described in the 2012 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 (USGS 2017)

Parameter	Value
Location (Lat, Long), degrees	45.321, -122.607
Probabilistic Ground Motion Values, 2% Probability of Exceedance in 50 yrs	
Peak Ground Acceleration	0.437 g
Short Period, S_s	0.910 g
1.0 Sec Period, S_1	0.395 g
Soil Factors for Site Class D:	
F_a	1.136
F_v	1.609
$SD_s = 2/3 \times F_a \times S_s$	0.689 g
$SD_1 = 2/3 \times F_v \times S_1$	0.424 g
Seismic Design Category	D

Soil Liquefaction

The Oregon Department of Geology and Mineral Industries (DOGAMI), Oregon HazVu: 2017 Statewide GeoHazards Viewer indicates that the site is not mapped to be at risk for soil liquefaction during an earthquake. Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to ground shaking caused by strong earthquakes. Soil liquefaction typically occurs in loose sands and granular soils located below the water table, and fine-grained soils with a plasticity index less than 15. The subsurface profile observed within our test pit explorations which extended to a maximum depth of 9.5 feet bgs, indicated that the site is underlain by stiff Lean CLAY (CL) and weathered BASALT (R0-R3), which are not considered susceptible to liquefaction. Light groundwater seepage was observed in test pits TP-1 and TP-5, and no groundwater was observed in all other test pits (TP-2, TP-3, TP-4, TP-6). According to the *Estimated Depth to Groundwater in the Portland, Oregon Area, (United States Geological Survey, Snyder, 2017 website)*, groundwater is expected to be present at an approximate depth of 20 feet below the ground surface.

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 attempted to execute these services in accordance with generally accepted professional principles and practices in the fields of geotechnical engineering and engineering geology 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.

Thomas J. Torkelson, E.I.
Engineering Staff

REGISTERED PROFESSIONAL ENGINEER
90013PE
OREGON
MAY 22, 2015
BENJAMIN G. ANDERSON
Expires: 12/31/17

Benjamin G. Anderson, P.E.
Project Engineer

Attachments: References
Figures
- Figure 1 - Vicinity Map
- Figure 2 - Site Plan and Exploration Locations
- Figure 3 - Aerial View and Exploration Locations

Exploration Logs
Flexible Pavement Design Calculations
Site Research
Photographic Log

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FIGURES

GeoPacific Engineering, Inc.
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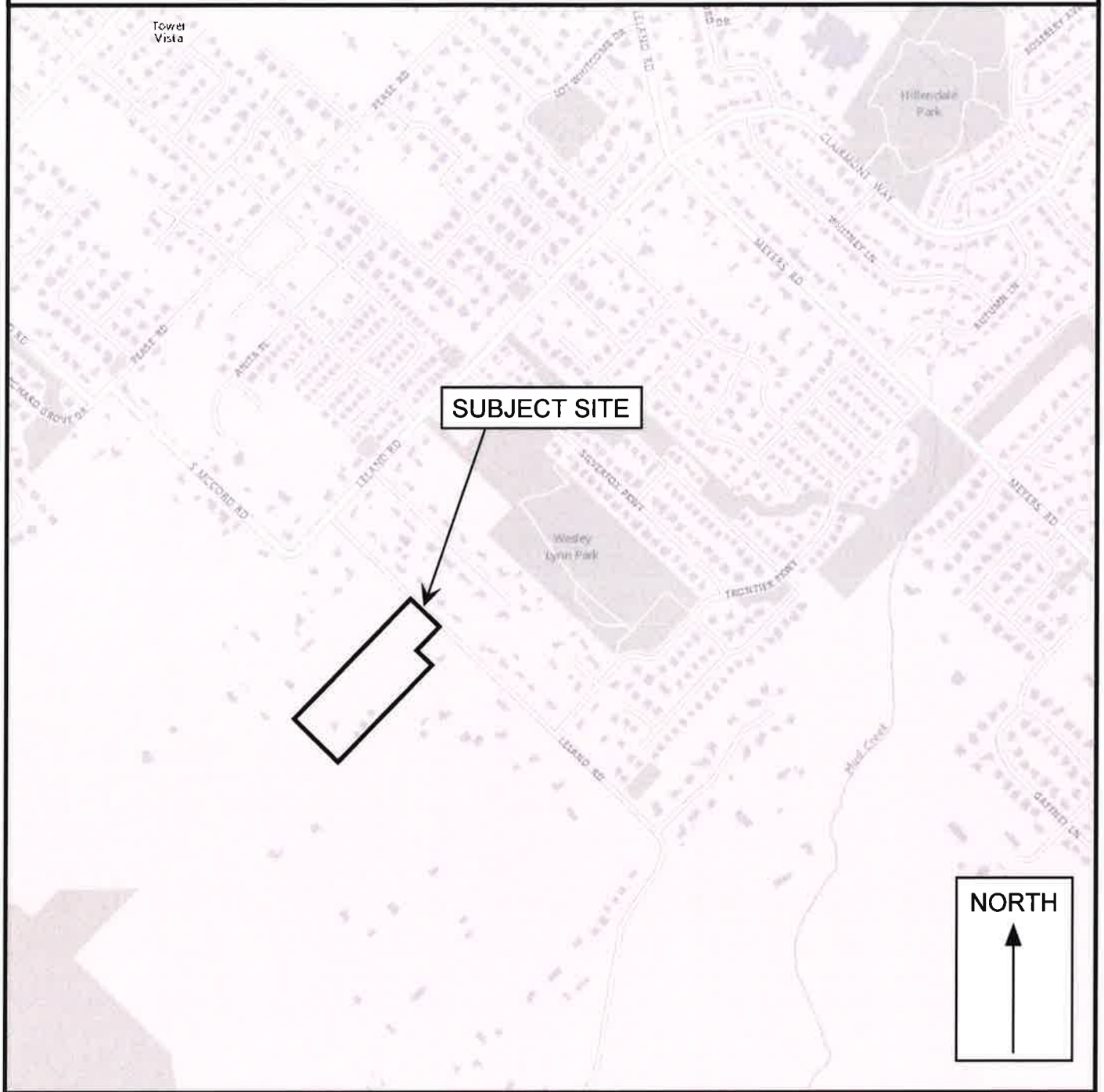
VICINITY MAP



Date: 06/28/17
Drawn by: BGA

Approximate Scale 1 in = 800 ft

Base Map Obtained from http://www.oregongeology.org/hazvu/

Project: 19701 Leland Road Oregon City, Oregon	Project No. 17-4623	FIGURE 1

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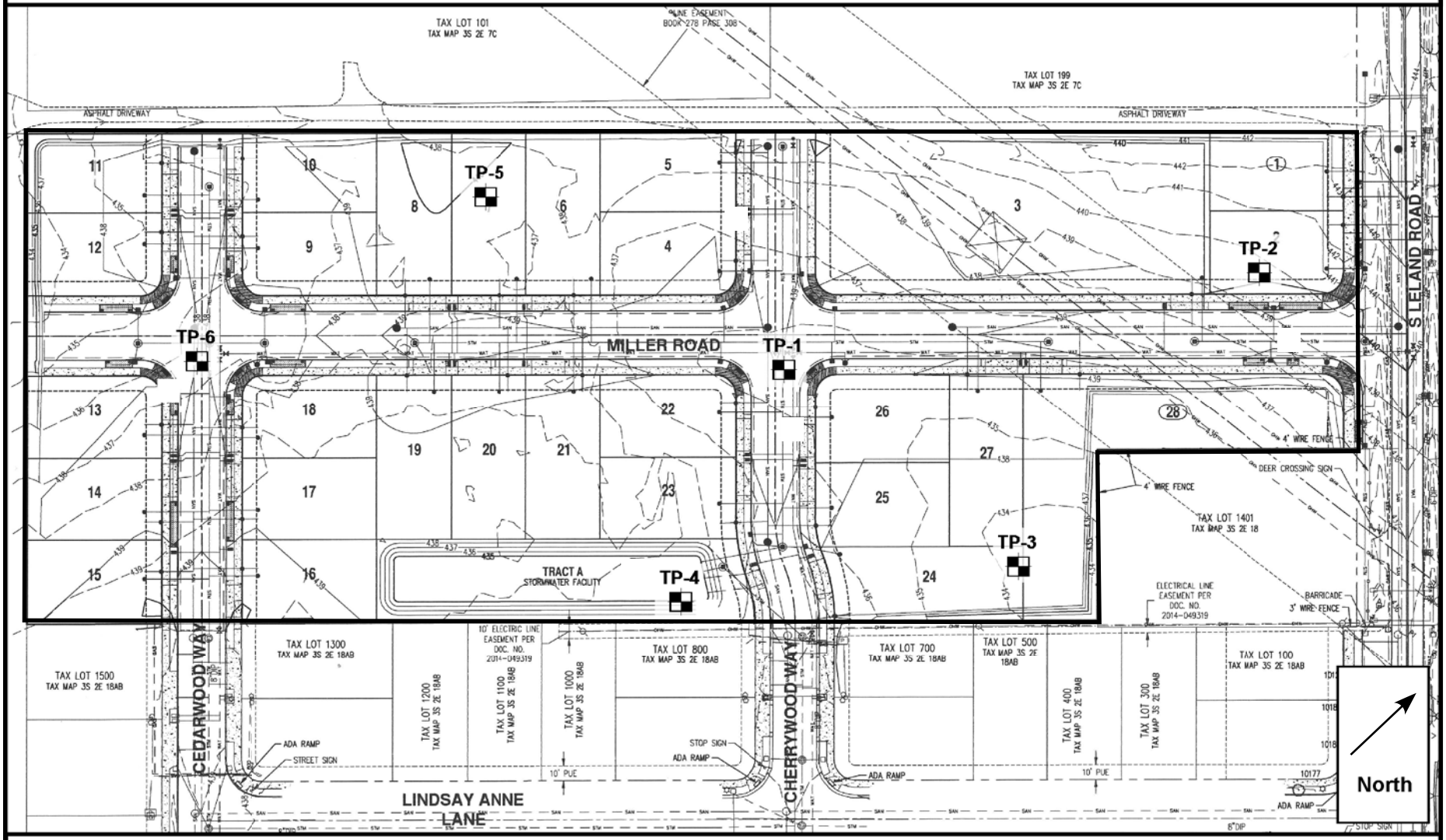
SITE PLAN AND EXPLORATION LOCATIONS



Legend

TP-1 Test Pit Designation and Approximate Location

Date: 08/02/17
Drawn by: BGA

0 100'

APPROXIMATE SCALE 1"=100'

Project: 19701 Leland Road Oregon City, Oregon	Project No. 17-4623	FIGURE 2

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SITE AERIAL AND EXPLORATION LOCATIONS

Legend: Test Pit Exploration Designation and Approximate Location

0 225'
APPROXIMATE SCALE 1"=225'

Drawn by: TJT
Date: 6/30/2017

Project: 19701 Leland Road Oregon City, Oregon	Project No. 17-4623	FIGURE 3

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EXPLORATION LOGS

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TEST PIT LOG

Project: 19701 Leland Road
Oregon City, Oregon

Project No. 17-4623

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						14" soft, low to moderately organic SILT (OL-ML), dark brown, with fine roots throughout upper 4 inches, moist (Topsoil)
2	2.0	100 to 1,000 g				Stiff, CLAY (CL), reddish brown, with some gravel-size clasts of basalt, moist (Residual Soil)
3	2.0					Grades to hard
4						
5						Extremely soft to very soft (R0-R1), highly weathered BASALT, trace reddish-brown matrix of silty clay, light gray, black staining, moist (Boring Lava)
6						Grades to very soft to soft (R1-R2) and wet
7						
8						
9						Test pit terminated at 9 feet due to practical refusal on medium hard (R3) BASALT
10						
11						Notes: Light groundwater seepage encountered below 6 feet (<1 gpm) Heavy groundwater seepage encountered below 7.5 feet (3-5 gpm) No significant caving observed
12						
13						
14						
15						
16						
17						

LEGEND

100 to 1,000 g — Bag Sample
5 Gal. Bucket — Bucket Sample
Shelby Tube Sample
Seepage
Water Bearing Zone
Water Level at Abandonment

Date Excavated: 06/02/17
Logged By: BGA
Surface Elevation:

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TEST PIT LOG

Project: 19701 Leland Road
Oregon City, Oregon

Project No. 17-4623

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						15" soft, low to moderately organic SILT (OL-ML), dark brown, with fine roots throughout upper 5 inches, moist (Topsoil)
2	4.0					Very stiff, CLAY (CL), reddish brown, with some gravel-size clasts of basalt, moist (Residual Soil)
3	4.5					Grades to hard
4						
5						Extremely soft to very soft (R0-R1), highly weathered BASALT, trace reddish-brown matrix of silty clay, light gray, black staining, moist (Boring Lava)
6						Grades to very soft to soft (R1-R2)
7						
8						
9						
10						Test pit terminated at 9.5 feet
11						
12						Notes: No seepage or static groundwater encountered No significant caving observed
13						
14						
15						
16						
17						

LEGEND

Bag Sample

Bucket Sample

Shelby Tube Sample

Seepage

Water Bearing Zone

Water Level at Abandonment

Date Excavated: 06/02/17
Logged By: BGA
Surface Elevation:

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TEST PIT LOG

Project: 19701 Leland Road
Oregon City, Oregon

Project No. 17-4623

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						13" soft, low to moderately organic SILT (OL-ML), dark brown, with fine roots throughout upper 5 inches, moist (Topsoil)
2						Very stiff, CLAY (CL), reddish brown, with some gravel-size clasts of basalt, very moist (Residual Soil)
3						Extremely soft to very soft (R0-R1), highly weathered BASALT, trace reddish-brown matrix of silty clay, light gray, black staining, moist (Boring Lava)
4						
5						Test pit terminated at 4.5 feet
6						
7						Notes: No seepage or static groundwater encountered No significant caving observed
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

LEGEND

Bag Sample

Bucket Sample

Shelby Tube Sample

Seepage

Water Bearing Zone

Water Level at Abandonment

Date Excavated: 06/02/17
Logged By: BGA
Surface Elevation:

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TEST PIT LOG

Project: 19701 Leland Road
Oregon City, Oregon

Project No. 17-4623

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						10" soft, low to moderately organic SILT (OL-ML), dark brown, with fine roots throughout upper 5 inches, moist (Topsoil)
2	2.5					Very stiff, CLAY (CL), reddish brown, with some gravel-size clasts of basalt, moist (Residual Soil)
3	3.0					Grades to hard
4						
5						Extremely soft to very soft (R0-R1), highly weathered BASALT, trace reddish-brown matrix of silty clay, light gray, black staining, moist (Boring Lava)
6						
7						Grades to very soft to soft (R1-R2)
8						
9						
10						Test pit terminated at 9.5 feet
11						
12						Notes: No seepage or static groundwater encountered No significant caving observed
13						
14						
15						
16						
17						

LEGEND

Bag Sample

Bucket Sample

Shelby Tube Sample

Seepage

Water Bearing Zone

Water Level at Abandonment

Date Excavated: 06/02/17
Logged By: BGA
Surface Elevation:

GeoPacific Engineering, Inc.
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Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 19701 Leland Road
Oregon City, Oregon

Project No. 17-4623

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
1						13" soft, low to moderately organic SILT (OL-ML), dark brown, with fine to medium roots throughout, moist (Topsoil)
2	3.0					Very stiff, CLAY (CL), reddish brown, with some gravel-size clasts of basalt, moist (Residual Soil)
3	2.5					
4						
5						Extremely soft to very soft (R0-R1), highly weathered BASALT, trace reddish-brown matrix of silty clay, light gray, black staining, moist (Boring Lava)
6						
7						Grades to very soft to soft (R1-R2)
8						
9						Grades to wet
10						Test pit terminated at 9.5 feet
11						
12						Notes: Light groundwater seepage encountered below 9 feet (<1 gpm) No significant caving observed
13						
14						
15						
16						
17						

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: 06/02/17
Logged By: BGA
Surface Elevation:

GeoPacific Engineering, Inc.
14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 19701 Leland Road
Oregon City, Oregon

Project No. 17-4623

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
1						13" soft, low to moderately organic SILT (OL-ML), dark brown, with fine roots throughout upper 5 inches, moist (Topsoil)
2	3.0					Very stiff, CLAY (CL), reddish brown, with some gravel-size clasts of basalt, moist (Residual Soil)
3	3.0					
4						
5						Extremely soft to very soft (R0-R1), highly weathered BASALT, trace reddish-brown matrix of silty clay, light gray, black staining, moist (Boring Lava)
6						
7						
8						
9						Large boulder in north side of test pit
10						Test pit terminated at 9.5 feet
11						
12						Notes: No seepage or static groundwater encountered No significant caving observed
13						
14						
15						
16						
17						

LEGEND

Bag Sample

Bucket Sample

Shelby Tube Sample

Seepage

Water Bearing Zone

Water Level at Abandonment

Date Excavated: 06/02/17
Logged By: BGA
Surface Elevation:

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FLEXIBLE PAVEMENT DESIGN CALCULATIONS

==========

DARWin(tm) - Pavement Design

A Proprietary AASHTOWARE(tm)
Computer Software Product

Flexible Structural Design Module

Project Description
17-4623, New Public Pavement, 19701 Leland Road, 20 Year Design Life

Flexible Structural Design Module Data

18-kip ESALs Over Initial Performance Period:	78,850
Initial Serviceability:	4.2
Terminal Serviceability:	2.5
Reliability Level (%):	85
Overall Standard Deviation:	.44
Roadbed Soil Resilient Modulus (PSI):	9,000
Stage Construction:	1

Calculated Structural Number: 2.03

==========

DARWin(tm) - Pavement Design

A Proprietary AASHTOWARE(tm)
Computer Software Product

Flexible Structural Design Module

Specified Layer Design

Layer: 1
Material Description: A/C
Structural Coefficient (Ai): .44
Drainage Coefficient (Mi): 1
Layer Thickness (Di) (in): 3.00
Calculated Layer SN: 1.32

Layer: 2
Material Description: 3/4"-0 Crushed Aggregate
Structural Coefficient (Ai): .12
Drainage Coefficient (Mi): 1
Layer Thickness (Di) (in): 2.00
Calculated Layer SN: .24

Layer: 3
Material Description: 1.5"-0 Crushed Aggregate
Structural Coefficient (Ai): .12
Drainage Coefficient (Mi): 1
Layer Thickness (Di) (in): 8.00
Calculated Layer SN: .96

Total Thickness (in): 13.00
Total Calculated SN: 2.52

Simple ESAL Calculation

Initial Performance Period (years):	20
Initial Two-Way Daily Traffic (ADT):	280
% Heavy Trucks (of ADT) FHWA Class 5 or Greater:	3
Number of Lanes In Design Direction:	1
Percent of All Trucks In Design Lane (%):	100
Percent Trucks In Design Direction (%):	50
Average Initial Truck Factor (ESALs/truck):	2
Annual Truck Factor Growth Rate (%):	0
Annual Truck Volume Growth Rate (%):	3
Growth:	Simple

Total Calculated Cumulative Esals: 78,850

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SITE RESEARCH

USGS Design Maps Summary Report

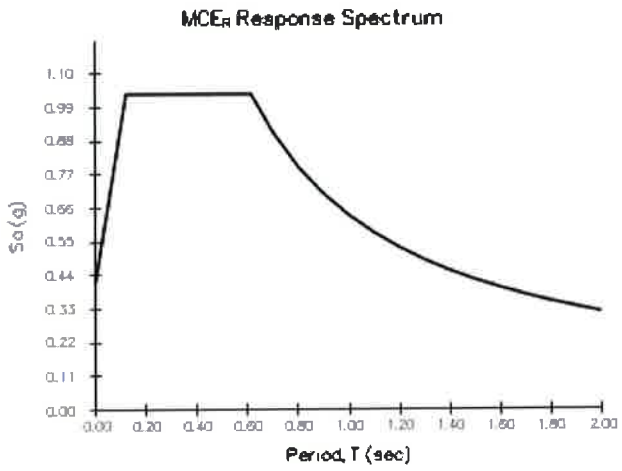
User-Specified Input

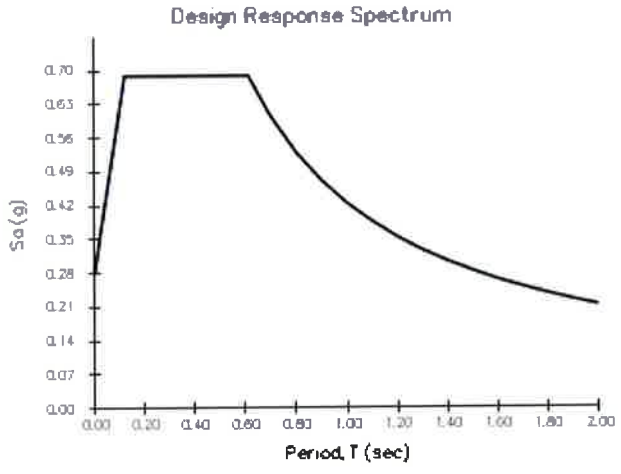
Report Title	19701 Leland Road 17-4623 Mon July 3, 2017 22:18:58 UTC
Building Code Reference Document	ASCE 7-10 Standard (which utilizes USGS hazard data available in 2008)
Site Coordinates	45.32124°N, 122.60725°W
Site Soil Classification	Site Class D – "Stiff Soil"
Risk Category	I/II/III

USGS-Provided Output

S_S =	0.910 g	S_{MS} =	1.034 g	S_{DS} =	0.689 g
S_1 =	0.395 g	S_{M1} =	0.636 g	S_{D1} =	0.424 g

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.





For PGA_M, T_L, C_{RS}, and C_{R1} values, please view the detailed report.

Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

USGS Design Maps Detailed Report

ASCE 7-10 Standard (45.32124°N, 122.60725°W)

Site Class D – "Stiff Soil", Risk Category I/II/III

Section 11.4.1 — Mapped Acceleration Parameters

Note: Ground motion values provided below are for the direction of maximum horizontal spectral response acceleration. They have been converted from corresponding geometric mean ground motions computed by the USGS by applying factors of 1.1 (to obtain S_S) and 1.3 (to obtain S_1). Maps in the 2010 ASCE-7 Standard are provided for Site Class B. Adjustments for other Site Classes are made, as needed, in Section 11.4.3.

From Figure 22-1 [1] $S_S = 0.910$ g

From Figure 22-2 [2] $S_1 = 0.395$ g

Section 11.4.2 — Site Class

The authority having jurisdiction (not the USGS), site-specific geotechnical data, and/or the default has classified the site as Site Class D, based on the site soil properties in accordance with Chapter 20.

Table 20.3–1 Site Classification

Site Class	$\overline{v}_s$	$\overline{N}$ or $\overline{N}_{ch}$	$\overline{s}_u$
A. Hard Rock	>5,000 ft/s	N/A	N/A
B. Rock	2,500 to 5,000 ft/s	N/A	N/A
C. Very dense soil and soft rock	1,200 to 2,500 ft/s	>50	>2,000 psf
D. Stiff Soil	600 to 1,200 ft/s	15 to 50	1,000 to 2,000 psf
E. Soft clay soil	<600 ft/s	<15	<1,000 psf
	Any profile with more than 10 ft of soil having the characteristics: • Plasticity index PI > 20, • Moisture content $w \geq 40\%$, and • Undrained shear strength $\overline{s}_u$ < 500 psf		
F. Soils requiring site response analysis in accordance with Section 21.1	See Section 20.3.1		

For SI: 1ft/s = 0.3048 m/s 1lb/ft² = 0.0479 kN/m²

Section 11.4.3 — Site Coefficients and Risk-Targeted Maximum Considered Earthquake (MCE_R) Spectral Response Acceleration Parameters

Table 11.4-1: Site Coefficient F_a

Site Class	Mapped MCE_R Spectral Response Acceleration Parameter at Short Period				
	$S_S \leq 0.25$	$S_S = 0.50$	$S_S = 0.75$	$S_S = 1.00$	$S_S \geq 1.25$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_S

For Site Class = D and S_s = 0.910 g, F_a = 1.136

Table 11.4-2: Site Coefficient F_v

Site Class	Mapped MCE_R Spectral Response Acceleration Parameter at 1-s Period				
	$S_1 \leq 0.10$	$S_1 = 0.20$	$S_1 = 0.30$	$S_1 = 0.40$	$S_1 \geq 0.50$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.7	1.6	1.5	1.4	1.3
D	2.4	2.0	1.8	1.6	1.5
E	3.5	3.2	2.8	2.4	2.4
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_1

For Site Class = D and S_1 = 0.395 g, F_v = 1.609

Equation (11.4–1): $S_{MS} = F_a S_S = 1.136 \times 0.910 = 1.034$ g

Equation (11.4–2): $S_{M1} = F_v S_1 = 1.609 \times 0.395 = 0.636$ g

Section 11.4.4 — Design Spectral Acceleration Parameters

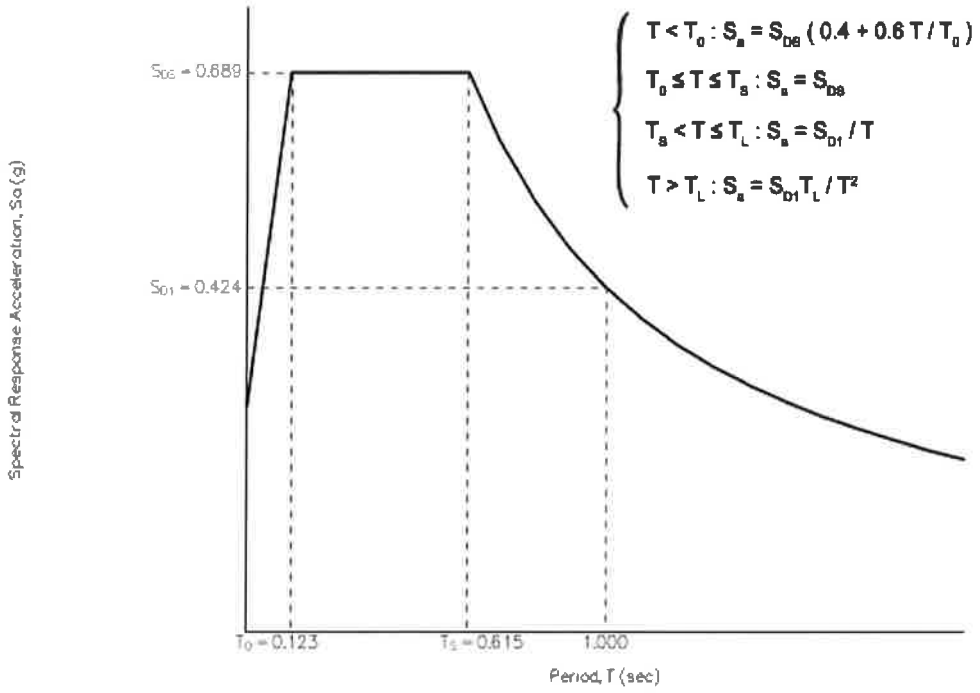
Equation (11.4–3): $S_{DS} = \frac{2}{3} S_{MS} = \frac{2}{3} \times 1.034 = 0.689$ g

Equation (11.4–4): $S_{D1} = \frac{2}{3} S_{M1} = \frac{2}{3} \times 0.636 = 0.424$ g

Section 11.4.5 — Design Response Spectrum

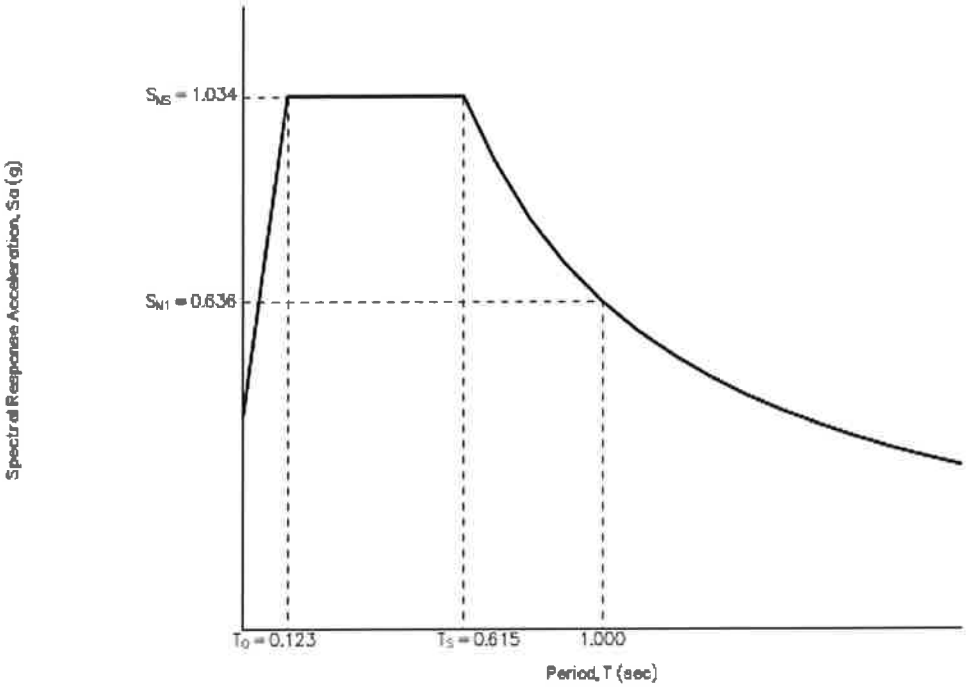
From Figure 22-12 [3] $T_L = 16$ seconds

Figure 11.4–1: Design Response Spectrum



Section 11.4.6 — Risk-Targeted Maximum Considered Earthquake (MCE_R) Response Spectrum

The MCE_R Response Spectrum is determined by multiplying the design response spectrum above by 1.5.



Section 11.8.3 — Additional Geotechnical Investigation Report Requirements for Seismic Design Categories D through F

From Figure 22-7 [4] PGA = 0.396

Equation (11.8–1): $PGA_M = F_{PGA}PGA = 1.104 \times 0.396 = 0.437$ g

Table 11.8–1: Site Coefficient F_{PGA}

Site Class	Mapped MCE Geometric Mean Peak Ground Acceleration, PGA				
	PGA ≤ 0.10	PGA = 0.20	PGA = 0.30	PGA = 0.40	PGA ≥ 0.50
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight–line interpolation for intermediate values of PGA

For Site Class = D and PGA = 0.396 g, F_{PGA} = 1.104

Section 21.2.1.1 — Method 1 (from Chapter 21 – Site-Specific Ground Motion Procedures for Seismic Design)

From Figure 22-17 [5] C_{RS} = 0.906

From Figure 22-18 [6] C_{R1} = 0.872

Section 11.6 — Seismic Design Category

Table 11.6-1 Seismic Design Category Based on Short Period Response Acceleration Parameter

VALUE OF S_{DS}	RISK CATEGORY		
	I or II	III	IV
$S_{DS} < 0.167g$	A	A	A
$0.167g \le S_{DS} < 0.33g$	B	B	C
$0.33g \le S_{DS} < 0.50g$	C	C	D
$0.50g \le S_{DS}$	D	D	D

For Risk Category = I and S_{DS} = 0.689 g, Seismic Design Category = D

Table 11.6-2 Seismic Design Category Based on 1-S Period Response Acceleration Parameter

VALUE OF S_{D1}	RISK CATEGORY		
	I or II	III	IV
$S_{D1} < 0.067g$	A	A	A
$0.067g \le S_{D1} < 0.133g$	B	B	C
$0.133g \le S_{D1} < 0.20g$	C	C	D
$0.20g \le S_{D1}$	D	D	D

For Risk Category = I and S_{D1} = 0.424 g, Seismic Design Category = D

Note: When S_1 is greater than or equal to 0.75g, the Seismic Design Category is **E** for buildings in Risk Categories I, II, and III, and **F** for those in Risk Category IV, irrespective of the above.

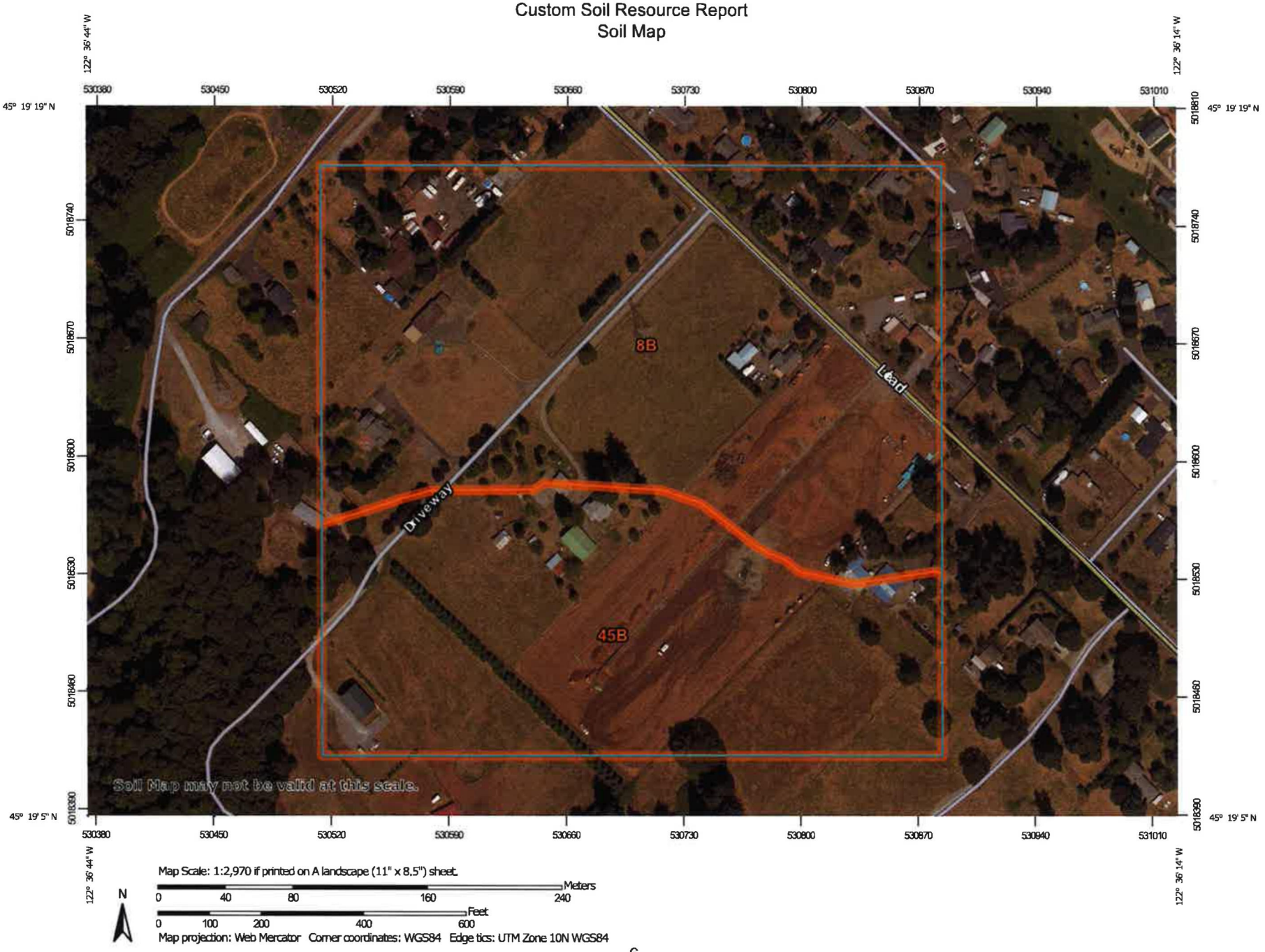
Seismic Design Category ≡ "the more severe design category in accordance with Table 11.6-1 or 11.6-2" = D

Note: See Section 11.6 for alternative approaches to calculating Seismic Design Category.

References

1. *Figure 22-1*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-1.pdf
2. *Figure 22-2*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-2.pdf
3. *Figure 22-12*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-12.pdf
4. *Figure 22-7*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-7.pdf
5. *Figure 22-17*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-17.pdf
6. *Figure 22-18*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-18.pdf

Custom Soil Resource Report
Soil Map



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	19.4	60.1%
45B	Jory silty clay loam, 2 to 8 percent slopes	12.9	39.9%
Totals for Area of Interest		**32.2**	**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

45B—Jory silty clay loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: 224x
Elevation: 250 to 1,200 feet
Mean annual precipitation: 50 to 60 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Jory and similar soils: 90 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 13 inches: silty clay loam
H2 - 13 to 60 inches: silty clay

Properties and qualities

Slope: 2 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: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Other vegetative classification: Well drained < 15% Slopes (G002XY002OR)
Hydric soil rating: No

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PHOTOGRAPHIC LOG

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NW corner of 19701 Leland Road, view to the southeast

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Test Pit TP-2, 19701 Leland Road, view to the southeast

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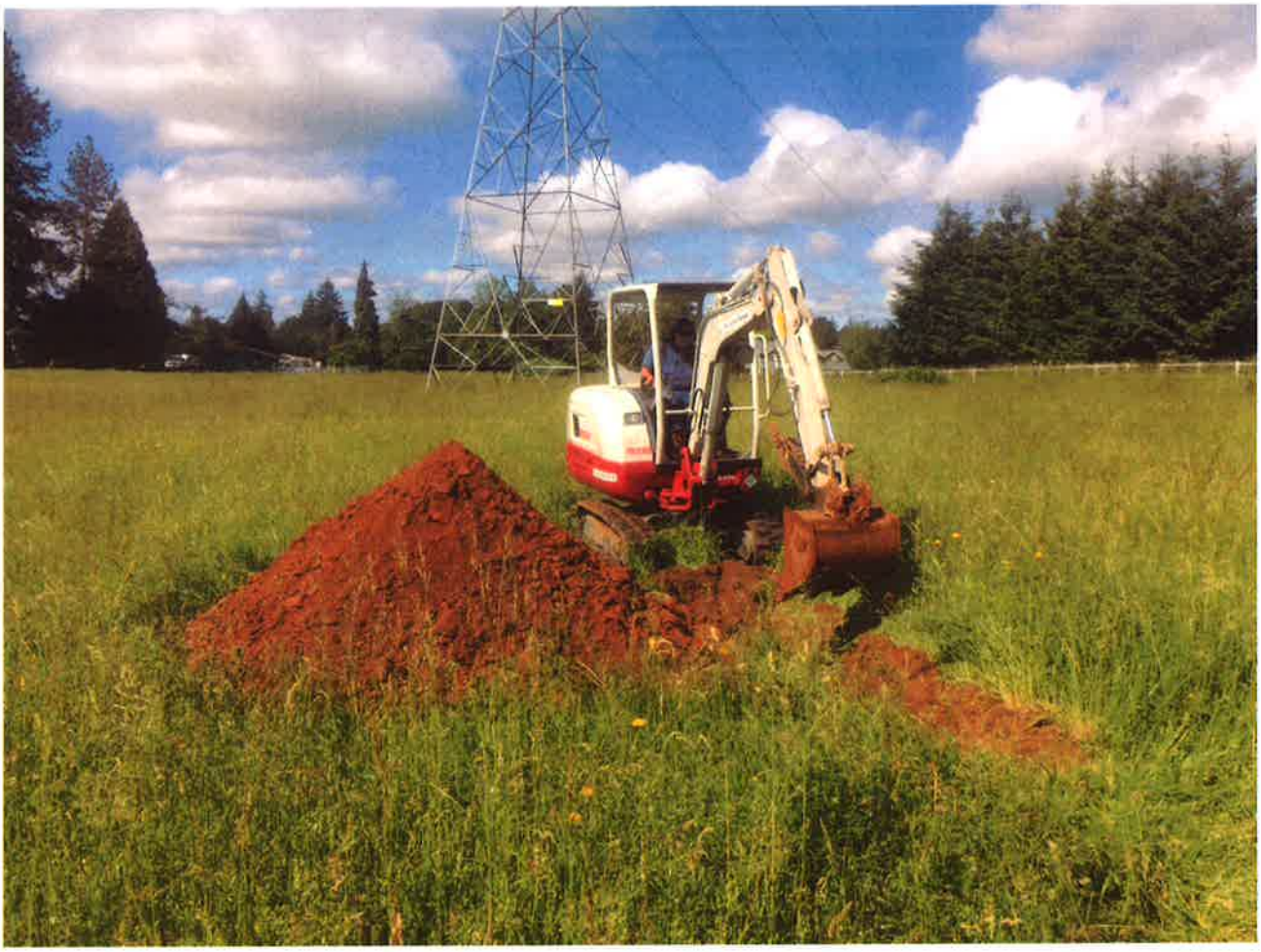

TP-3, 19701 Leland Road, view to the southwest

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Residual Soil, weathered basalt

Test Pit TP-5, view to the east

Residual soil, weathered basalt

Test Pit TP-5, view to the North

Exhibit J: Preliminary Stormwater Report

Lindsay Anne Estates Too
Oregon City, Oregon

Preliminary Stormwater Report

Date:	August 2017
Client:	PDX Development, Inc.
Engineering Contact:	Monty Hurley, PE, PLS Vu Nguyen, PE
Engineering Firm:	AKS Engineering & Forestry, LLC
AKS Job No Number:	5837

RENEWAL DATE: 6/30/19

AKS ENGINEERING & FORESTRY

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Preliminary Stormwater Report

LINDSAY ANNE ESTATES TOO
OREGON CITY, OREGON

1.0 Purpose of Report

This report documents 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 6.33 acres in Clackamas County, Oregon. The development will encompass Tax 1400 of Clackamas County Assessor's Map 3S 2E 18. The project site has frontage along S Leland Road.

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) states:

> *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 used 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) states:

> *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 used 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

Permits are not required 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., dated August 2, 2017, subsurface infiltration of stormwater is not recommended for this site due to rock at relatively shallow depths across the site, and groundwater seepage. The new stormwater facilities have a filtration system with lining at the base.

5.0 Sources of Information and Design Methodology

The Santa Barbara Urban Hydrograph (SBUH) Method was used for the stormwater conveyance systems analysis of the subject site. This method uses the SCS Type 1A 24-hour storm. HydroCAD software aided in the analysis. The BMP Sizing Tool was used to size the stormwater management facilities.

6.0 Design Parameters

6.1 DESIGN STORM

6.1.1 Stormwater Management Facilities Design

All the flow results contained in the BMP sizing report were used to perform 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 and other required locations) to manage the stormwater for the site. The distance between catch basins will generally be 400 feet or less.

The on-site 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 to the south and southeast, with slopes ranging from 1% to 10%.

6.2.2 Land Use

There is an existing single-family home on the site, as well as outbuildings, grasslands, 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 and Jory silty clay loam. Per the U.S. Department of Agriculture (USDA) Soil Survey for Clackamas County, these soil types belong to hydrologic soil group "C." 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 to construct streets and lots for the future construction of single-family detached housing. There are no substantial terrain alterations planned.

6.4.2 Land Use

The post-developed land use will consist of 28 lots conforming to R-6 zoning standards for detached single-family homes, as well as one tract for a stormwater pond, and three public streets.

6.4.3 Future Development

The project's stormwater facilities are not sized to treat any future development beyond the planned 28-lot Lindsay Anne Estates Too subdivision.

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 28 lots).

6.5 DESCRIPTION OF OFF-SITE CONTRIBUTORY BASINS

There is approximately three acres of off-site upstream basin area located along the northwestern property line of the subject site.

6.6 POINTS OF DISCHARGE

Stormwater discharge from the on-site stormwater facility will flow southeast into an existing storm line on Cherrywood Way.

Stormwater runoff from lots 1-3, pavement and sidewalk along lots 1-3 frontage, S Leland Road will be collected and routed to existing storm line in S Leland Road.

Stormwater runoff from lots 9-18 and along the extension of Cedarwood Way will connect into an existing storm manhole to the southeast of the site in the existing Cedarwood Way street stub.

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).

7.2 PROPOSED STORMWATER QUANTITY CONTROL (DETENTION) FACILITY DESIGN

The detention pond has been sized using the BMP Sizing Tool to provide flow control for the stormwater runoff from impervious area within the new interior rights-of-way and lots.

Stormwater quantity facility design parameters were determined using topographic survey information, aerial photos, 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).

Due to topographic constraints on the portion of the project site, stormwater runoff from northeast and southwest of Miller Road, extension of Cedarwood Way, S Leland Road, and impervious area on Lots 1-3 and 9-18 will not be able to be routed to the detention pond for detention. The detention pond was sized and over-detains to mitigate for these undetained areas.

7.3 PROPOSED STORMWATER QUALITY CONTROL FACILITY DESIGN

The detention pond was sized using the BMP Sizing Tool to provide water quality management for the stormwater runoff from impervious areas on the Lots 4-8 and 19-28.

Stormwater planters (filtration) 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 rights-of-way and on Lots 1-3 and 9-18.

Stormwater quality facility design parameters were determined using topographic survey information, aerial photos, contours, design, and analysis. The stormwater pond and stormwater planters (filtration) 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 will be designed in accordance with information listed in Table 5-7 of the Oregon City Public Works Stormwater and Grading Design Standards (February 2015).

7.5 DOWNSTREAM ANALYSIS

The subject site is designated in the City's Drainage Master Plan as being in the Beaver Basin.

Stormwater flows from the on-site stormwater pond discharge into existing storm drain on Cherrywood Way which was built under Lindsay Anne Estates Subdivision. The downstream pipes have been analyzed and approved under Lindsay Anne Estates Subdivision, and no downstream deficiencies are predicted.

7.6 CULVERT ANALYSIS

Culverts are not proposed with this project.

8.0 BMP Sizing Tool Summary

The stormwater from the site will be routed through a series of curb inlets, pipes, and manholes prior to reaching the pond in Tract A. There will be one main inlet and one outlet in the pond. The pond bottom will be at an elevation of 435.00 feet and the top of the pond will be at an elevation of 438.75 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	1.9" diameter	Round orifice	432.00
Orifice B	6.8" diameter	Round orifice	435.70
Riser C	12.0" diameter	Round orifice	437.50

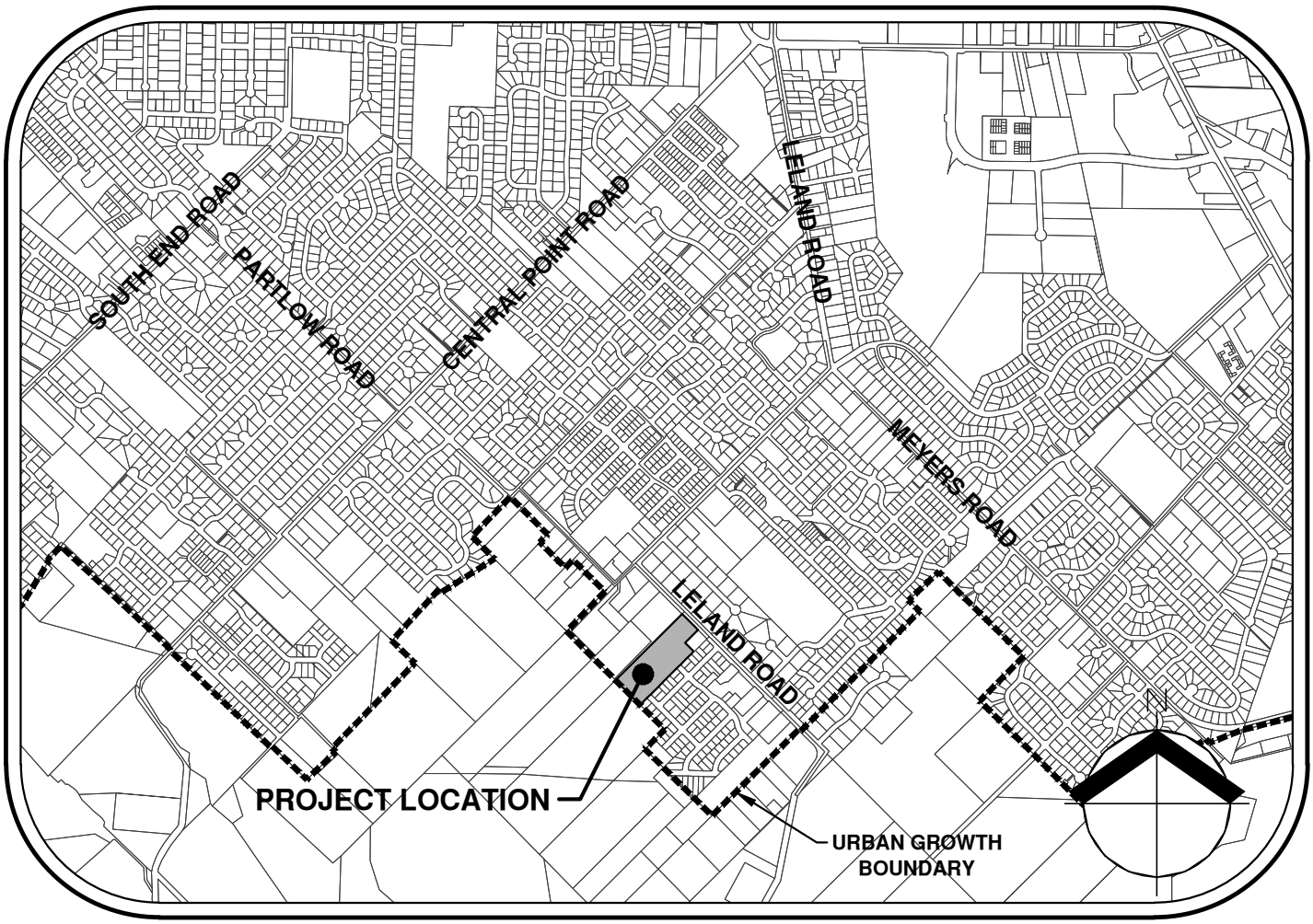
The project will adhere to the grading and compaction guidelines of the Oregon City Public Works Stormwater and Grading Design Standards (February 2015) to the maximum extent possible.

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 drive), and direct overflow 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

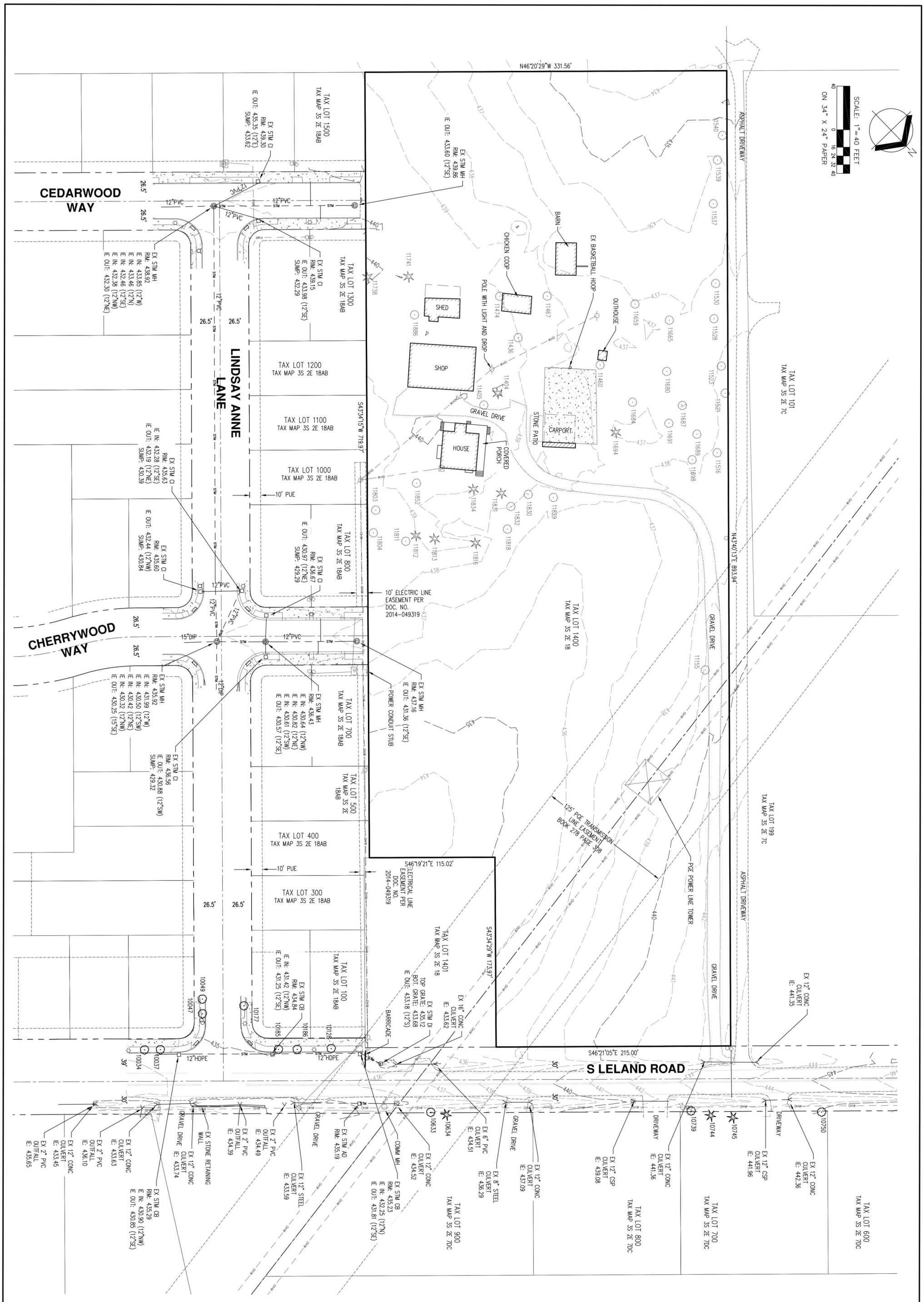


VICINITY MAP

NOT TO SCALE

APPENDIX 2-1

PRE-DEVELOPED BASIN MAP



PRE-DEVELOPED BASIN MAP

LINDSAY ANNE ESTATES TOO

OREGON CITY TAX LOT 1400

OREGON CLACKAMAS COUNTY TAX MAP 3-2E-18

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JOB NUMBER 5837

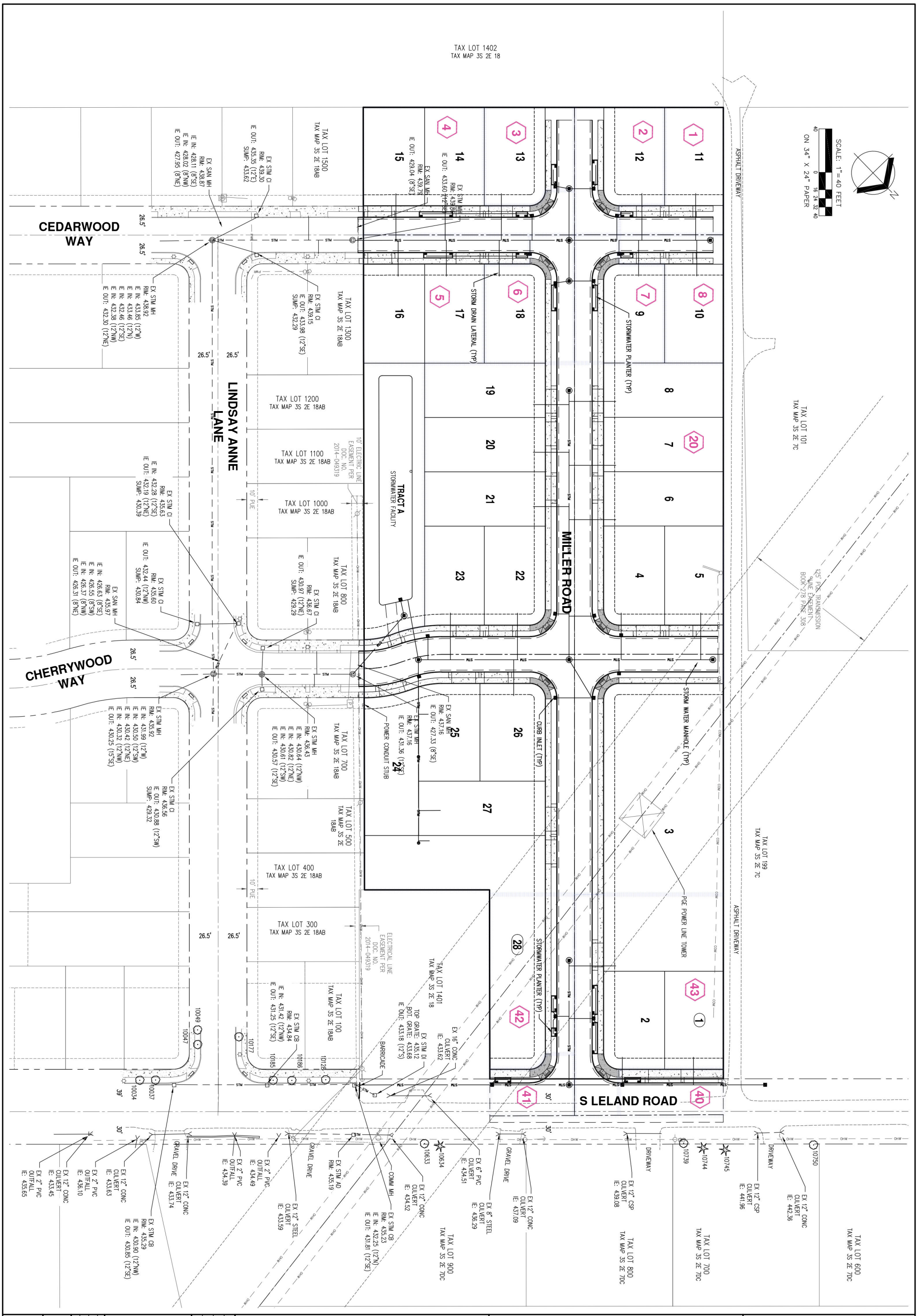
SHEET 1

REVISIONS

DESIGNED BY:
DRAWN BY: NMC
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 07/26/2017

APPENDIX 3-1

POST-DEVELOPED BASIN MAP



POST-DEVELOPED BASIN MAP

LINDSAY ANNE ESTATES TOO

OREGON CITY — OREGON

TAX LOT 1400 — CLACKAMAS COUNTY TAX MAP 3-2E-18

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DESIGNED BY:	VAN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	07/28/2017
REVISIONS	

JOB NUMBER 5837

SHEET 1

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	Lindsay Anne Estates Too
Project Type	Subdivision
Location	19701 S Leland Road, Oregon City
Stormwater Management Area	0
Project Applicant	PDX Development, Inc.
Jurisdiction	OutofDistrict

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
Basin 2 - Roof	2,640	Forested	Roofs	C	Basin 2 - Planter
Basin 1 - Pervious	2,471	Forested	Grass	C	Basin 1 - Planter
Basin 1 - Impervious	2,354	Forested	ConventionalConcrete	C	Basin 1 - Planter
Basin 1 - Roof	2,640	Forested	Roofs	C	Pond
Basin 2 - Impervious	3,120	Forested	ConventionalConcrete	C	Basin 2 - Planter
Basin 2 - Pervious	2,840	Forested	Grass	C	Basin 2 - Planter
Basin 3 - Roof	2,640	Forested	Roofs	C	Basin 3 - Planter
Basin 3 - Impervious	1,660	Forested	ConventionalConcrete	C	Basin 3 - Planter
Basin 3 - Pervious	2,774	Forested	Grass	C	Basin 3 - Planter
Basin 4 - Roof	5,280	Forested	Roofs	C	Basin 4 - Planter
Basin 4 - Impervious	5,160	Forested	ConventionalConcrete	C	Basin 4 - Planter
Basin 4 - Pervious	5,294	Forested	Grass	C	Basin 4 - Planter
Basin 5 - Roof	5,280	Forested	Roofs	C	Basin 5 - Planter
Basin 5 - Impervious	3,670	Forested	ConventionalConcrete	C	Basin 5 - Planter

Basin 5 - Pervious	5,311	Forested	Grass	C	Basin 5 - Planter
Basin 6 - Roof	2,640	Forested	Roofs	C	Basin 6 - Planter
Basin 6 - Impervious	3,200	Forested	ConventionalConcrete	C	Basin 6 - Planter
Basin 6 - Pervious	2,820	Forested	Grass	C	Basin 6 - Planter
Basin 7 - Roof	2,640	Forested	Roofs	C	Basin 7 - Planter
Basin 7 - Impervious	3,050	Forested	ConventionalConcrete	C	Basin 7 - Planter
Basin 7 - Pervious	2,910	Forested	Grass	C	Basin 7 - Planter
Basin 8 - Roof	2,640	Forested	Roofs	C	Pond
Basin 8 - Impervious	2,344	Forested	ConventionalConcrete	C	Basin 8 - Planter
Basin 8 - Pervious	2,522	Forested	Grass	C	Basin 8 - Planter
Basin 20 - Roof	39,600	Forested	Roofs	C	Pond
Basin 20 - Impervious	36,327	Forested	ConventionalConcrete	C	Pond
Basin 20 - Pervious	74,206	Forested	Grass	C	Pond
Basin 43 - Roof	7,920	Forested	Roofs	C	Basin 43 - Planter
Basin 43 - Impervious	5,410	Forested	ConventionalConcrete	C	Basin 43 - Planter
Basin 43 - Pervious	10,446	Forested	Grass	C	Basin 43 - Planter
Basin 42 - Impervious	3,150	Forested	ConventionalConcrete	C	Basin 42 - Planter
Basin 42 - Pervious	8,991	Forested	Grass	C	Basin 42 - Planter
Basin 40 - Impervious	3,658	Forested	ConventionalConcrete	C	Basin 40 - Planter
Basin 40 - Pervious	470	Forested	Grass	C	Basin 40 - Planter
Basin 41 - Impervious	3,424	Forested	ConventionalConcrete	C	Basin 41 - Planter
Basin 41 - Pervious	350	Forested	Grass	C	Basin 41 - Planter

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
Basin 1 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	46.1	47.0	0.3
Basin 2 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	98.8	99.0	0.5
Basin 3 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	76.6	81.0	0.4
Basin 4 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	179.6	180.0	0.6
Basin 5 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	157.4	162.0	0.6
Basin 6 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	99.9	104.0	0.5
Basin 7 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	98.0	104.0	0.5
Basin 8 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	46.1	47.0	0.3
Basin 43 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	245.4	246.0	0.7
Basin 42 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	86.4	90.0	0.4
Basin 40 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	56.9	63.0	0.3
Basin 41 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	52.9	63.0	0.3

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	Lined	5.50	9,500.0	3	36,555.7	26,791.7	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.

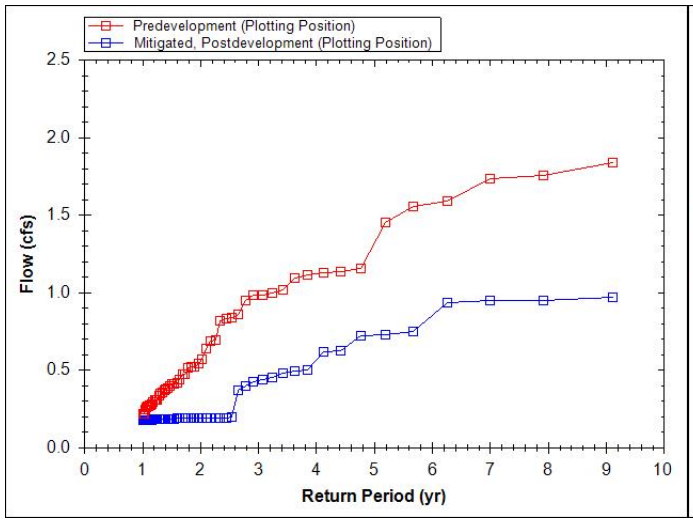
Custom Pond Geometry Configuration

Pond ID: Pond
Design: FlowControlAndTreatment

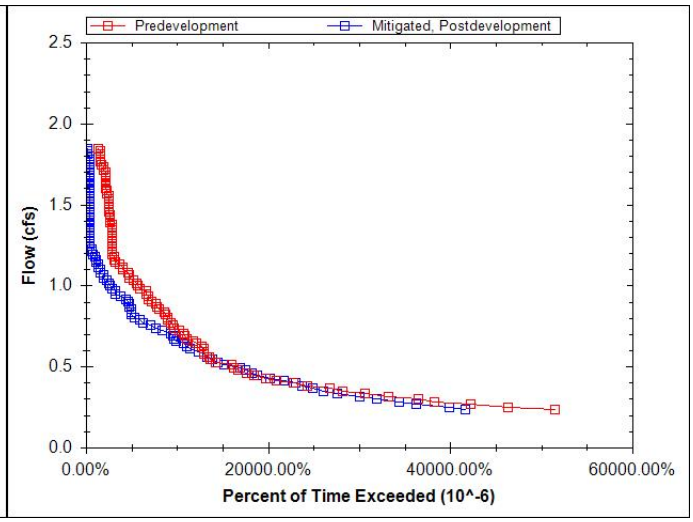
Shape Curve

Depth (ft)	Area (sq ft)	Discharge (cfs)
NaN	NaN	NaN

Flow Frequency Chart



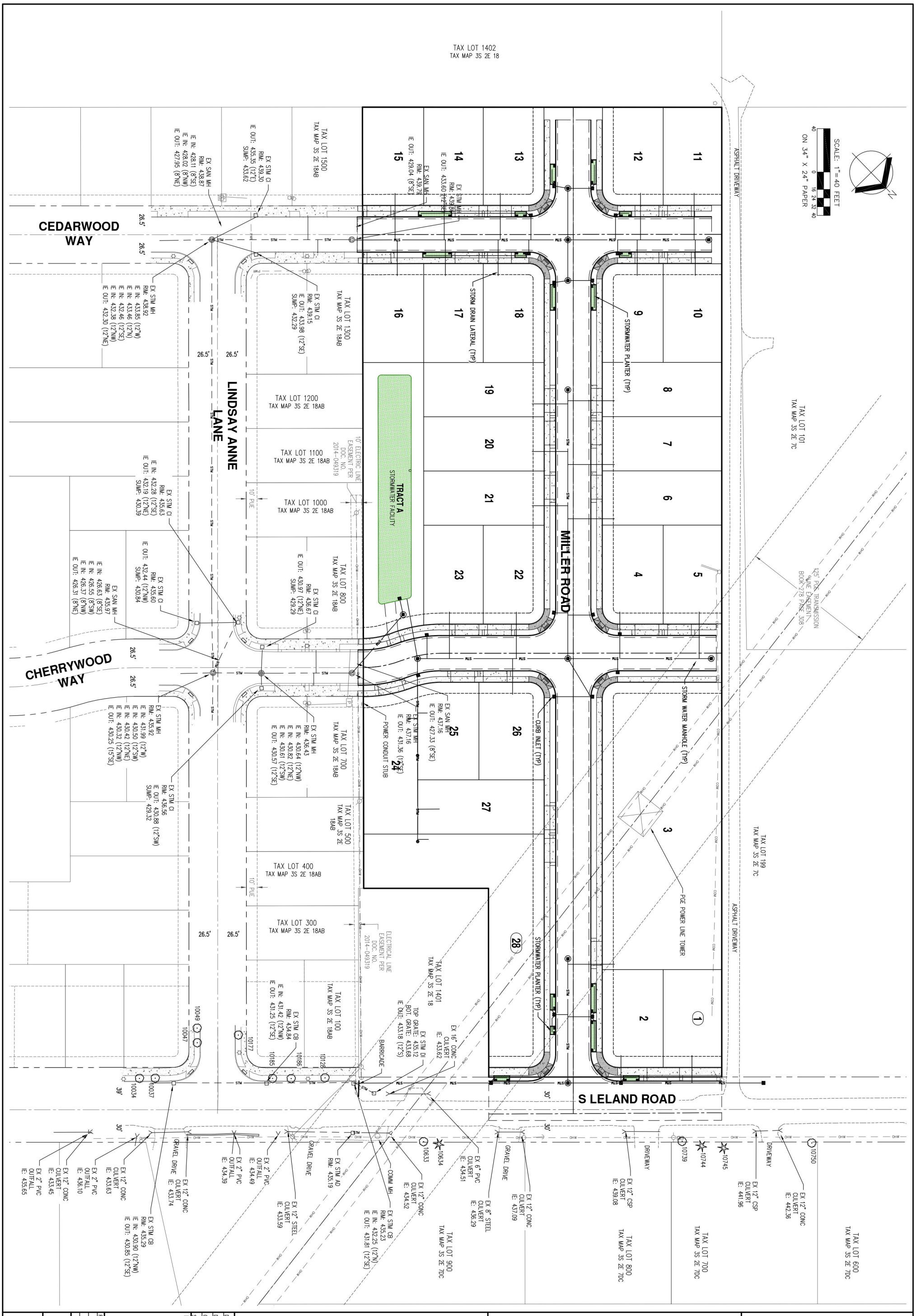
Flow Duration Chart



APPENDIX 5-1

STORMWATER FACILITIES LOCATION AND DETAIL

AKS DRAWING FILE: 5837 BASIN POST.DWG | LAYOUT: LOCATION



STORMWATER FACILITIES LOCATION PLAN

LINDSAY ANNE ESTATES TOO

OREGON CITY — TAX LOT 1400

OREGON — CLACKAMAS COUNTY TAX MAP 3-2E-18

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DESIGNED BY:	VAN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	07/28/2017

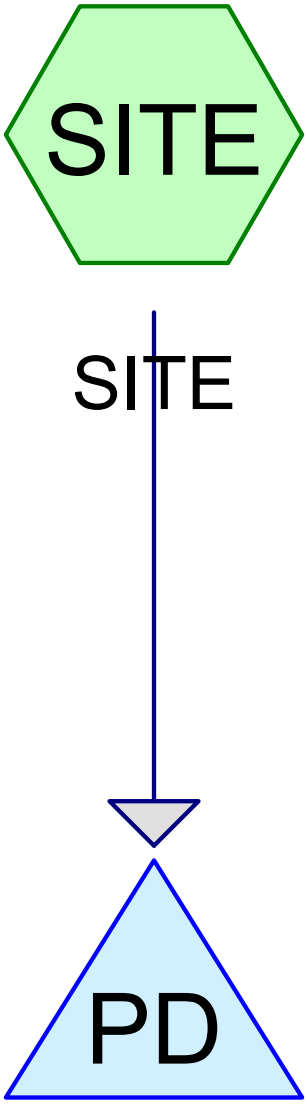
REVISIONS

JOB NUMBER 5837

SHEET 1

APPENDIX 6-1

EMERGENCY OVERFLOW CALCS



Detention Pond

Subcat Reach Pond Link

Drainage Diagram for 5837 Overflow HydroCad
Prepared by AKS Engineering & Forestry, LLC, Printed 7/26/2017
HydroCAD® 8.50 s/n 005096 © 2007 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.880	86	Pervious (SITE)
3.450	98	Impervious (SITE)
6.330		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	
6.330	Other	SITE
6.330		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 Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment SITE: SITE — Runoff Area=6.330 ac 54.50% Impervious Runoff Depth>3.68"
Tc=10.0 min CN=86/98 Runoff=5.43 cfs 1.939 af

Pond PD: Detention Pond — Peak Elev=438.24' Storage=29,367 cf Inflow=5.43 cfs 1.939 af
Outflow=2.95 cfs 1.308 af

Total Runoff Area = 6.330 ac Runoff Volume = 1.939 af Average Runoff Depth = 3.68"
45.50% Pervious = 2.880 ac 54.50% Impervious = 3.450 ac

Summary for Subcatchment SITE: SITE

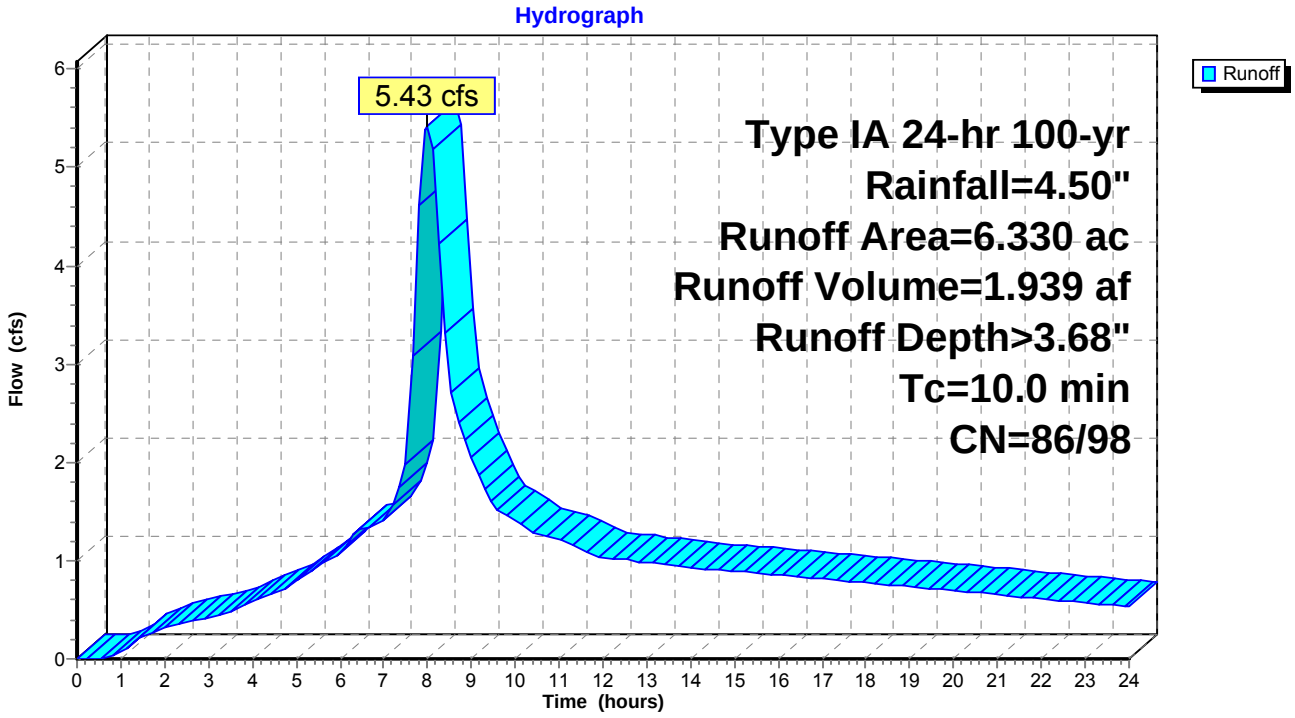
Runoff = 5.43 cfs @ 7.99 hrs, Volume= 1.939 af, Depth> 3.68"

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
*	2.880	86	Pervious
*	3.450	98	Impervious
	6.330	93	Weighted Average
	2.880	86	Pervious Area
	3.450	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment SITE: SITE



Summary for Pond PD: Detention Pond

Inflow Area = 6.330 ac, 54.50% Impervious, Inflow Depth > 3.68" for 100-yr event
Inflow = 5.43 cfs @ 7.99 hrs, Volume= 1.939 af
Outflow = 2.95 cfs @ 8.52 hrs, Volume= 1.308 af, Atten= 46%, Lag= 31.6 min
Primary = 2.95 cfs @ 8.52 hrs, Volume= 1.308 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
Peak Elev= 438.24' @ 8.52 hrs Surf.Area= 11,803 sf Storage= 29,367 cf

Plug-Flow detention time= 357.3 min calculated for 1.308 af (67% of inflow)
Center-of-Mass det. time= 162.4 min (860.2 - 697.8)

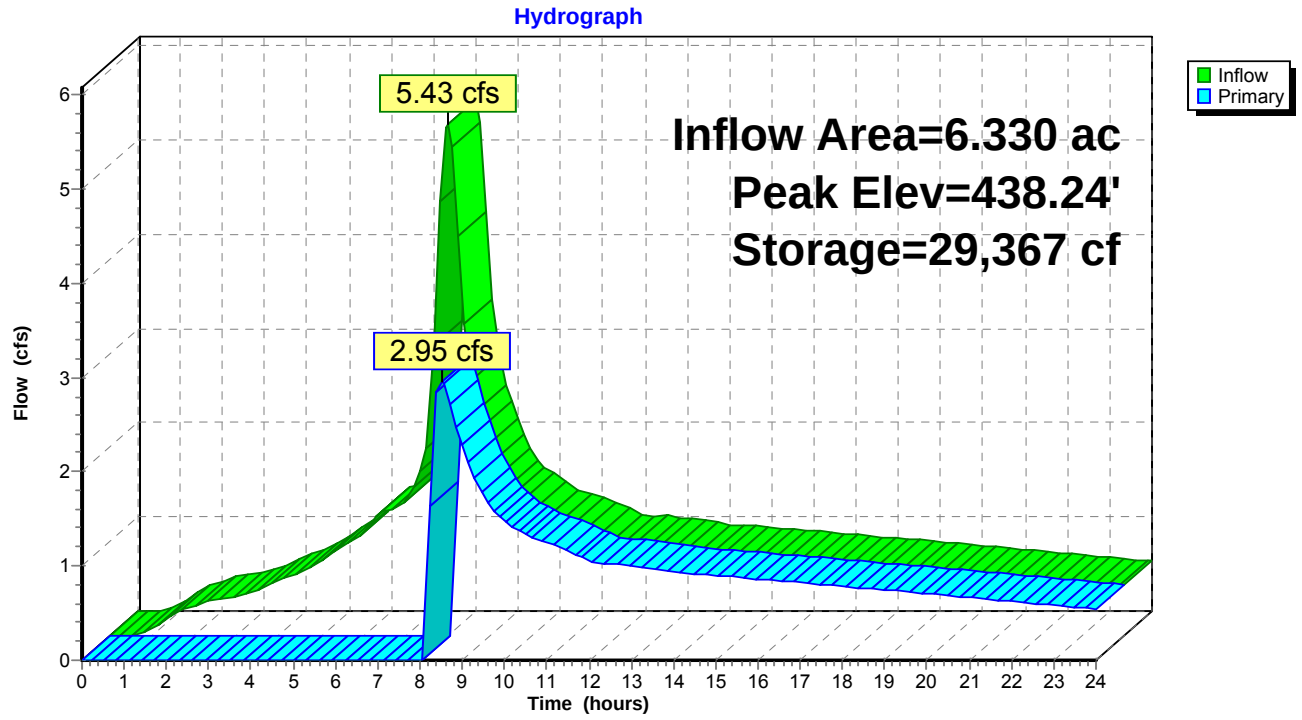
Volume	Invert	Avail.Storage	Storage Description
#1	435.00'	35,663 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
435.00	6,350	0	0
438.75	12,670	35,663	35,663

Device	Routing	Invert	Outlet Devices
#1	Primary	438.00'	10.0' long x 12.0' breadth Driveway Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=2.92 cfs @ 8.52 hrs HW=438.23' (Free Discharge)
└1=Driveway Weir (Weir Controls 2.92 cfs @ 1.25 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

May 10, 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: 1:1,890 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

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	4.1	61.0%
45B	Jory silty clay loam, 2 to 8 percent slopes	2.6	39.0%
Totals for Area of Interest		**6.8**	**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

45B—Jory silty clay loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: 224x
Elevation: 250 to 1,200 feet
Mean annual precipitation: 50 to 60 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Jory and similar soils: 90 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 13 inches: silty clay loam
H2 - 13 to 60 inches: silty clay

Properties and qualities

Slope: 2 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: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Other vegetative classification: Well drained < 15% Slopes (G002XY002OR)
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.

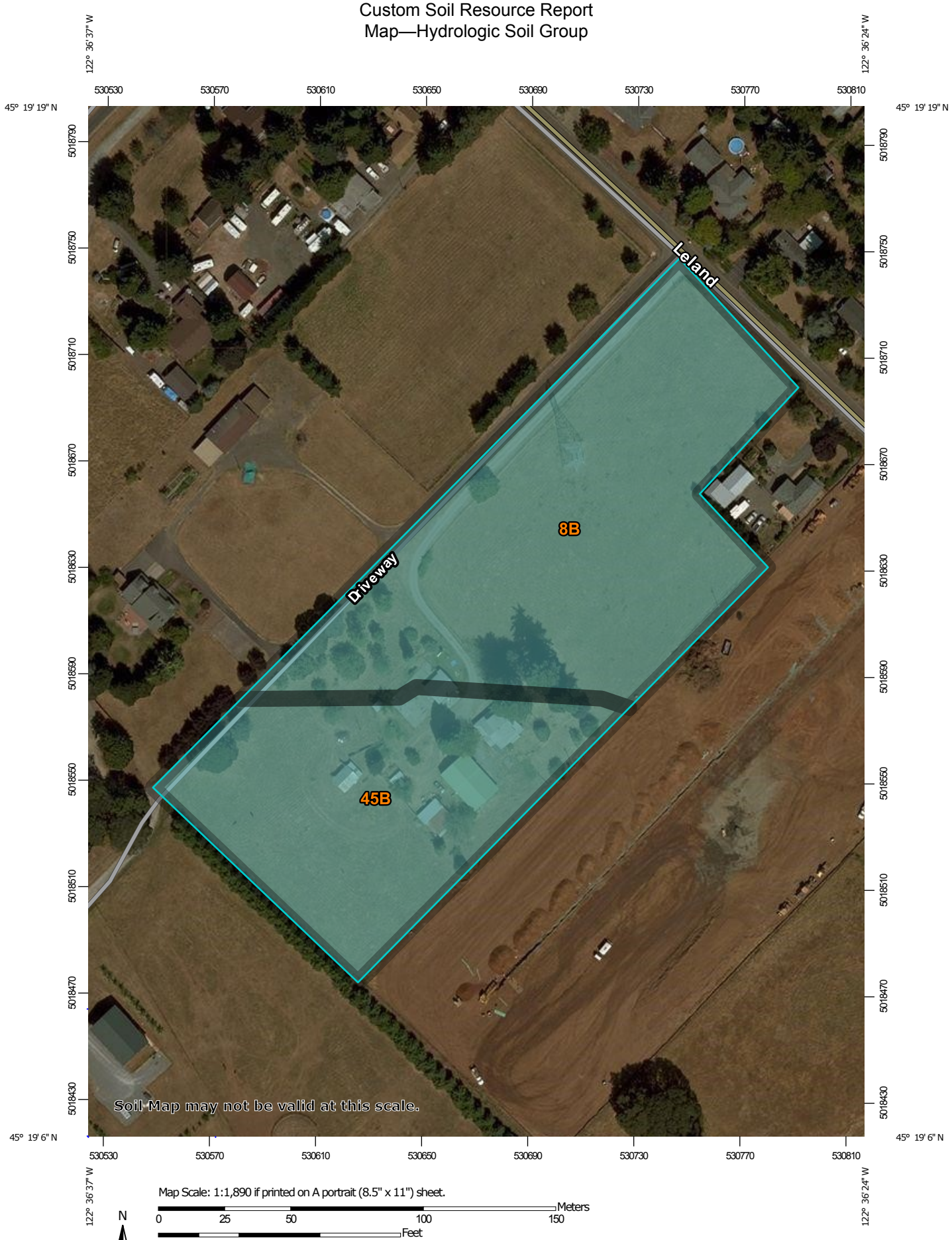
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

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.

Custom Soil Resource Report
Map—Hydrologic Soil Group



Map Scale: 1:1,890 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

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.

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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.

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	4.1	61.0%
45B	Jory silty clay loam, 2 to 8 percent slopes	C	2.6	39.0%
Totals for Area of Interest			**6.8**	**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

LINDSAY ANNE ESTATES
STORMWATER REPORT NARRATIVE
AND DOWNSTREAM ANALYSIS

Lindsay Anne Estates

Stormwater Report

Date:	March, 2014
Client:	Rian Park Development, Inc. 15239 S Lakeridge Way Oregon City, OR 97045
Engineering Contact:	Monty Hurley, PE, PLS
Engineering Firm:	AKS Engineering & Forestry, LLC.
AKS Job No.:	3589

RENEWAL DATE: 6/30/15

AKS Engineering & Forestry

13910 SW Galbreath Drive, Suite 100
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PRELIMINARY STORMWATER REPORT

PROJECT: LINDSAY ANNE ESTATES

1.0 PURPOSE OF REPORT

The purpose of this report is to document the criteria for which the stormwater for this site was designed to meet, the sources of information upon which the analysis is based, the design methodology, and the results of the analysis.

2.0 PROJECT LOCATION/DESCRIPTION

The proposed development is on approximately 6.77 acres in the northeast one-quarter and northwest one-quarter of section 18, township 3 South, Range 2 East, Willamette Meridian, City of Oregon City, Clackamas County, Oregon. It is also identified as Tax Lot 1300, Clackamas County Assessor's Map No. 3S-2E-18. The project site has frontage along Leland Road.

Stormwater from the site is proposed to be routed to a stormwater facility that will be constructed on Tract A.

3.0 REGULATORY DESIGN CRITERIA

3.1 STORMWATER QUANTITY MANAGEMENT CRITERIA

The required stormwater quantity management criteria are summarized below.

The post-development peak stormwater discharge rate from the site for the two-year, 24-hour duration design storm event shall at no time exceed half the pre-development peak stormwater runoff rate for the same design storm event.

The post-development peak stormwater discharge rate from the site for the five-year, 24-hour duration design storm event shall at no time exceed the pre-development peak stormwater runoff rate for the same design storm event.

The post-development peak stormwater discharge rate from the site for the 25-year, 24-hour duration design storm event shall at no time exceed the pre-development peak stormwater runoff rate for the ten-year, 24-hour duration design storm event.

The design storms are based on the standard SCS Type 1A rainfall distribution with a 24-hour distribution and a total depth of 2.6" (2-year), 3.1" (5-year), 3.4" (10-year), 4.0" (25-year), and 4.5" (100-year).

3.2 STORMWATER QUALITY MANAGEMENT CRITERIA

The required stormwater quality management criteria are summarized below:

The water quality design storm is 1/3 of the SCS 2-year / 24-hour design storm (0.87").

The water quality treatment will be achieved with an extended wet pond. Permanent pool volume shall be no less than 50% of the design water quality storm.

The remainder of the volume shall be released through an orifice sized to release the stormwater in no less than 12 hours.

3.3 FLOOD PLAIN
There are no flood plains shown on the Flood Insurance Rate Map (FIRM) produced by the Federal Emergency Management Agency (FEMA).

3.4 REQUIRED PERMITS
No permits are needed from DSL or USACE for this project.

4.0 SUMMARY OF ON-SITE STORMWATER DETENTION RESULTS

See Stormwater Summary Table at the end.

5.0 SOURCES OF INFORMATION AND DESIGN METHODOLOGY

The Santa Barbara Urban Hydrograph (SBUH) Method was used for the stormwater analysis. This method utilizes the SCS Type 1A 24-hour storm. HydroCAD software aided in the analysis. References are cited at the end of the report.

6.0 DESIGN PARAMETERS

6.1 DESIGN STORM

6.1.1 STORMWATER DETENTION FACILITY DESIGN

All of the flow results in stormwater summary table are incorporated in the detention pond sizing and analysis. The flow results stated in the table reflect the maximum flows released from the pond.

6.1.2 INLET AND CONDUIT SIZING

The stormwater inlets (catch basins) for the site are placed according to the grading (at all low points in grade and other necessary locations) and will adequately handle the stormwater for the site. Oversized catch basin curb inlets (4A) will be placed at all low points. The distance between catch basins is generally 400 feet or less.

The stormwater pipes will be sized from the SBUH method to adequately convey the 25-year storm event (gravity flow).

6.2 PRE-DEVELOPED SITE TOPOGRAPHY AND LAND USE

6.2.1 SITE TOPOGRAPHY

The site slopes to the east with slopes generally less than 5%.

6.2.2 LAND USE

There are existing homes and outbuildings with pastures, orchards, and scattered trees on the site.

6.2.3 PRE-DEVELOPED INPUT PARAMETERS

The input parameters are shown for each subcatchment (basin) in the appendices.

6.3 SOIL TYPE

The soils for this site consist of Bornstedt silt loam and Jory silty clay loam. Per the City of Oregon City Stormwater and Grading Design Standards, these soils belong to hydrologic soil group "C". The applicable soils information is provided in the appendices.

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 attached housing. There are no substantial terrain alterations.

6.4.2 LAND USE

The post-developed land use consists of 35 lots conforming to R6 standards for detached single family homes, one tract for a stormwater facility, and three public streets.

6.4.3 POST-DEVELOPED INPUT PARAMETERS

The input parameters are shown for each subcatchment (basin) and pond in the appendices. The calculation method for determination of impervious area includes measuring all the area within the right-of-way as impervious and adding 2,500 square feet impervious per lot.

6.5 DESCRIPTION OF OFF-SITE CONTRIBUTORY BASINS

There are two upstream basins, one is adjacent properties to the west and the other is along Leland Road. Only the upstream basin to the west is contribute to the proposed pond after this development. This basin is generally pastureland with a few structures.

The basin along Leland Road consists of pavement and grass land.

7.0 CALCULATION METHODOLOGY

7.1 PROPOSED STORMWATER CONDUIT SIZING AND INLET SPACING

The proposed stormwater pipes will be sized during final engineering from the SBUH method and will adequately convey the 25-year storm event (gravity flow).

7.2 PROPOSED STORMWATER QUANTITY CONTROL (DETENTION) FACILITY DESIGN

The input parameters are shown for each subcatchment (basin) and the pond in the appendices. They are determined by topographic survey information, aerial photos and contours, design, and analysis. The hydrographs were created with HydroCAD software. Pond is utilized to adequately address stormwater quantity (detention) requirements from

the *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999).*

7.3 PROPOSED STORMWATER QUALITY CONTROL FACILITY DESIGN
The input parameters are shown for each subcatchment (basin) and the pond in the appendices. They are determined by topographic survey information, aerial photos, contours, design, and analysis. The hydrographs were created with HydroCAD software. Pond is utilized to adequately address the stormwater quality requirements from the *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999).* Half of the water quality design storm (1/3 of the 2-year storm) is detained as the permanent pool, and the remaining half is released over 12 hours.

7.4 ENERGY DISSIPATER CALCULATIONS
Rip-rap will be placed at the inlet and outlet of the pond to act as an energy dissipater. The required rip-rap size shall be a minimum of Class 100.

7.5 DOWNSTREAM ANALYSIS
This site is located in the Beaver Basin (designated in the City's Drainage Master Plan). Per *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999),* the 10-year storm event is use for downstream analysis when the contributing drainage area is less than 40 acres.

Stormwater flows from the on-site detention pond discharge off-site into an existing drainage channel on tax lot 1204 that has been noted as possibly being a jurisdictional stream. The well-defined drainage channel is approximately 3-5 feet wide and 1 feet deep and free from any obstruction. Beyond the drainage channel, there are two existing 12-inch culverts under driveways on tax lots 1282 and 1205. Stormwater peak flow will pass through these existing culverts under surcharged conditions. These head waters / flows will overtop the driveways and continue to flow downstream without impact any building structures.

Downstream of the culvert, stormwater flows continue into an existing well-defined drainage channel as they have historically. The existing drainage channel eventually runs easterly and then continues southerly along the Leland Road public right-of-way.

Any peak storm events that are greater than the 10-year storm event, may result in flows that overtop area drains and driveways but will not impact existing building structures.

7.6 CULVERT ANALYSIS
No culverts are proposed on the site.

8.0 STORMWATER QUANTITY CONTROL FACILITY OPERATION
The stormwater from the site will be routed through a series of curb inlets, pipes, and manholes prior to reaching the pond in Tract A. There are two main inlets, one lateral, and one outlet in the pond. Rip-rap will be placed at each of these. The pond bottom is at elevation *428.00*. There is a permanent pool volume of *approximately 5,249* cubic feet

(~1.10 feet deep). Stormwater is conveyed from the pond to outfall through the following orifices:

Pond Outlet	Size	Type	Invert Elevation	Purpose
Orifice A	8.3" diameter	Round Orifice	429.10	Water Quality
Orifice B	11.5" diameter	Round Orifice	430.37	Detention
Weir C	8' long Sharp-Crested	Rectangular Weir	431.50	Emergency Overflow

The grading and compaction guidelines from the *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999)* shall be adhered to the maximum extent possible.

9.0 STORMWATER QUALITY CONTROL FACILITY OPERATION

The stormwater for the site will be routed through a series of catch basins, pipes, and manholes. The catch basins will be sumped. Water quality is provided in the extended wet pond (with permanent dead storage) through gravitational settling, biological processes, and hydraulic residence time. As stated above, the pond has a bottom elevation of *428.00*. There is a permanent pool volume of *approximately 5,249* cubic feet (~1.10 feet deep). The remaining water quality volume is conveyed to outfall via Orifice A, which was sized to release the volume over 12 hours. These were sized from the design criteria for an Extended Wet Pond (with detention storage above) described in the *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999).*

10.0 STORMWATER DETENTION POND SAFEGUARDS

Calculations for the 100-year storm event are included. 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, then the stormwater will overflow through the emergency overflow. A channel lined with rip-rap will serve as a overflow to release stormwater in the event that the outlet structure is plugged. The emergency overflows are sized to accommodate the flows from the 100-year storm (assuming the outlet structure is plugged). There are no foreseen problems with this.

STORMWATER SUMMARY

The table below shows a summary of the peak flows for each storm event.

STORMWATER SUMMARY TABLE

	PRE-DEVELOPED PEAK FLOWS (CFS)			
CATCHMENT	2-YR (2.6")	5-YR (3.1")	10-YR (3.4")	25-YR (4.0")
10-i Impervious Area	0.17	0.21	0.23	0.28
11-P Pervious Area (Orchard)	1.27	1.63	1.84	2.27
12-P Pervious Area (Pasture)	0.71	0.99	1.16	1.52
13-S Offsite Contribute Basin West	0.44	0.62	0.73	0.96
14-S Offsite Contribute Basin Leland	0.55	0.73	0.83	1.05

	POST-DEVELOPED PEAK FLOWS (CFS)		
	2-YR (2.6")	5-YR (3.1")	25-YR (4.0")
***ALLOWABLE RELEASE RATE**	2.07	4.18	5.24
POND RELEASE RATE	2.04	3.32	5.15

*The allowable release rate for the post-developed 2-year storm event is equal to HALF of the sum of the pre-developed peak runoff rate for the 2-year storm from Catchments 10-i, 11-P, and 12-P plus the sum of the pre-developed peak runoff rates for the 2-year storm from Catchments 13-S, and 14-S.

*The allowable release rate for the post-developed 5-year storm event is equal to the sum of the pre-developed peak flows for the 5-year storm from Catchments 10-i, 11-P, and 12-P plus the sum of the pre-developed peak runoff rates for the 5-year storm from Catchments 13-S, and 14-S.

*The allowable release rate for the post-developed 25-year storm event is equal to the sum of the pre-developed peak runoff rate for the 10-year storm from Catchments 10-i, 11-P, and 12-P plus the sum of the pre-developed peak runoff rates for the 25-year storm from Catchments 13-S, and 14-S.

TIME OF CONCENTRATION SUMMARY

The table below shows a summary of the time of concentration.

TIME OF CONCENTRATION SUMMARY TABLE

EXISTING CONDITION BASIN CONTRIBUTE TO PROPOSED POND

CATCHMENT	TIME (minute)
10-i Impervious Area	5.0
11-P Pervious Area (Orchard)	27.2
12-P Pervious Area (Pasture)	11.9
13-S Offsite Contribute Basin West	30.3

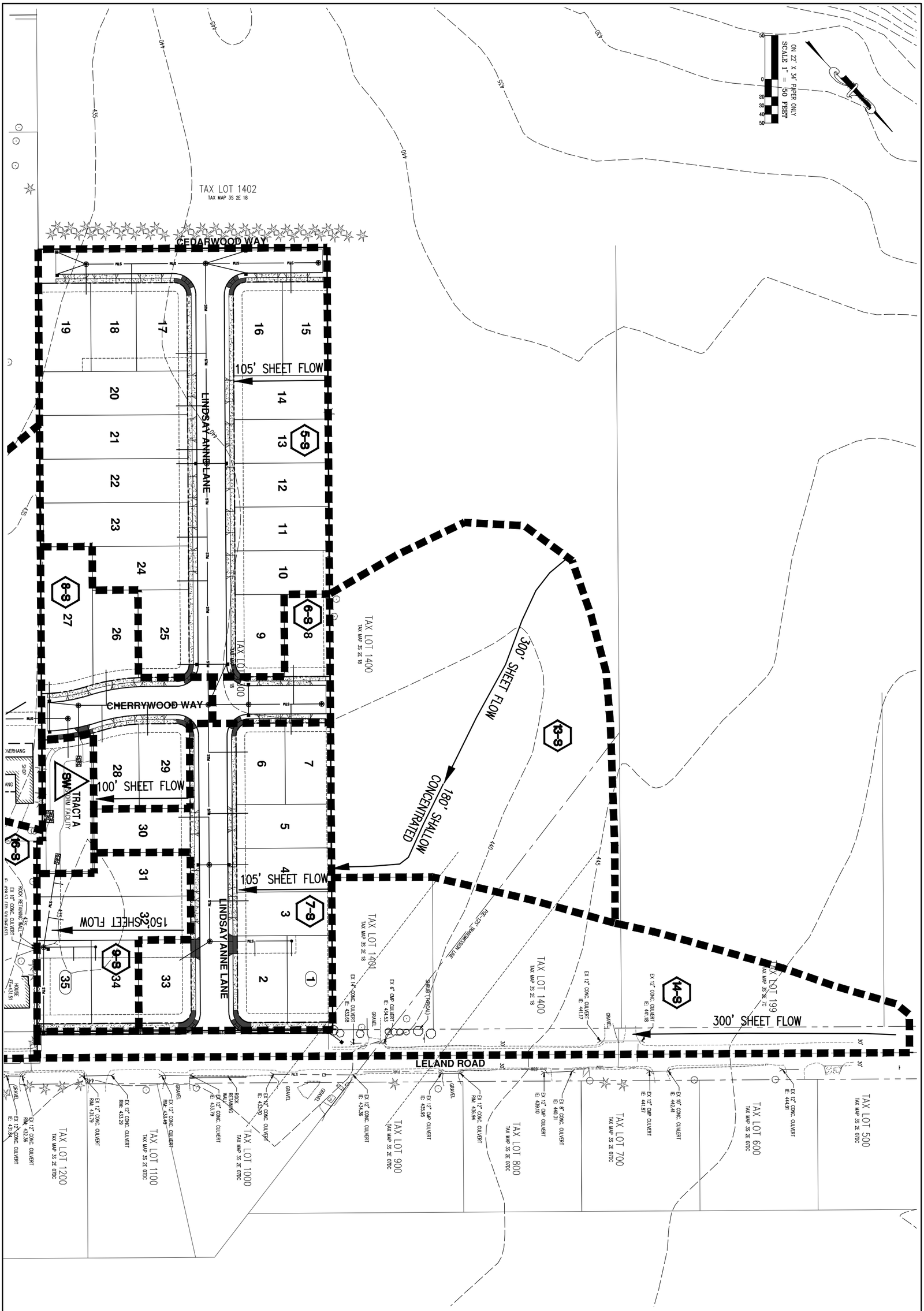
POST-DEVELOPED CONDITION

CATCHMENT	TIME (minute)
5-S West MH 23 Basin	11.3
6-S North MH 23 Basin	5.0
7-S East MH 23 Basin	14.9
8-S South MH 23 Basin	9.2
9-S East Pond Basin	15.0
13-S Offsite Contribute Basin West	53.3
14-S Offsite Contribute Basin Leland	42.8

DOWNSTREAM STUDY

CATCHMENT	TIME (minute)
5-S West MH 23 Basin	11.3
6-S North MH 23 Basin	5.0
7-S East MH 23 Basin	14.9
8-S South MH 23 Basin	9.2
9-S East Pond Basin	15.0
13-S Offsite Contribute Basin West	53.3
14-S Offsite Contribute Basin Leland	42.8
15-S Offsite Contribute Basin South	28.3
16-S Offsite Contribute Basin Leland South	14.3

APPENDIX 6-1
DOWNSTREAM ANALYSIS



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AKS ENGINEERING & FORESTRY

LINDSAY ANNE ESTATES

OREGON CITY OREGON
TAX LOT 1300 CLACKAMAS COUNTY TAX MAP 3S 2E 18

DOWNSTREAM STUDY MAP

DESIGNED BY: VIN
DRAWN BY: VIN, BLF
CHECKED BY: MBRL, GG
DRAWING NO.: 3589 BASN MAP
SCALE: AS NOTED

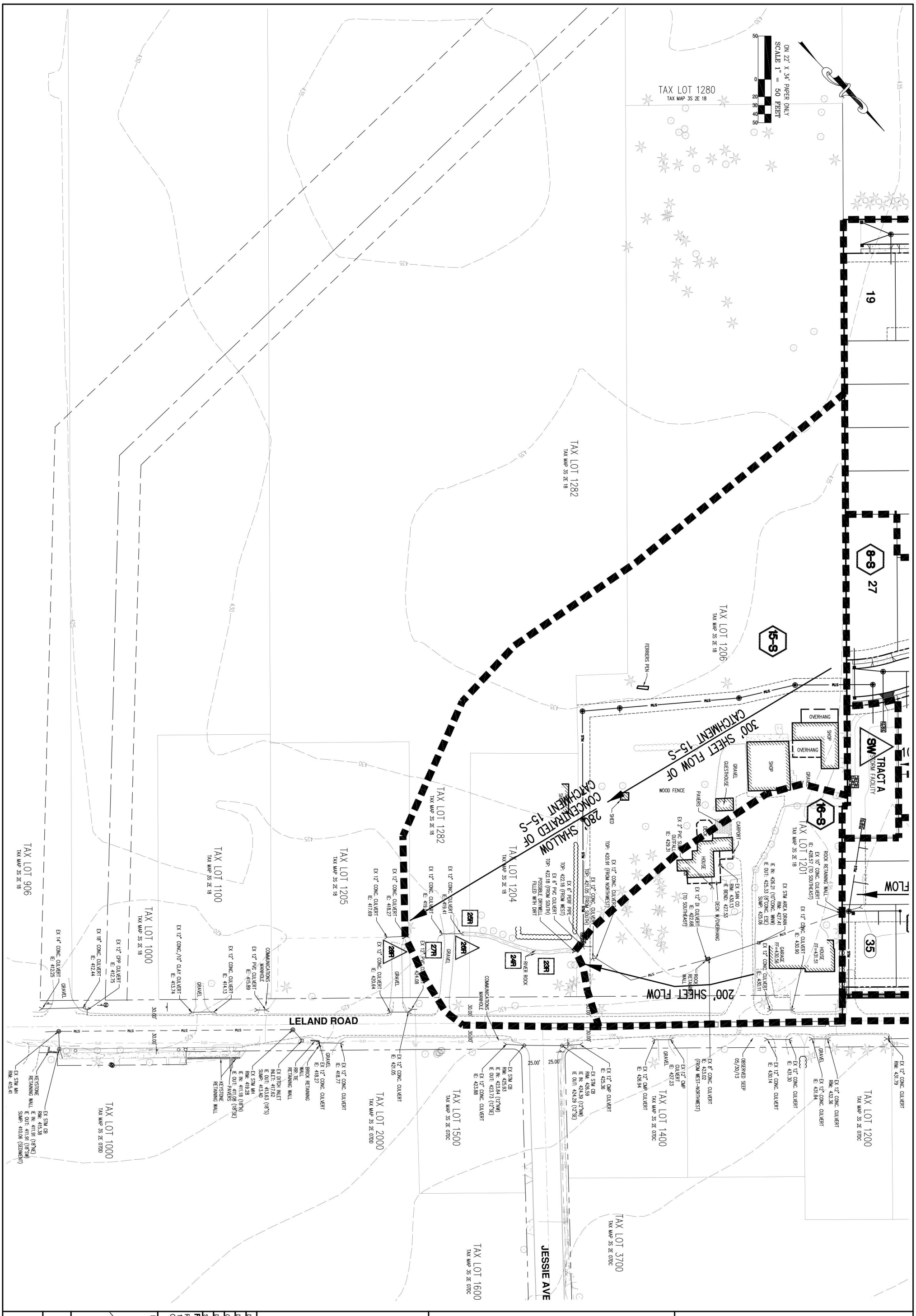
PREPARED FOR:
RIAN PARK DEVELOPMENT, INC
15239 S LAKERIDGE WAY
OREGON CITY, OR 97045

DATE: 03/14/2014

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 13, 2004
MICHAEL B. RILEY
RENEWAL DATE: 6/30/15

JOB NUMBER
3589

SHEET
1



DESIGNED BY:	VN
DRAWN BY:	VN, BLF
CHECKED BY:	MBH, CG
DRAWING NO.:	3589 BASIN MAP
SCALE:	AS NOTED

PREPARED FOR:
RIAN PARK DEVELOPMENT, INC.
15239 S LAKERIDGE WAY
OREGON CITY, OR 97045

DATE: 03/14/2014

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2002
CHRISTOPHER G. CROWLEY
RENEWAL DATE: 6/30/15

PRELIMINARY NOT FOR CONSTRUCTION

JOB NUMBER 3589

SHEET 2

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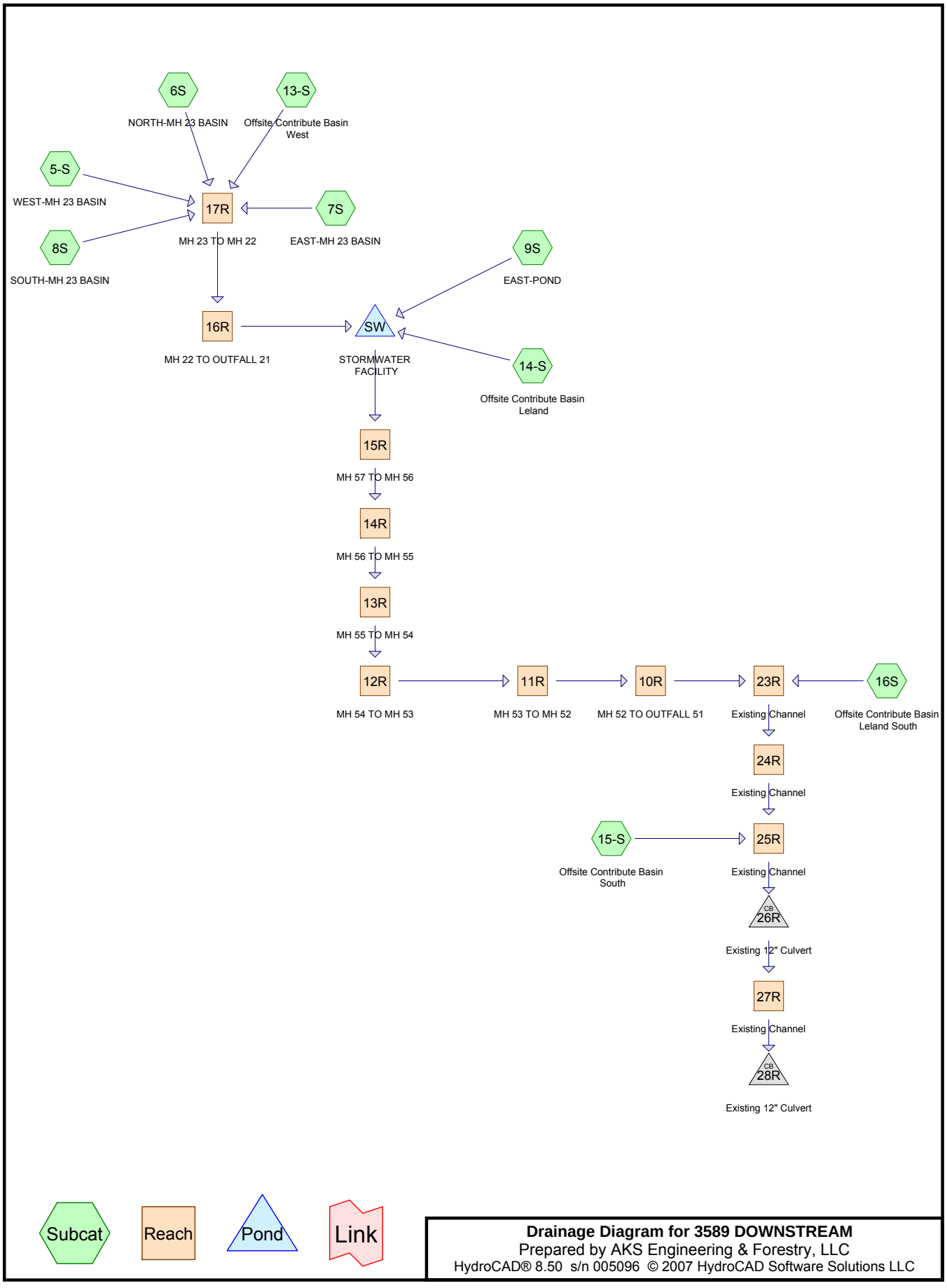
OREGON CITY OREGON

TAX LOT 1300 CLACKAMAS COUNTY TAX MAP 3S 2E 18

DOWNSTREAM STUDY MAP



Drainage Diagram for 3589 DOWNSTREAM
Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 8.50 s/n 005096 © 2007 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.808	85	Meadow and Pasture (13-S,14-S,15-S)
2.883	86	Grass Cover >= 75% (5-S,6S,7S,8S,9S)
1.204	90	Grass Cover On 50%-75% of Area (16S)
0.057	98	1 lot x 2,500 s.f. (6S)
0.976	98	17 lot x 2,500 s.f. (5-S)
0.459	98	4 lot x 2,500 s.f. (8S,9S)
0.517	98	9 lot x 2,500 s.f. (7S)
1.700	98	Area Within ROW (5-S,6S,7S,8S)
1.224	98	Impervious Area (13-S,14-S,15-S,16S)
17.827		**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	
17.827	Other	5-S, 6S, 7S, 8S, 9S, 13-S, 14-S, 15-S, 16S
17.827		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 5-S: WEST-MH 23 BASIN Runoff Area=142,726 sf 55.69% Impervious Runoff Depth>2.64"
Flow Length=105' Slope=0.0200 '/' Tc=11.3 min CN=86/98 Runoff=2.02 cfs 0.722 af

Subcatchment 6S: NORTH-MH 23 BASIN Runoff Area=12,007 sf 80.19% Impervious Runoff Depth>2.93"
Tc=5.0 min CN=86/98 Runoff=0.20 cfs 0.067 af

Subcatchment 7S: EAST-MH 23 BASIN Runoff Area=68,337 sf 61.34% Impervious Runoff Depth>2.70"
Flow Length=105' Slope=0.0100 '/' Tc=14.9 min CN=86/98 Runoff=0.95 cfs 0.354 af

Subcatchment 8S: SOUTH-MH 23 BASIN Runoff Area=35,974 sf 57.04% Impervious Runoff Depth>2.66"
Flow Length=100' Slope=0.0300 '/' Tc=9.2 min CN=86/98 Runoff=0.53 cfs 0.183 af

Subcatchment 9S: EAST-POND Runoff Area=28,100 sf 35.59% Impervious Runoff Depth>2.41"
Flow Length=150' Slope=0.0200 '/' Tc=15.0 min CN=86/98 Runoff=0.34 cfs 0.129 af

Subcatchment 13-S: Offsite Contribute Basin West Runoff Area=123,035 sf 2.03% Impervious Runoff Depth>1.90"
Flow Length=480' Slope=0.0100 '/' Tc=53.3 min CN=85/98 Runoff=0.73 cfs 0.448 af

Subcatchment 14-S: Offsite Contribute Basin Leland Runoff Area=105,140 sf 28.53% Impervious Runoff Depth>2.24"
Flow Length=300' Slope=0.0150 '/' Tc=42.8 min CN=85/98 Runoff=0.83 cfs 0.450 af

Subcatchment 15-S: Offsite Contribute Basin South Runoff Area=197,900 sf 5.00% Impervious Runoff Depth>1.96"
Flow Length=580' Tc=28.3 min CN=85/98 Runoff=1.58 cfs 0.744 af

Subcatchment 16S: Offsite Contribute Basin Leland South Runoff Area=63,329 sf 17.21% Impervious Runoff Depth>2.48"
Flow Length=200' Slope=0.0400 '/' Tc=14.3 min CN=90/98 Runoff=0.83 cfs 0.300 af

Reach 10R: MH 52 TO OUTFALL 51 Avg. Depth=0.92' Max Vel=2.95 fps Inflow=4.17 cfs 2.204 af
D=24.0" n=0.011 L=131.6' S=0.0013 '/' Capacity=9.61 cfs Outflow=4.16 cfs 2.202 af

Reach 11R: MH 53 TO MH 52 Avg. Depth=0.86' Max Vel=4.65 fps Inflow=4.17 cfs 2.205 af
D=15.0" n=0.011 L=124.3' S=0.0045 '/' Capacity=5.12 cfs Outflow=4.17 cfs 2.204 af

Reach 12R: MH 54 TO MH 53 Avg. Depth=0.86' Max Vel=4.61 fps Inflow=4.17 cfs 2.206 af
D=15.0" n=0.011 L=43.2' S=0.0044 '/' Capacity=5.06 cfs Outflow=4.17 cfs 2.205 af

Reach 13R: MH 55 TO MH 54 Avg. Depth=0.60' Max Vel=7.21 fps Inflow=4.17 cfs 2.206 af
D=15.0" n=0.011 L=137.9' S=0.0140 '/' Capacity=9.03 cfs Outflow=4.17 cfs 2.206 af

Reach 14R: MH 56 TO MH 55 Avg. Depth=0.50' Max Vel=9.07 fps Inflow=4.17 cfs 2.207 af
D=15.0" n=0.011 L=66.3' S=0.0261 '/' Capacity=12.33 cfs Outflow=4.17 cfs 2.206 af

Reach 15R: MH 57 TO MH 56 Avg. Depth=0.50' Max Vel=9.07 fps Inflow=4.17 cfs 2.207 af
D=15.0" n=0.011 L=89.7' S=0.0261 '/' Capacity=12.33 cfs Outflow=4.17 cfs 2.207 af

Reach 16R: MH 22 TO OUTFALL 21 Avg. Depth=0.89' Max Vel=4.69 fps Inflow=4.39 cfs 1.772 af
D=15.0" n=0.011 L=57.8' S=0.0045 '/' Capacity=5.12 cfs Outflow=4.39 cfs 1.772 af

Reach 17R: MH 23 TO MH 22 Avg. Depth=0.89' Max Vel=4.70 fps Inflow=4.40 cfs 1.773 af
D=15.0" n=0.011 L=148.5' S=0.0045 '/' Capacity=5.13 cfs Outflow=4.39 cfs 1.772 af

Reach 23R: Existing Channel Avg. Depth=0.44' Max Vel=2.80 fps Inflow=4.71 cfs 2.502 af
n=0.030 L=50.0' S=0.0190 '/' Capacity=40.06 cfs Outflow=4.71 cfs 2.502 af

Reach 24R: Existing Channel Avg. Depth=0.45' Max Vel=2.64 fps Inflow=4.71 cfs 2.502 af
n=0.030 L=50.0' S=0.0160 '/' Capacity=36.37 cfs Outflow=4.70 cfs 2.501 af

Reach 25R: Existing Channel Avg. Depth=0.56' Max Vel=3.24 fps Inflow=6.08 cfs 3.244 af
n=0.030 L=50.0' S=0.0200 '/' Capacity=26.01 cfs Outflow=6.08 cfs 3.243 af

Reach 27R: Existing Channel Avg. Depth=0.58' Max Vel=3.07 fps Inflow=6.08 cfs 3.243 af
n=0.030 L=30.0' S=0.0177 '/' Capacity=49.55 cfs Outflow=6.08 cfs 3.243 af

Pond 26R: Existing 12" Culvert Peak Elev=421.69' Inflow=6.08 cfs 3.243 af
12.0" x 21.5' Culvert Outflow=6.08 cfs 3.243 af

Pond 28R: Existing 12" Culvert Peak Elev=420.43' Inflow=6.08 cfs 3.243 af
12.0" x 21.6' Culvert Outflow=6.08 cfs 3.243 af

Pond SW: STORMWATERFACILITY Peak Elev=430.70' Storage=14,112 cf Inflow=5.56 cfs 2.352 af
Outflow=4.17 cfs 2.207 af

Total Runoff Area = 17.827 ac Runoff Volume = 3.397 af Average Runoff Depth = 2.29"
72.33% Pervious = 12.895 ac 27.67% Impervious = 4.932 ac

Summary for Subcatchment 5-S: WEST-MH 23 BASIN

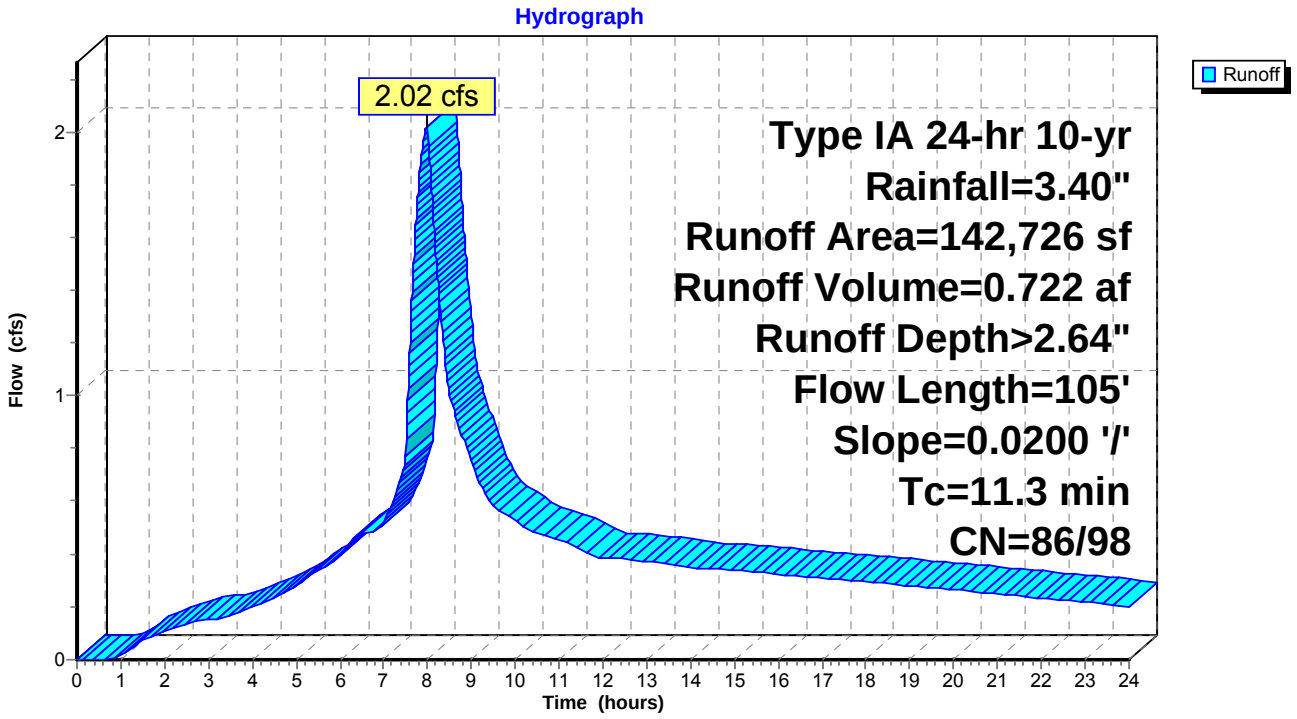
Runoff = 2.02 cfs @ 8.00 hrs, Volume= 0.722 af, Depth> 2.64"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	42,500	98	17 lot x 2,500 s.f.
*	36,978	98	Area Within ROW
*	63,248	86	Grass Cover >= 75%
	142,726	93	Weighted Average
	63,248	86	Pervious Area
	79,478	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.3	105	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 5-S: WEST-MH 23 BASIN



Summary for Subcatchment 6S: NORTH-MH 23 BASIN

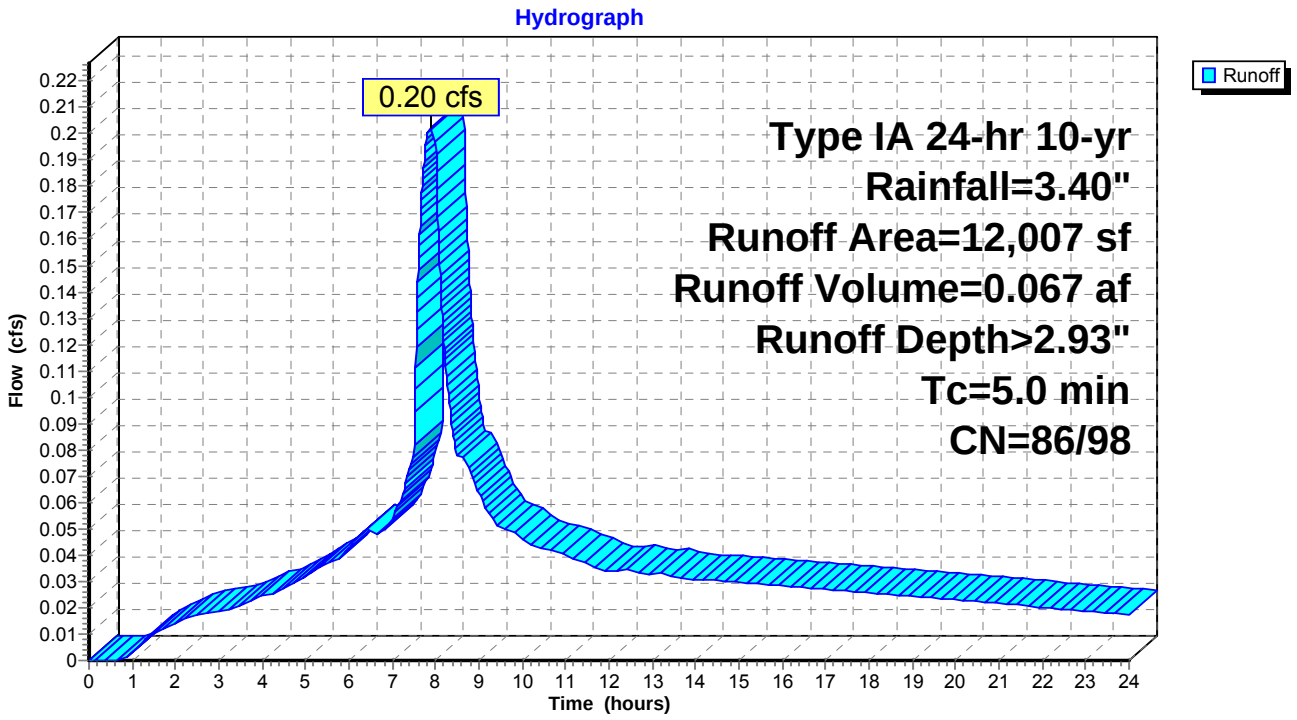
Runoff = 0.20 cfs @ 7.89 hrs, Volume= 0.067 af, Depth> 2.93"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	2,500	98	1 lot x 2,500 s.f.
*	7,128	98	Area Within ROW
*	2,379	86	Grass Cover >= 75%
	12,007	96	Weighted Average
	2,379	86	Pervious Area
	9,628	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Min.**

Subcatchment 6S: NORTH-MH 23 BASIN



Summary for Subcatchment 7S: EAST-MH 23 BASIN

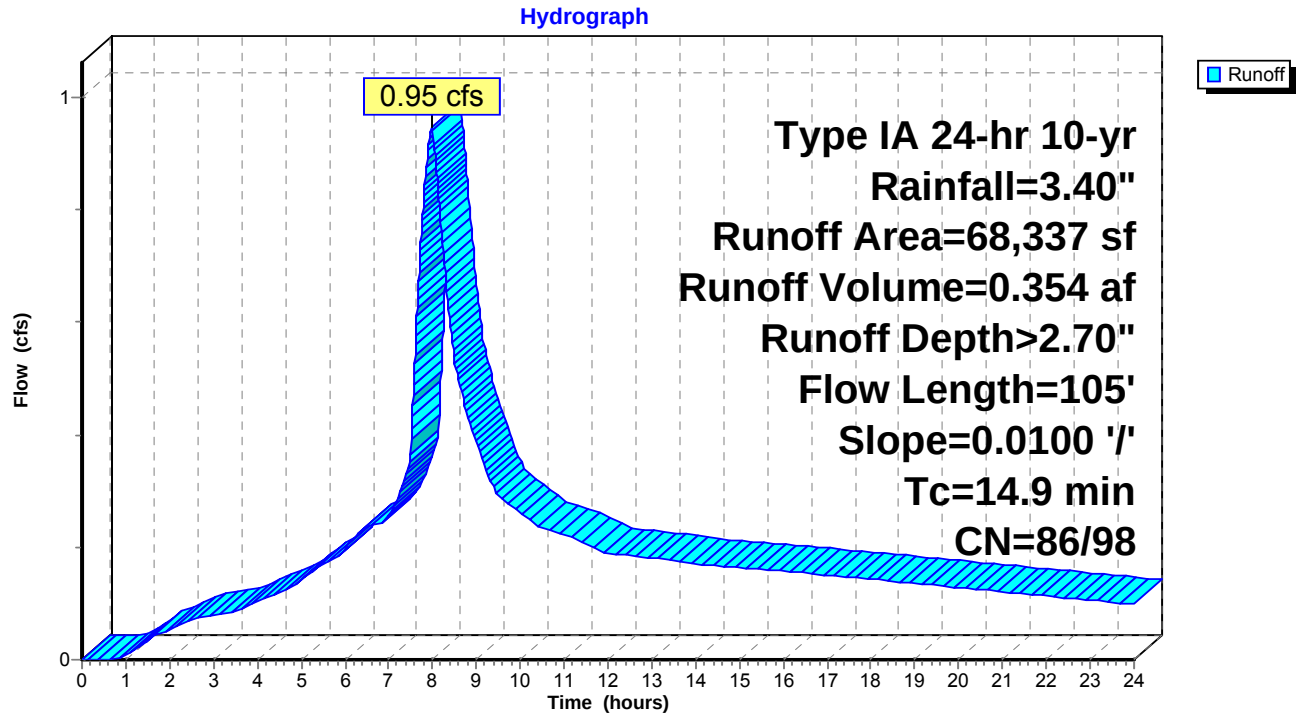
Runoff = 0.95 cfs @ 8.00 hrs, Volume= 0.354 af, Depth> 2.70"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	22,500	98	9 lot x 2,500 s.f.
*	19,420	98	Area Within ROW
*	26,417	86	Grass Cover >= 75%
	68,337	93	Weighted Average
	26,417	86	Pervious Area
	41,920	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	105	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 7S: EAST-MH 23 BASIN



Summary for Subcatchment 8S: SOUTH-MH 23 BASIN

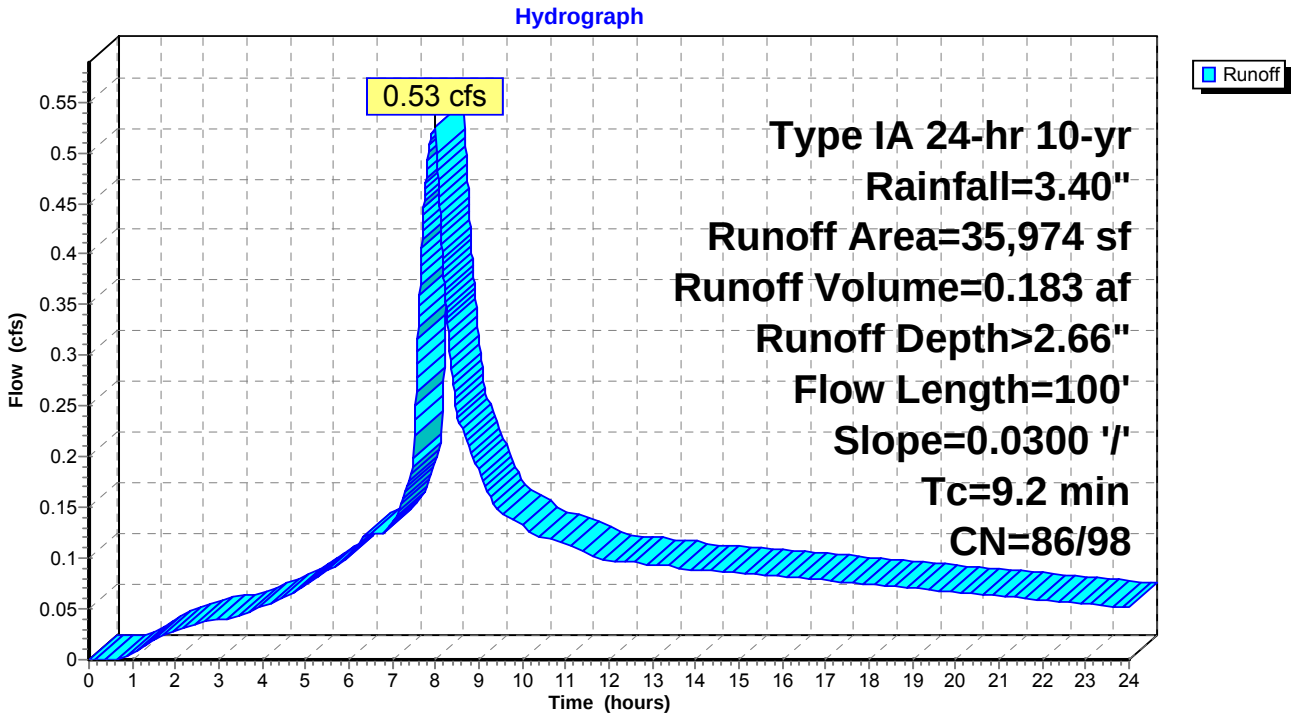
Runoff = 0.53 cfs @ 7.97 hrs, Volume= 0.183 af, Depth> 2.66"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	10,000	98	4 lot x 2,500 s.f.
*	10,520	98	Area Within ROW
*	15,454	86	Grass Cover >= 75%
	35,974	93	Weighted Average
	15,454	86	Pervious Area
	20,520	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.0300	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 8S: SOUTH-MH 23 BASIN



Summary for Subcatchment 9S: EAST-POND

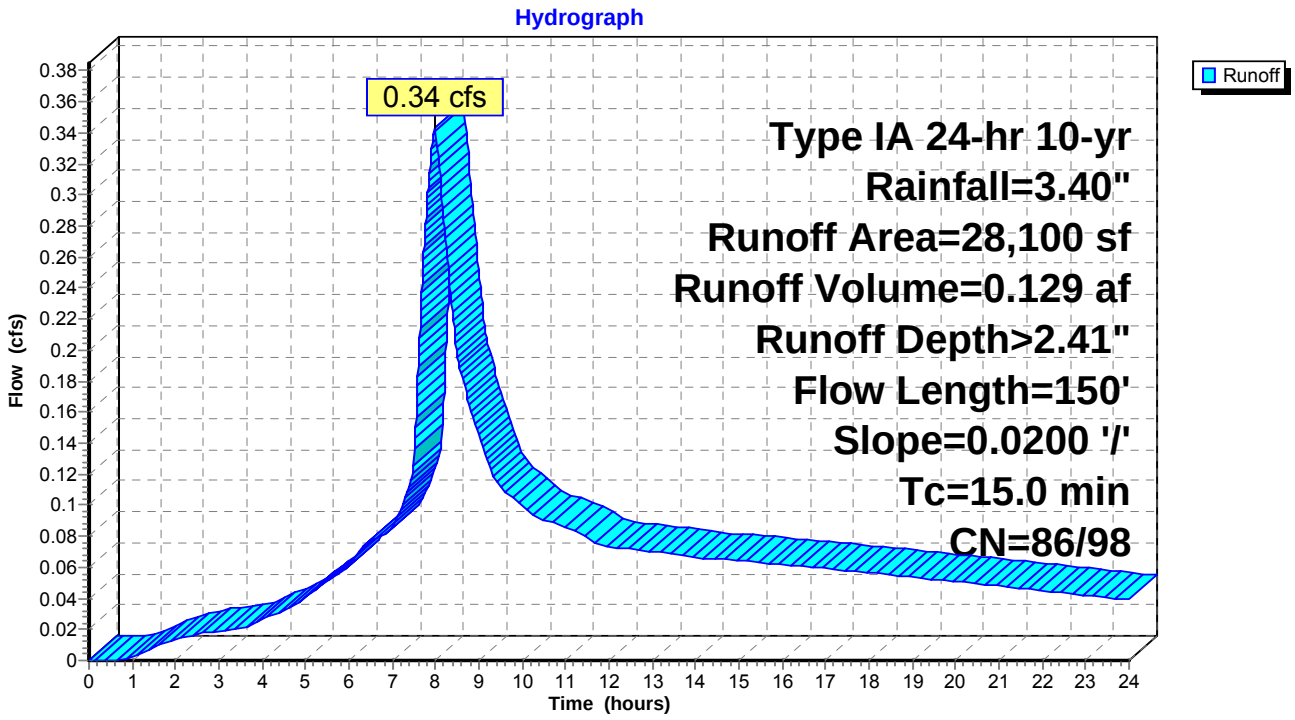
Runoff = 0.34 cfs @ 8.00 hrs, Volume= 0.129 af, Depth> 2.41"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	10,000	98	4 lot x 2,500 s.f.
*	18,100	86	Grass Cover >= 75%
	28,100	90	Weighted Average
	18,100	86	Pervious Area
	10,000	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	150	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 9S: EAST-POND



Summary for Subcatchment 13-S: Offsite Contribute Basin West

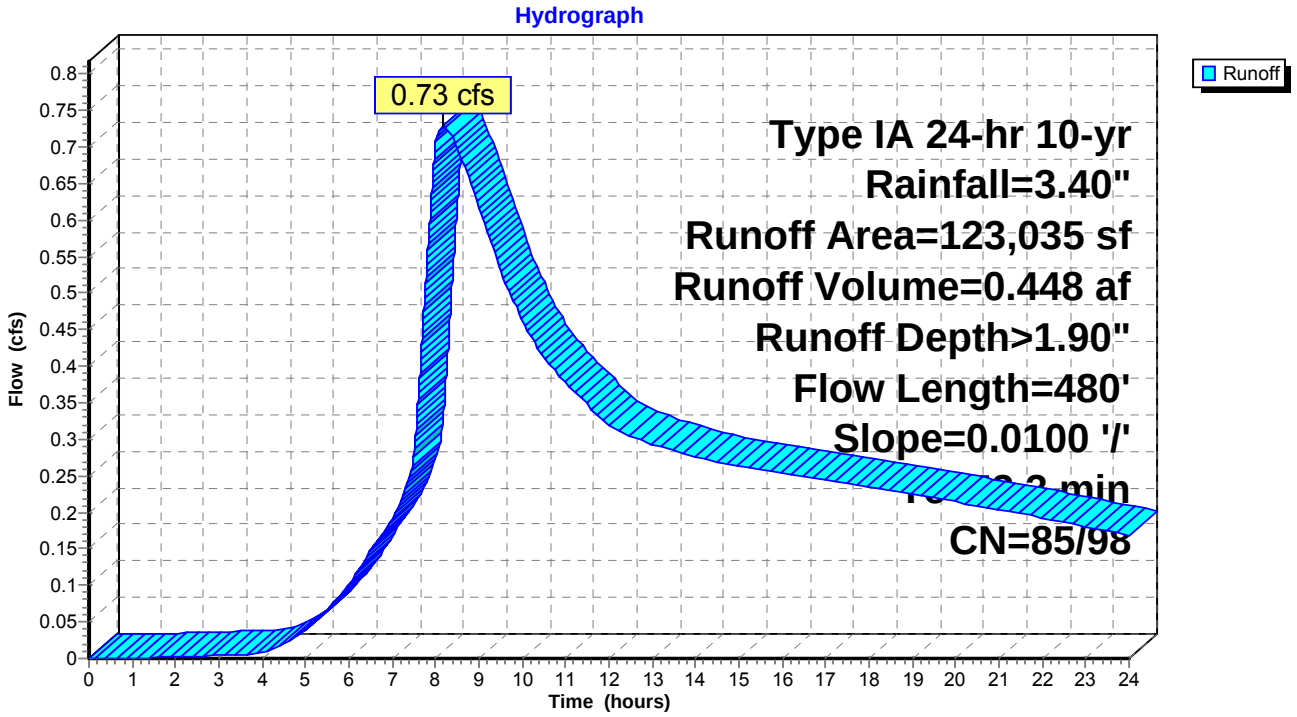
Runoff = 0.73 cfs @ 8.19 hrs, Volume= 0.448 af, Depth> 1.90"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	120,535	85	Meadow and Pasture
*	2,500	98	Impervious Area
	123,035	85	Weighted Average
	120,535	85	Pervious Area
	2,500	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.3	300	0.0100	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.60"
3.0	180	0.0100	1.00		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
53.3	480	Total			

Subcatchment 13-S: Offsite Contribute Basin West



Summary for Subcatchment 14-S: Offsite Contribute Basin Leland

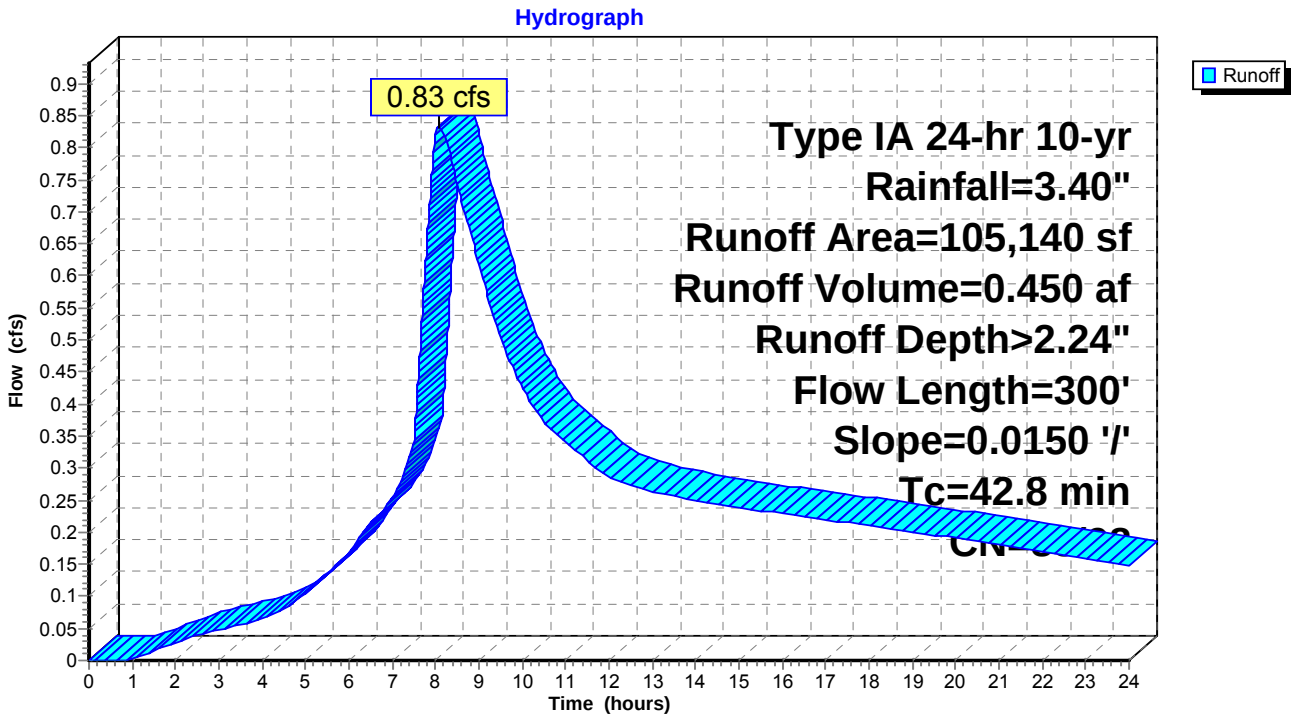
Runoff = 0.83 cfs @ 8.08 hrs, Volume= 0.450 af, Depth> 2.24"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	75,140	85	Meadow and Pasture
*	30,000	98	Impervious Area
	105,140	89	Weighted Average
	75,140	85	Pervious Area
	30,000	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
42.8	300	0.0150	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.60"

Subcatchment 14-S: Offsite Contribute Basin Leland



Summary for Subcatchment 15-S: Offsite Contribute Basin South

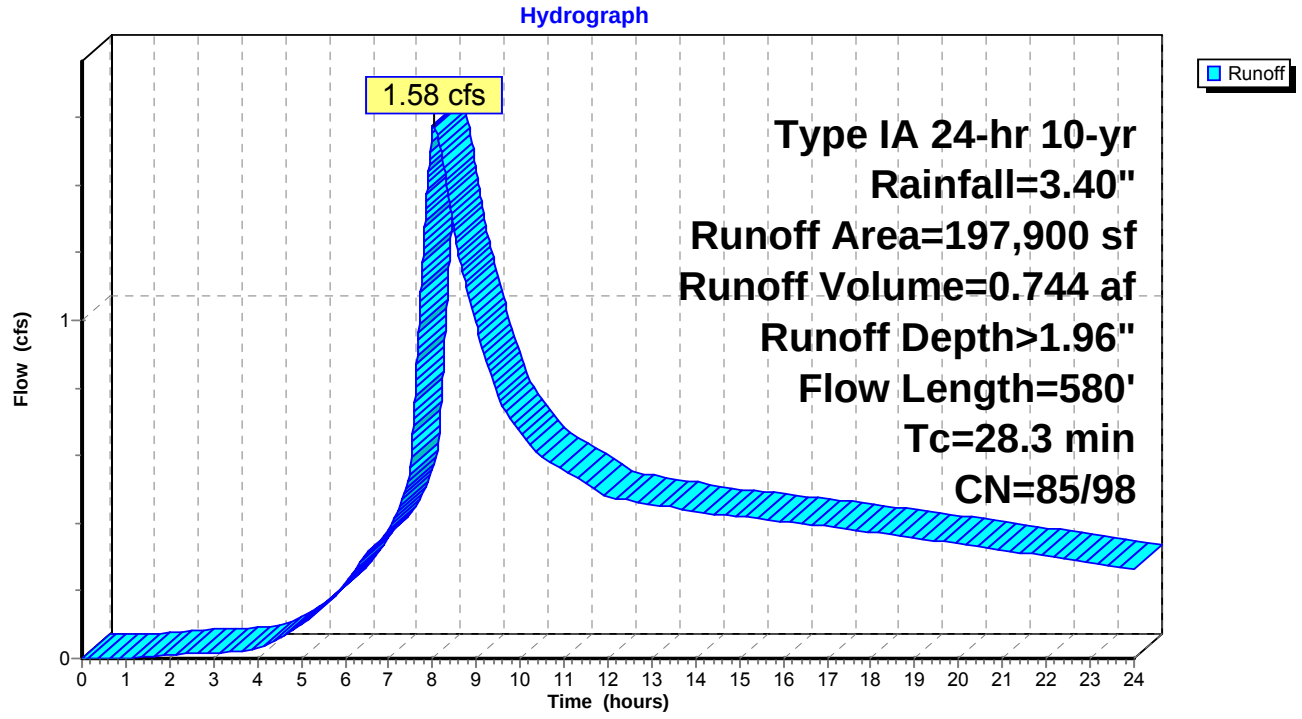
Runoff = 1.58 cfs @ 8.01 hrs, Volume= 0.744 af, Depth> 1.96"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	188,000	85	Meadow and Pasture
*	9,900	98	Impervious Area
	197,900	86	Weighted Average
	188,000	85	Pervious Area
	9,900	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	300	0.0167	0.20		**Sheet Flow,** Range n= 0.130 P2= 2.60"
3.2	280	0.0214	1.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
28.3	580	Total			

Subcatchment 15-S: Offsite Contribute Basin South



Summary for Subcatchment 16S: Offsite Contribute Basin Leland South

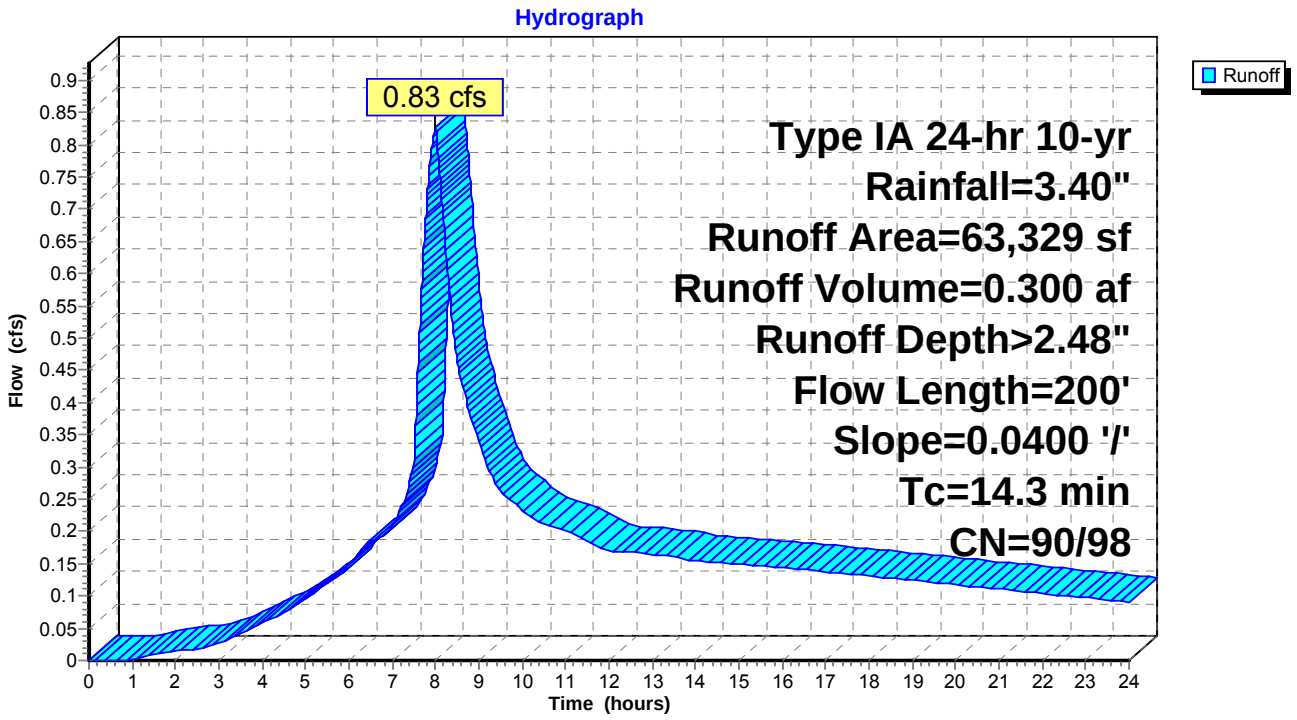
Runoff = 0.83 cfs @ 8.00 hrs, Volume= 0.300 af, Depth> 2.48"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	52,429	90	Grass Cover On 50%-75% of Area
*	10,900	98	Impervious Area
	63,329	91	Weighted Average
	52,429	90	Pervious Area
	10,900	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	200	0.0400	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 16S: Offsite Contribute Basin Leland South



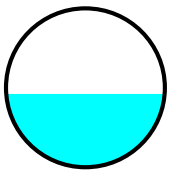
Summary for Reach 10R: MH 52 TO OUTFALL 51

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.36 hrs, Volume= 2.204 af
Outflow = 4.16 cfs @ 8.38 hrs, Volume= 2.202 af, Atten= 0%, Lag= 1.3 min

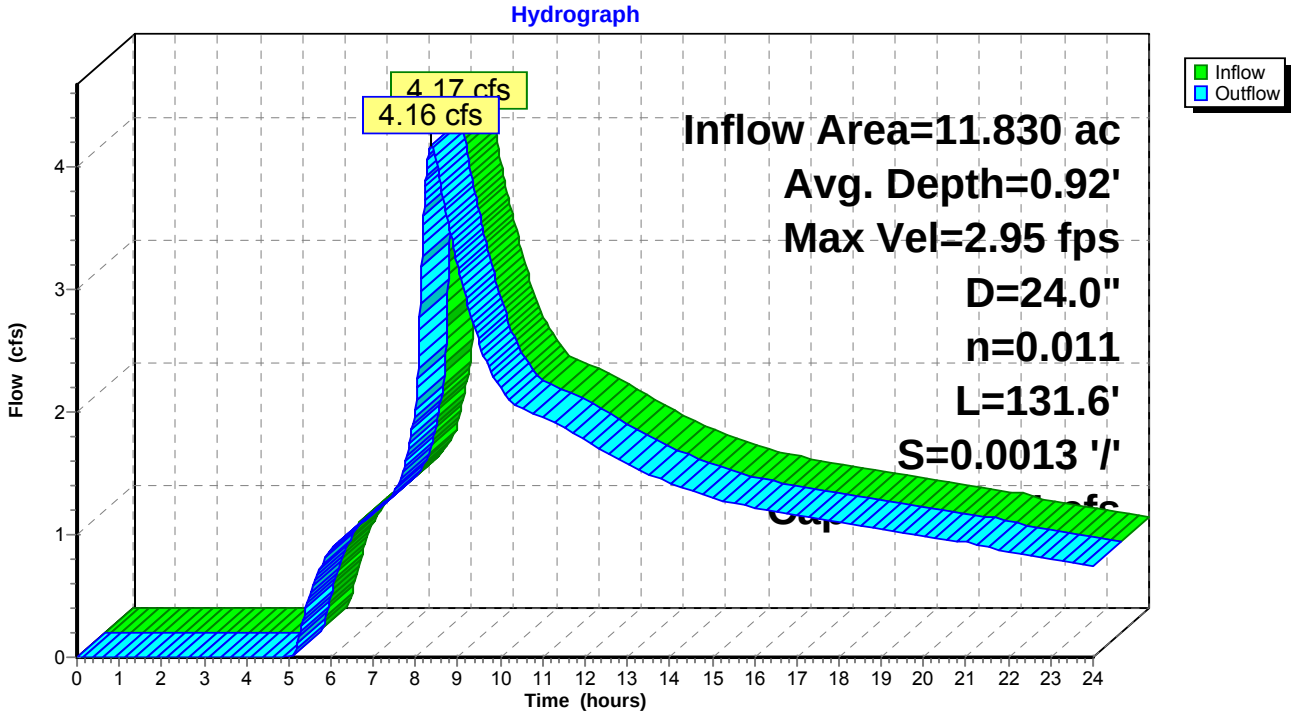
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.95 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.13 fps, Avg. Travel Time= 1.0 min

Peak Storage= 186 cf @ 8.37 hrs, Average Depth at Peak Storage= 0.92'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 9.61 cfs

24.0" Diameter Pipe, n= 0.011
Length= 131.6' Slope= 0.0013 '/'
Inlet Invert= 421.85', Outlet Invert= 421.68'



Reach 10R: MH 52 TO OUTFALL 51



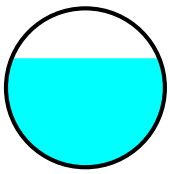
Summary for Reach 11R: MH 53 TO MH 52

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.34 hrs, Volume= 2.205 af
Outflow = 4.17 cfs @ 8.36 hrs, Volume= 2.204 af, Atten= 0%, Lag= 0.8 min

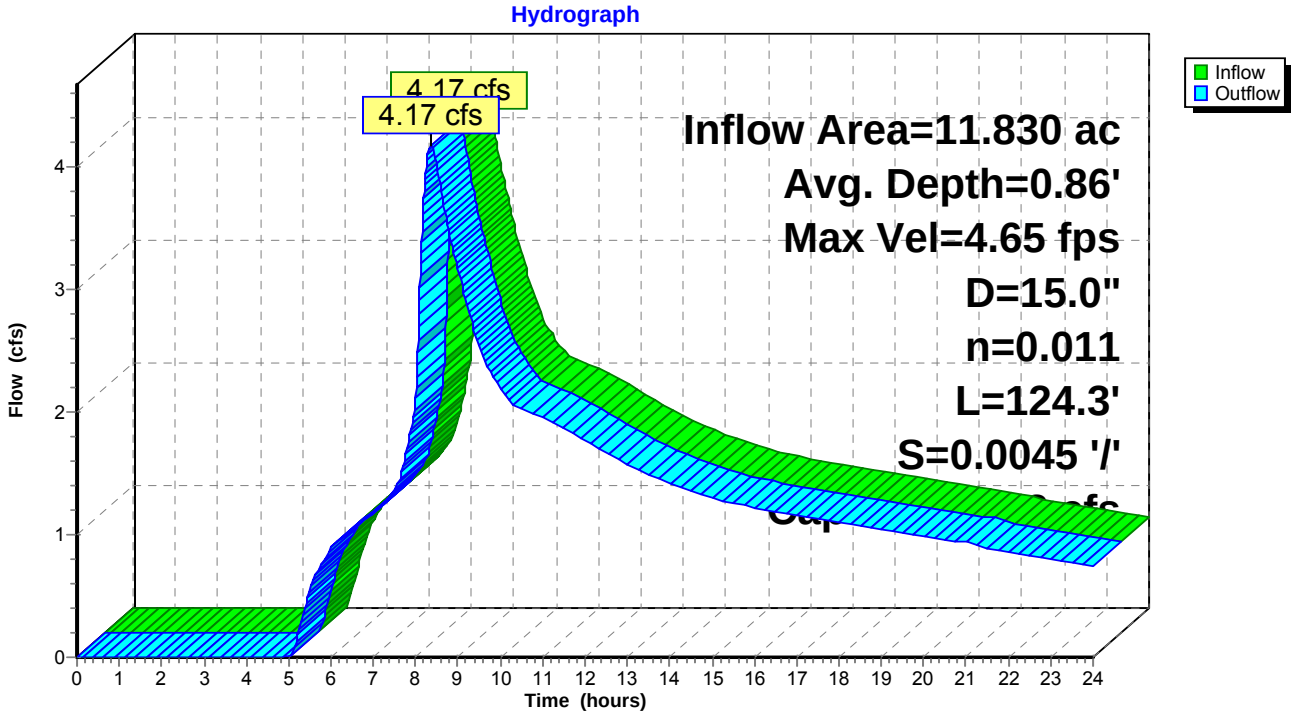
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.65 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 3.47 fps, Avg. Travel Time= 0.6 min

Peak Storage= 111 cf @ 8.35 hrs, Average Depth at Peak Storage= 0.86'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 5.12 cfs

15.0" Diameter Pipe, n= 0.011
Length= 124.3' Slope= 0.0045 '/'
Inlet Invert= 422.61', Outlet Invert= 422.05'



Reach 11R: MH 53 TO MH 52



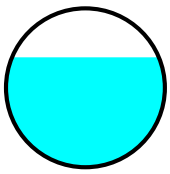
Summary for Reach 12R: MH 54 TO MH 53

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.34 hrs, Volume= 2.206 af
Outflow = 4.17 cfs @ 8.34 hrs, Volume= 2.205 af, Atten= 0%, Lag= 0.3 min

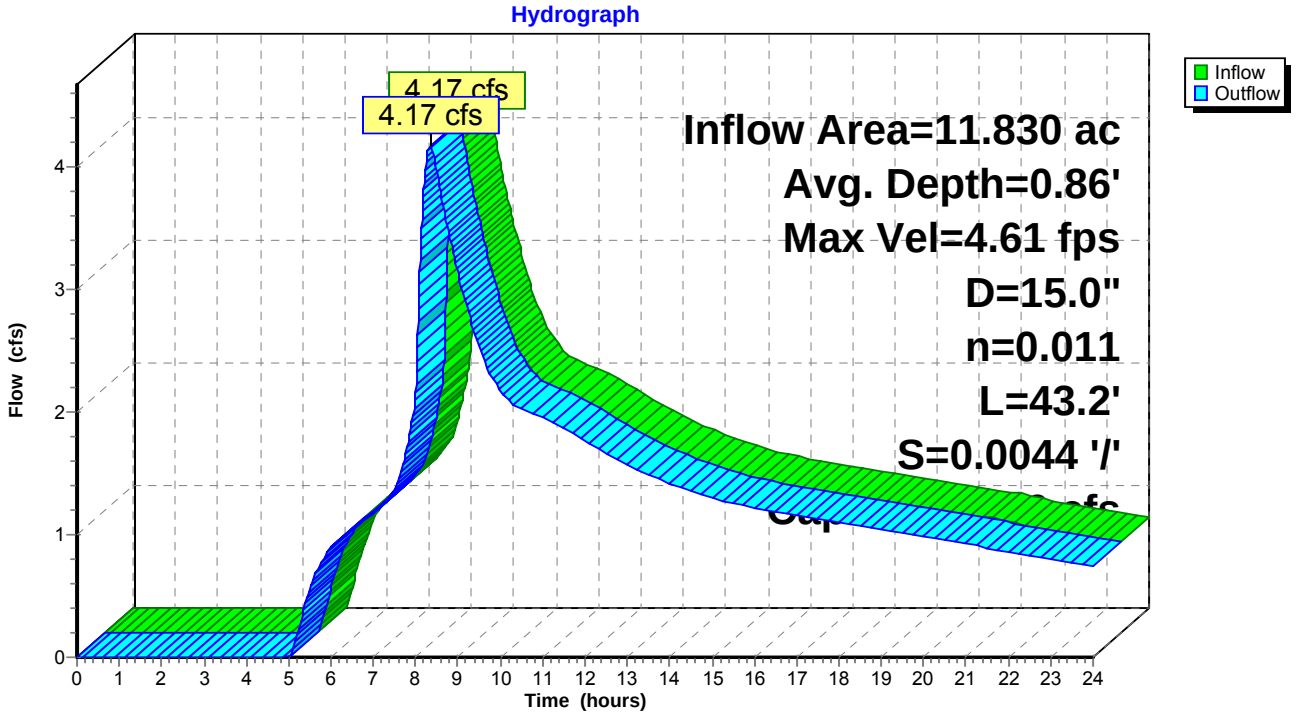
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.61 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.43 fps, Avg. Travel Time= 0.2 min

Peak Storage= 39 cf @ 8.34 hrs, Average Depth at Peak Storage= 0.86'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 5.06 cfs

15.0" Diameter Pipe, n= 0.011
Length= 43.2' Slope= 0.0044 '/'
Inlet Invert= 423.00', Outlet Invert= 422.81'



Reach 12R: MH 54 TO MH 53



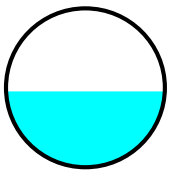
Summary for Reach 13R: MH 55 TO MH 54

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.33 hrs, Volume= 2.206 af
Outflow = 4.17 cfs @ 8.34 hrs, Volume= 2.206 af, Atten= 0%, Lag= 0.6 min

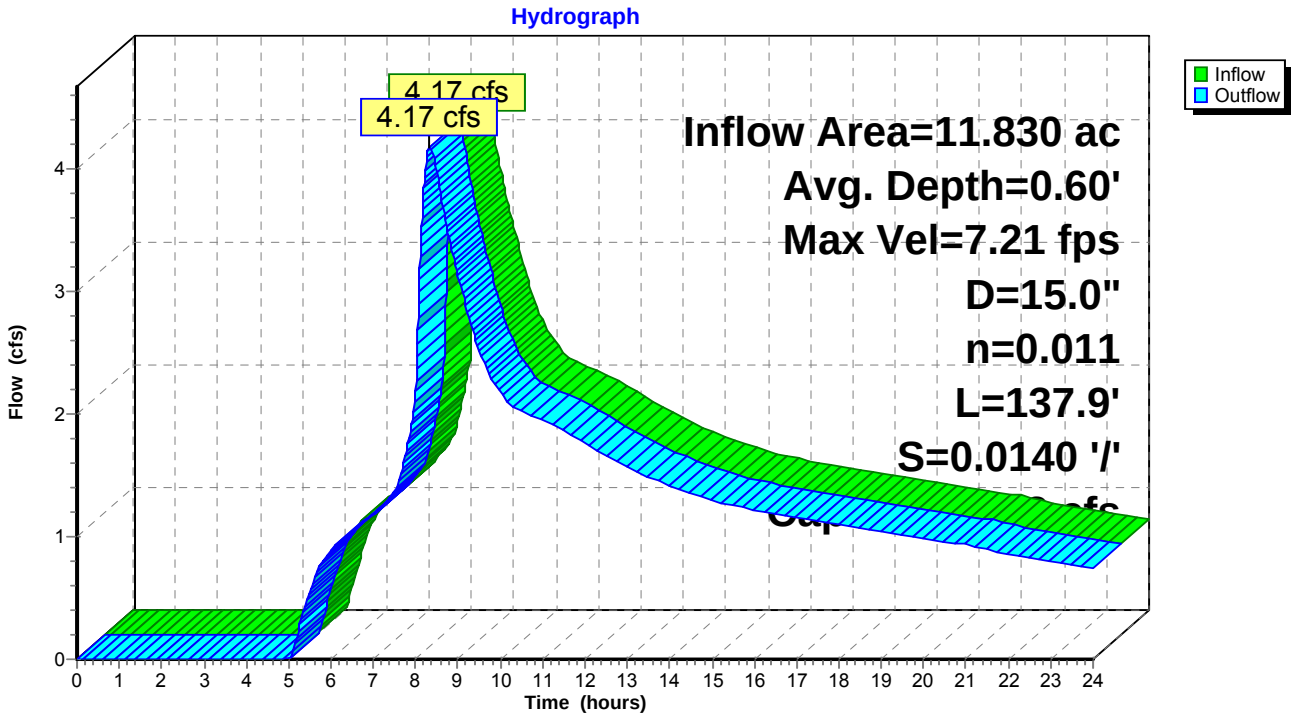
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 7.21 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 5.21 fps, Avg. Travel Time= 0.4 min

Peak Storage= 80 cf @ 8.33 hrs, Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 9.03 cfs

15.0" Diameter Pipe, n= 0.011
Length= 137.9' Slope= 0.0140 '/'
Inlet Invert= 424.63', Outlet Invert= 422.70'



Reach 13R: MH 55 TO MH 54



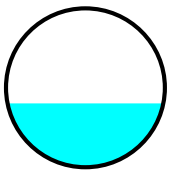
Summary for Reach 14R: MH 56 TO MH 55

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.33 hrs, Volume= 2.207 af
Outflow = 4.17 cfs @ 8.33 hrs, Volume= 2.206 af, Atten= 0%, Lag= 0.2 min

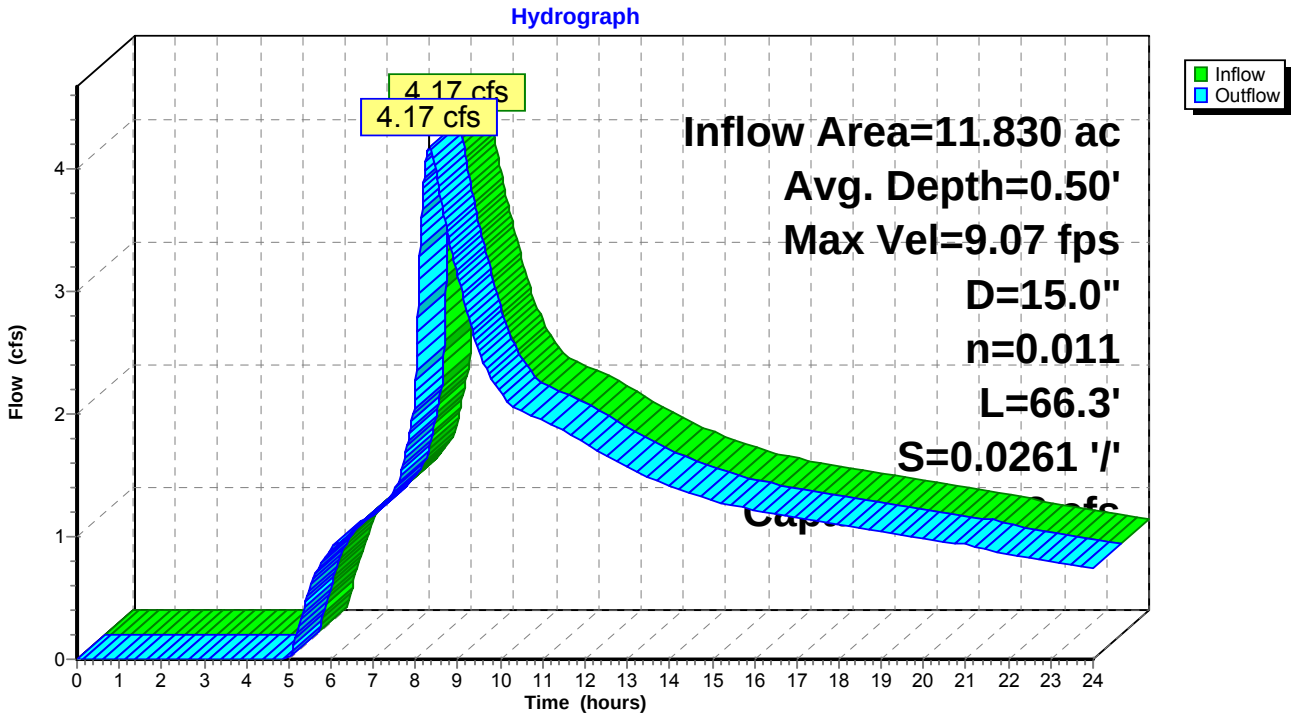
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.07 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 6.50 fps, Avg. Travel Time= 0.2 min

Peak Storage= 30 cf @ 8.33 hrs, Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 12.33 cfs

15.0" Diameter Pipe, n= 0.011
Length= 66.3' Slope= 0.0261 '/'
Inlet Invert= 426.56', Outlet Invert= 424.83'



Reach 14R: MH 56 TO MH 55



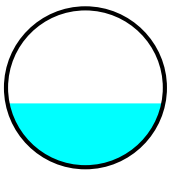
Summary for Reach 15R: MH 57 TO MH 56

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.32 hrs, Volume= 2.207 af
Outflow = 4.17 cfs @ 8.33 hrs, Volume= 2.207 af, Atten= 0%, Lag= 0.3 min

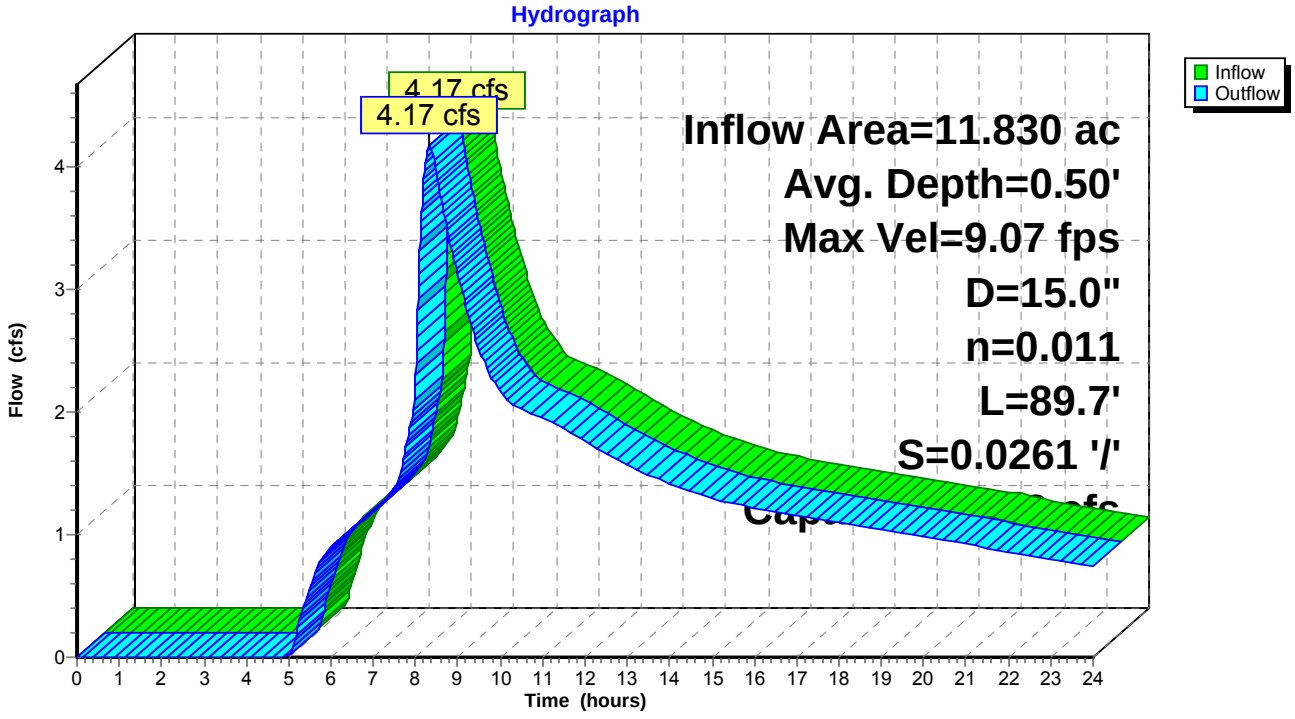
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.07 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 6.50 fps, Avg. Travel Time= 0.2 min

Peak Storage= 41 cf @ 8.32 hrs, Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 12.33 cfs

15.0" Diameter Pipe, n= 0.011
Length= 89.7' Slope= 0.0261 '/'
Inlet Invert= 429.10', Outlet Invert= 426.76'



Reach 15R: MH 57 TO MH 56



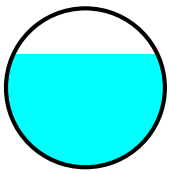
Summary for Reach 16R: MH 22 TO OUTFALL 21

Inflow Area = 8.771 ac, 40.32% Impervious, Inflow Depth > 2.42" for 10-yr event
Inflow = 4.39 cfs @ 8.01 hrs, Volume= 1.772 af
Outflow = 4.39 cfs @ 8.02 hrs, Volume= 1.772 af, Atten= 0%, Lag= 0.3 min

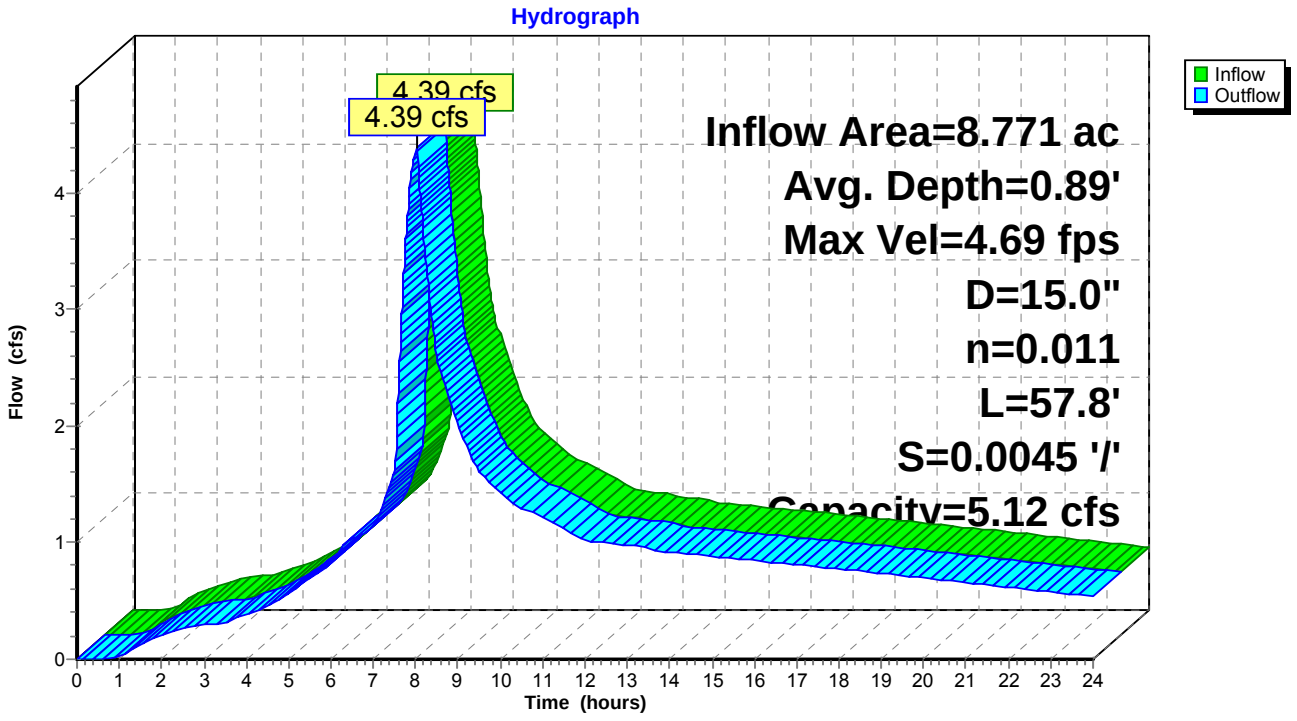
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.69 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.00 fps, Avg. Travel Time= 0.3 min

Peak Storage= 54 cf @ 8.01 hrs, Average Depth at Peak Storage= 0.89'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 5.12 cfs

15.0" Diameter Pipe, n= 0.011
Length= 57.8' Slope= 0.0045 '/'
Inlet Invert= 429.36', Outlet Invert= 429.10'



Reach 16R: MH 22 TO OUTFALL 21



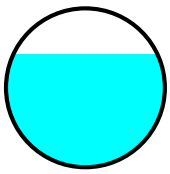
Summary for Reach 17R: MH 23 TO MH 22

Inflow Area = 8.771 ac, 40.32% Impervious, Inflow Depth > 2.43" for 10-yr event
Inflow = 4.40 cfs @ 8.00 hrs, Volume= 1.773 af
Outflow = 4.39 cfs @ 8.01 hrs, Volume= 1.772 af, Atten= 0%, Lag= 0.7 min

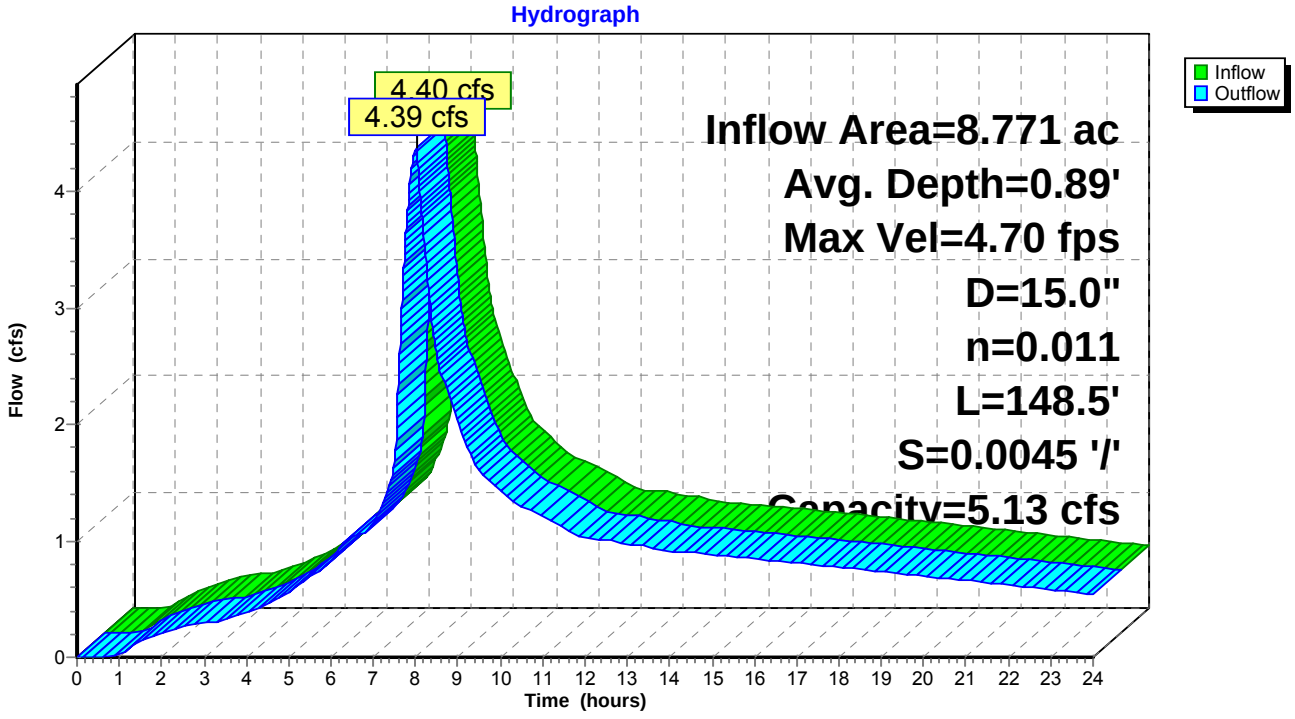
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.70 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 3.00 fps, Avg. Travel Time= 0.8 min

Peak Storage= 139 cf @ 8.00 hrs, Average Depth at Peak Storage= 0.89'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 5.13 cfs

15.0" Diameter Pipe, n= 0.011
Length= 148.5' Slope= 0.0045 '/'
Inlet Invert= 430.25', Outlet Invert= 429.58'



Reach 17R: MH 23 TO MH 22



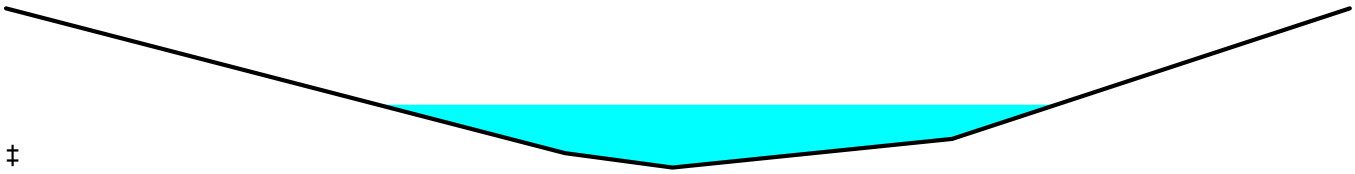
Summary for Reach 23R: Existing Channel

Inflow Area = 13.284 ac, 35.42% Impervious, Inflow Depth > 2.26" for 10-yr event
Inflow = 4.71 cfs @ 8.35 hrs, Volume= 2.502 af
Outflow = 4.71 cfs @ 8.36 hrs, Volume= 2.502 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.80 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.72 fps, Avg. Travel Time= 0.5 min

Peak Storage= 84 cf @ 8.35 hrs, Average Depth at Peak Storage= 0.44'
Bank-Full Depth= 1.11', Capacity at Bank-Full= 40.06 cfs

Custom cross-section, Length= 50.0' Slope= 0.0190 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 0.00', Outlet Invert= -0.95'

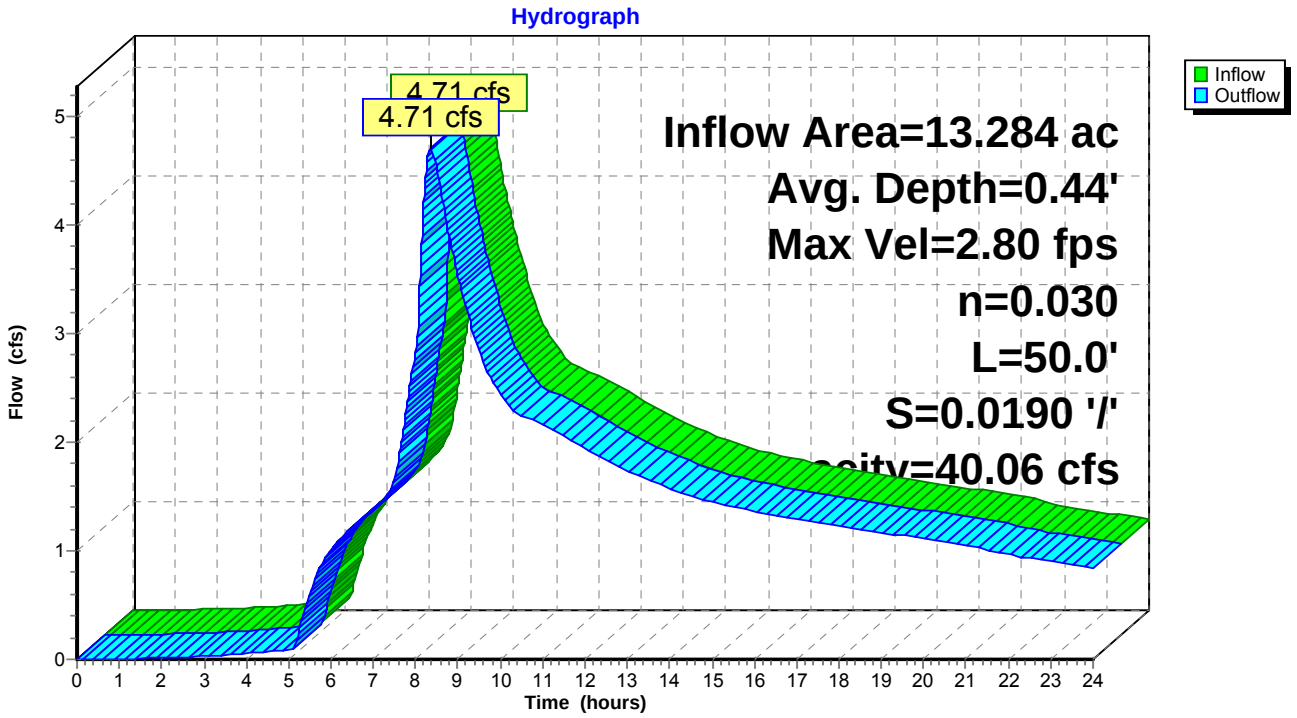


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	423.26	0.00
5.20	422.25	1.01
6.20	422.15	1.11
8.80	422.35	0.91
12.50	423.26	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.10	0.1	2.3	6	0.11
0.20	0.4	4.1	22	0.66
1.11	8.0	12.7	400	40.06

Reach 23R: Existing Channel



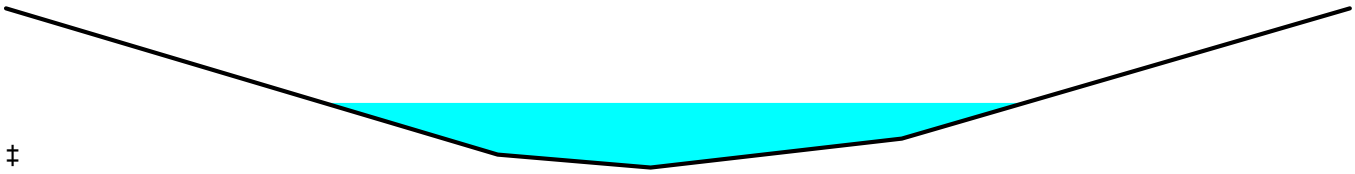
Summary for Reach 24R: Existing Channel

Inflow Area = 13.284 ac, 35.42% Impervious, Inflow Depth > 2.26" for 10-yr event
Inflow = 4.71 cfs @ 8.36 hrs, Volume= 2.502 af
Outflow = 4.70 cfs @ 8.37 hrs, Volume= 2.501 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.64 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.62 fps, Avg. Travel Time= 0.5 min

Peak Storage= 89 cf @ 8.36 hrs, Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 1.10', Capacity at Bank-Full= 36.37 cfs

Custom cross-section, Length= 50.0' Slope= 0.0160 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 0.00', Outlet Invert= -0.80'

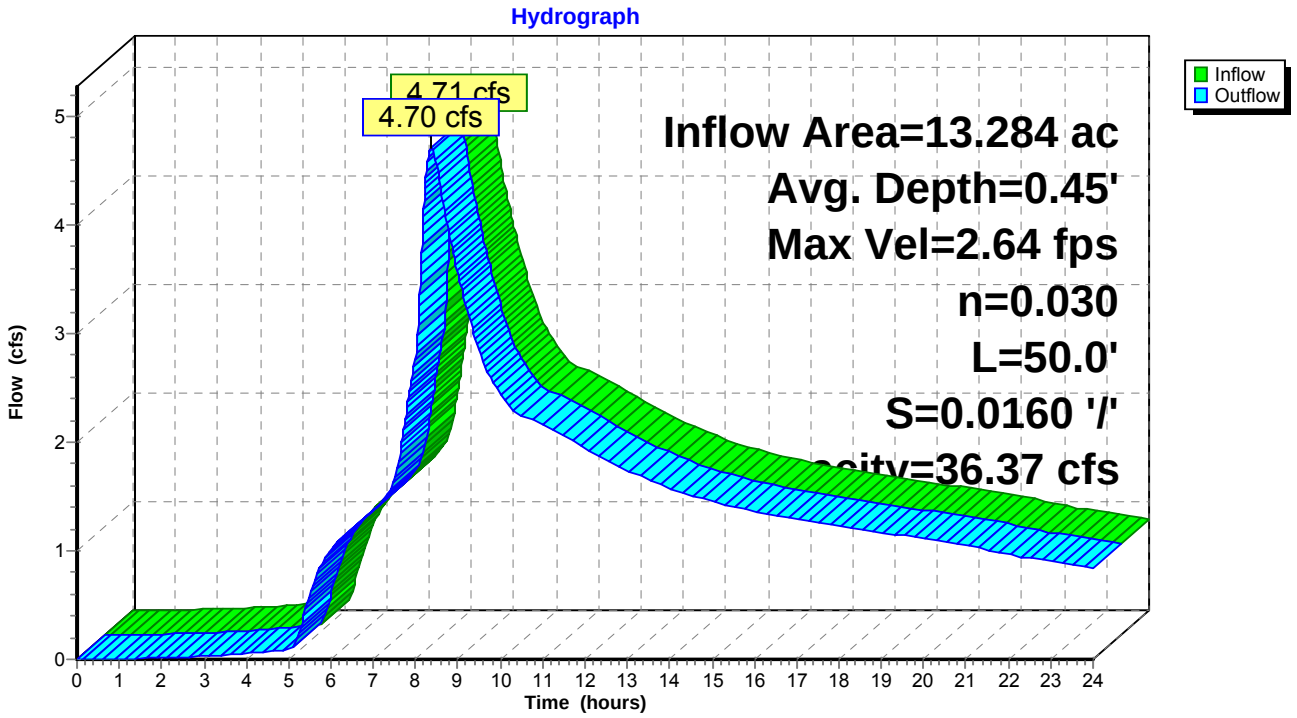


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	422.80	0.00
4.50	421.79	1.01
5.90	421.70	1.10
8.20	421.90	0.90
12.30	422.80	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.09	0.1	2.4	5	0.09
0.20	0.5	4.2	24	0.69
1.10	7.9	12.5	395	36.37

Reach 24R: Existing Channel



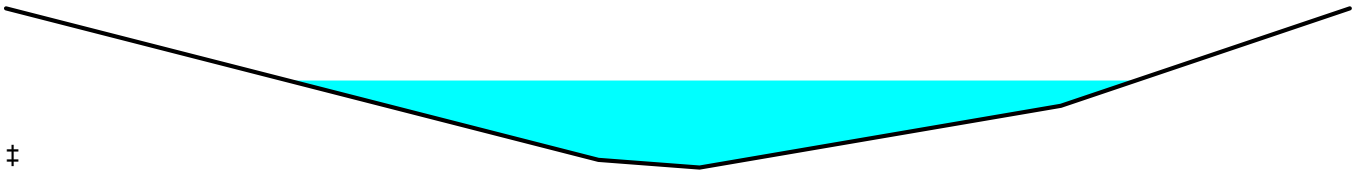
Summary for Reach 25R: Existing Channel

Inflow Area = 17.827 ac, 27.67% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 6.08 cfs @ 8.34 hrs, Volume= 3.244 af
Outflow = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.24 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.05 fps, Avg. Travel Time= 0.4 min

Peak Storage= 94 cf @ 8.34 hrs, Average Depth at Peak Storage= 0.56'
Bank-Full Depth= 1.03', Capacity at Bank-Full= 26.01 cfs

Custom cross-section, Length= 50.0' Slope= 0.0200 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 0.00', Outlet Invert= -1.00'

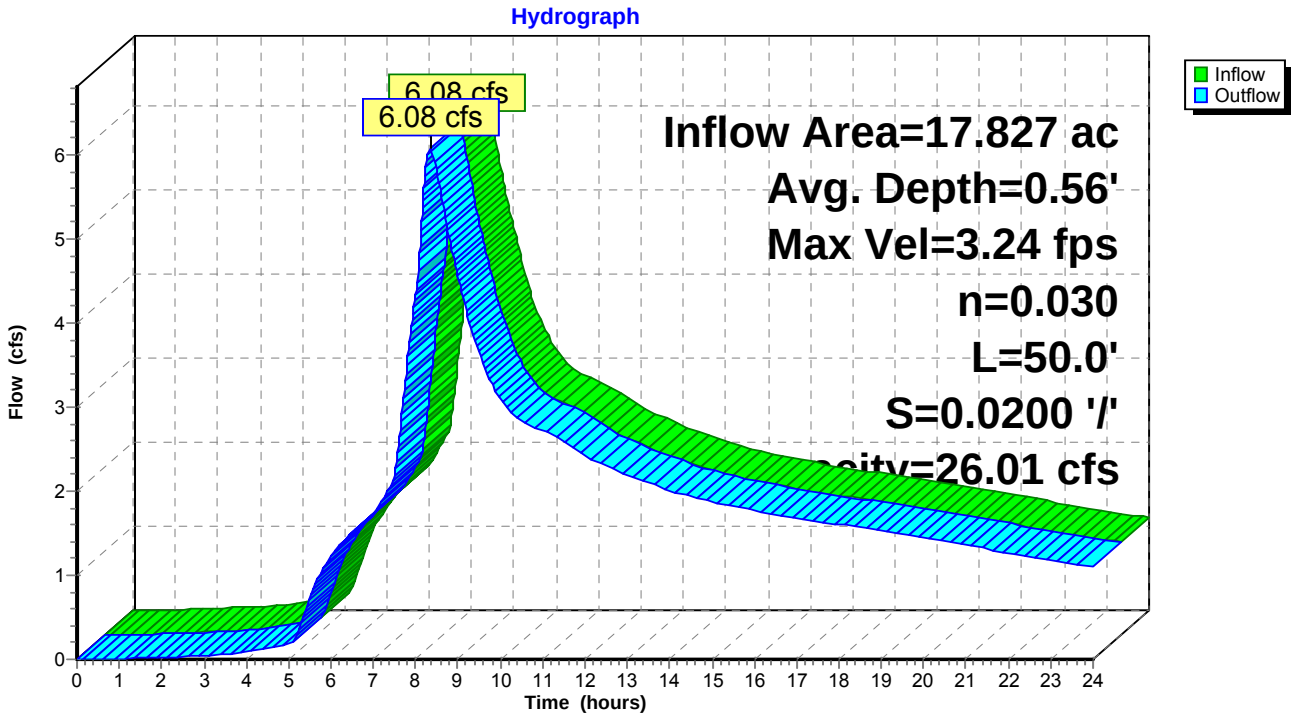


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	420.86	0.00
4.10	419.88	0.98
4.80	419.83	1.03
7.30	420.23	0.63
9.30	420.86	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.05	0.0	1.0	1	0.02
0.40	1.0	4.7	51	2.56
1.03	5.4	9.5	271	26.01

Reach 25R: Existing Channel



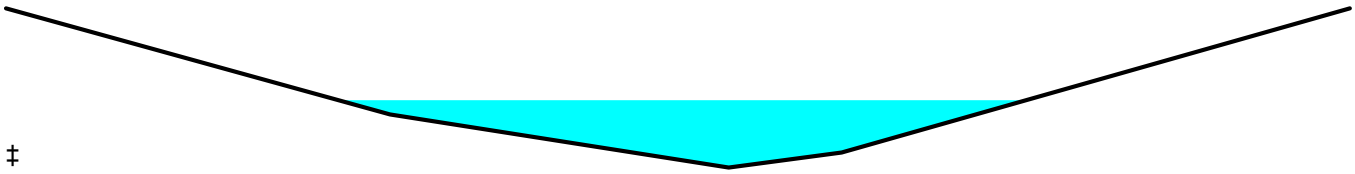
Summary for Reach 27R: Existing Channel

Inflow Area = 17.827 ac, 27.67% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af
Outflow = 6.08 cfs @ 8.35 hrs, Volume= 3.243 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.07 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.96 fps, Avg. Travel Time= 0.3 min

Peak Storage= 59 cf @ 8.35 hrs, Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.38', Capacity at Bank-Full= 49.55 cfs

Custom cross-section, Length= 30.0' Slope= 0.0177 '/' (101 Elevation Intervals)
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 0.00', Outlet Invert= -0.53'

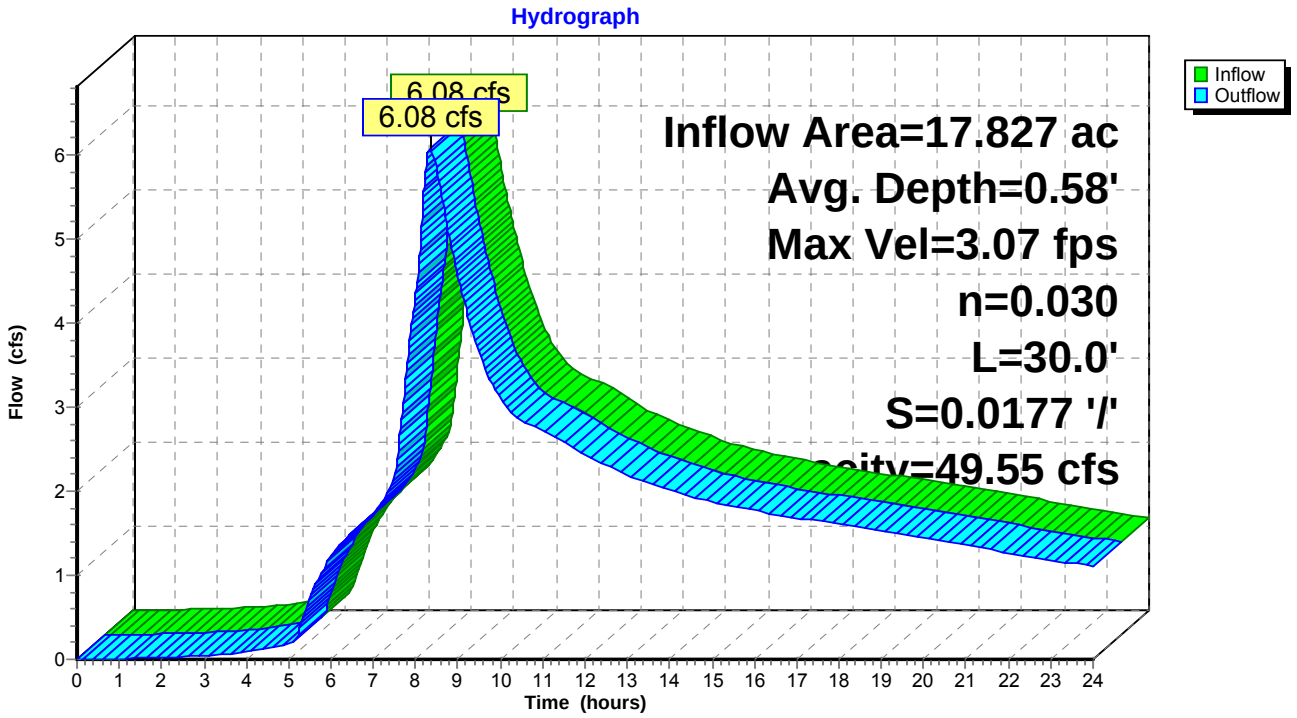


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	419.92	0.00
3.40	419.00	0.92
6.40	418.54	1.38
7.40	418.67	1.25
11.90	419.92	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.13	0.1	1.9	4	0.13
0.46	1.3	5.3	38	3.29
1.38	9.1	12.2	274	49.55

Reach 27R: Existing Channel



Summary for Pond 26R: Existing 12" Culvert

Inflow Area = 17.827 ac, 27.67% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af
Outflow = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af, Atten= 0%, Lag= 0.0 min
Primary = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af

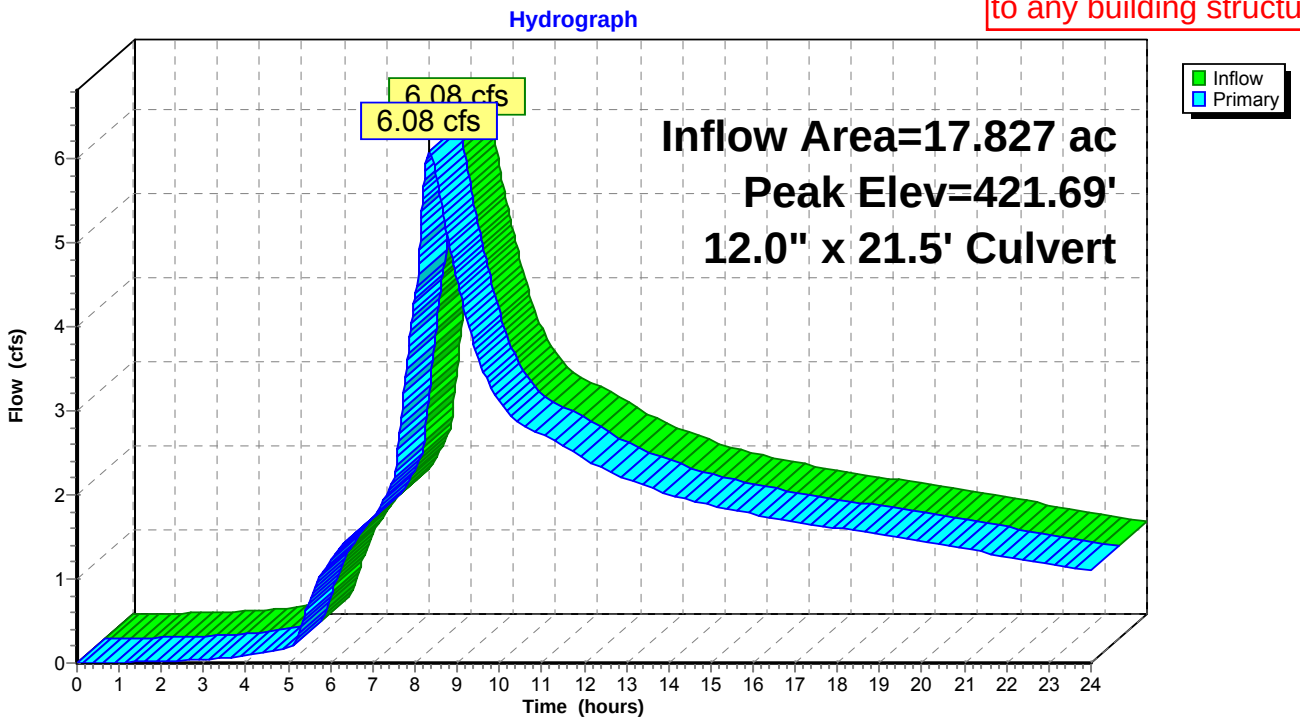
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 421.69' @ 8.34 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	419.41'	**12.0" x 21.5' long Culvert** RCP, groove end projecting, Ke= 0.200 Outlet Invert= 419.04' S= 0.0172 '/' Cc= 0.900 n= 0.012

Primary OutFlow Max=6.08 cfs @ 8.34 hrs HW=421.69' (Free Discharge)
↑**1=Culvert** (Barrel Controls 6.08 cfs @ 7.74 fps)

Existing driveway=421.15' Headwater/ Flow will overtop the driveway and flow downstream without impact to any building structures

Pond 26R: Existing 12" Culvert



Summary for Pond 28R: Existing 12" Culvert

Inflow Area = 17.827 ac, 27.67% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 6.08 cfs @ 8.35 hrs, Volume= 3.243 af
Outflow = 6.08 cfs @ 8.35 hrs, Volume= 3.243 af, Atten= 0%, Lag= 0.0 min
Primary = 6.08 cfs @ 8.35 hrs, Volume= 3.243 af

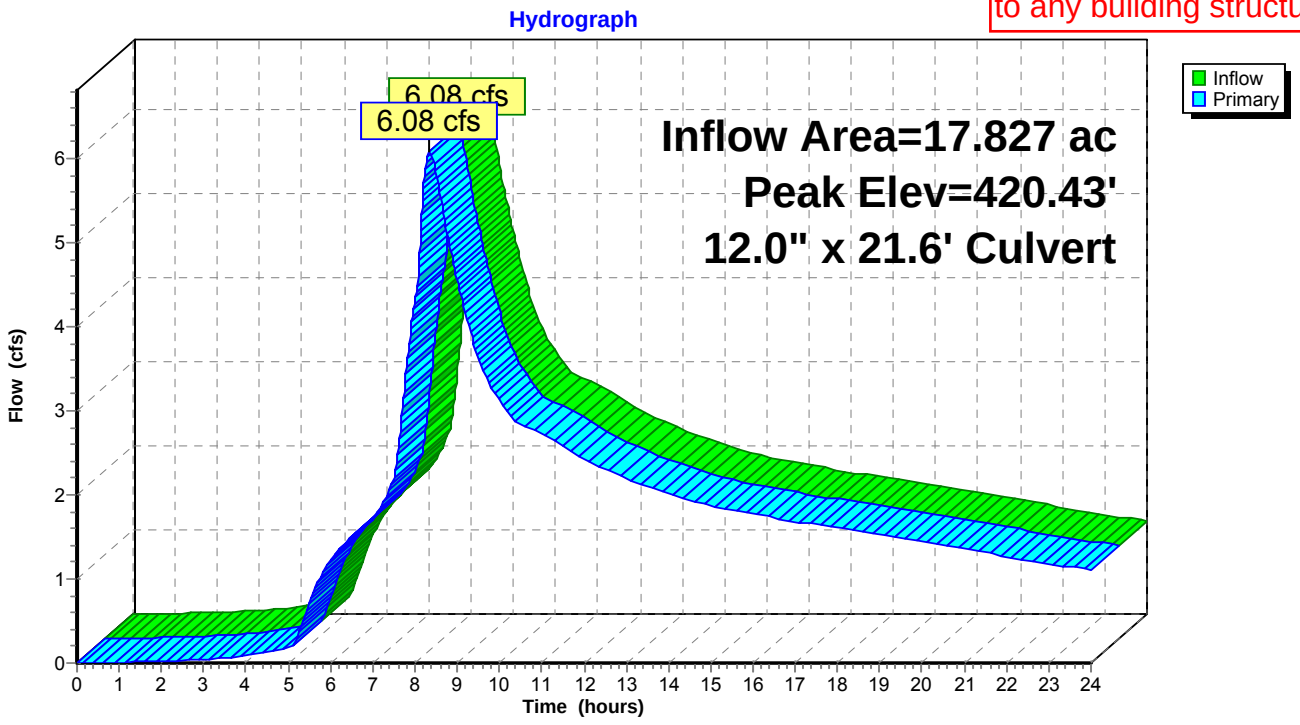
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 420.43' @ 8.35 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	418.27'	**12.0" x 21.6' long Culvert** RCP, groove end projecting, Ke= 0.200 Outlet Invert= 417.69' S= 0.0269 '/' Cc= 0.900 n= 0.012

Primary OutFlow Max=6.08 cfs @ 8.35 hrs HW=420.43' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 6.08 cfs @ 7.74 fps)

Existing driveway=419.70'
Headwater/ Flow will overtop the driveway and flow downstream without impact to any building structures

Pond 28R: Existing 12" Culvert



Summary for Pond SW: STORMWATER FACILITY

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.39" for 10-yr event
Inflow = 5.56 cfs @ 8.01 hrs, Volume= 2.352 af
Outflow = 4.17 cfs @ 8.32 hrs, Volume= 2.207 af, Atten= 25%, Lag= 18.4 min
Primary = 4.17 cfs @ 8.32 hrs, Volume= 2.207 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 430.70' @ 8.32 hrs Surf.Area= 6,161 sf Storage= 14,112 cf

Plug-Flow detention time= 99.6 min calculated for 2.207 af (94% of inflow)
Center-of-Mass det. time= 58.0 min (792.0 - 734.0)

Volume	Invert	Avail.Storage	Storage Description
#1	428.00'	22,729 cf	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
428.00	4,321	0	0	4,321
429.00	4,981	4,647	4,647	5,035
430.00	5,667	5,320	9,967	5,781
431.00	6,378	6,019	15,986	6,556
432.00	7,114	6,743	22,729	7,362

Device	Routing	Invert	Outlet Devices
#1	Primary	429.10'	**8.3" Horiz. Orifice/Grate** Limited to weir flow C= 0.600
#2	Primary	430.37'	**11.5" Horiz. Orifice/Grate** Limited to weir flow C= 0.600
#3	Primary	431.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=4.16 cfs @ 8.32 hrs HW=430.70' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 2.29 cfs @ 6.09 fps)
- **2=Orifice/Grate** (Weir Controls 1.88 cfs @ 1.88 fps)
- **3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond SW: STORMWATER FACILITY

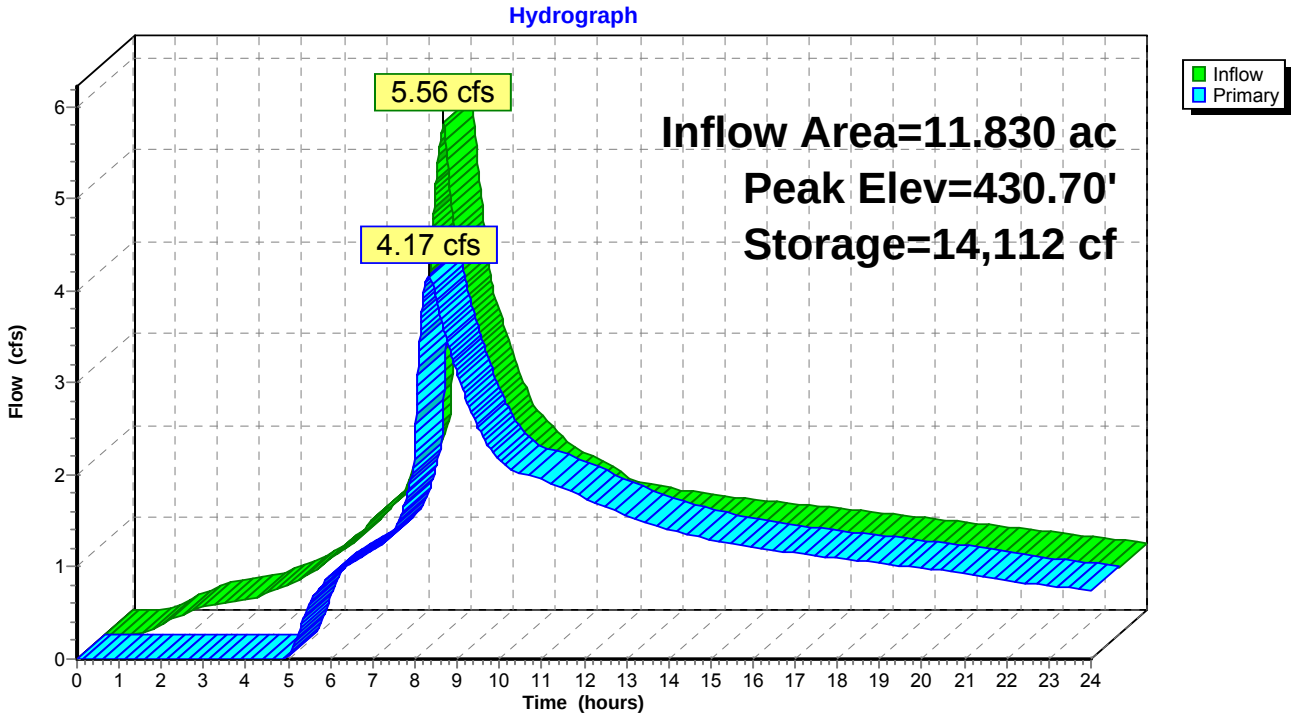
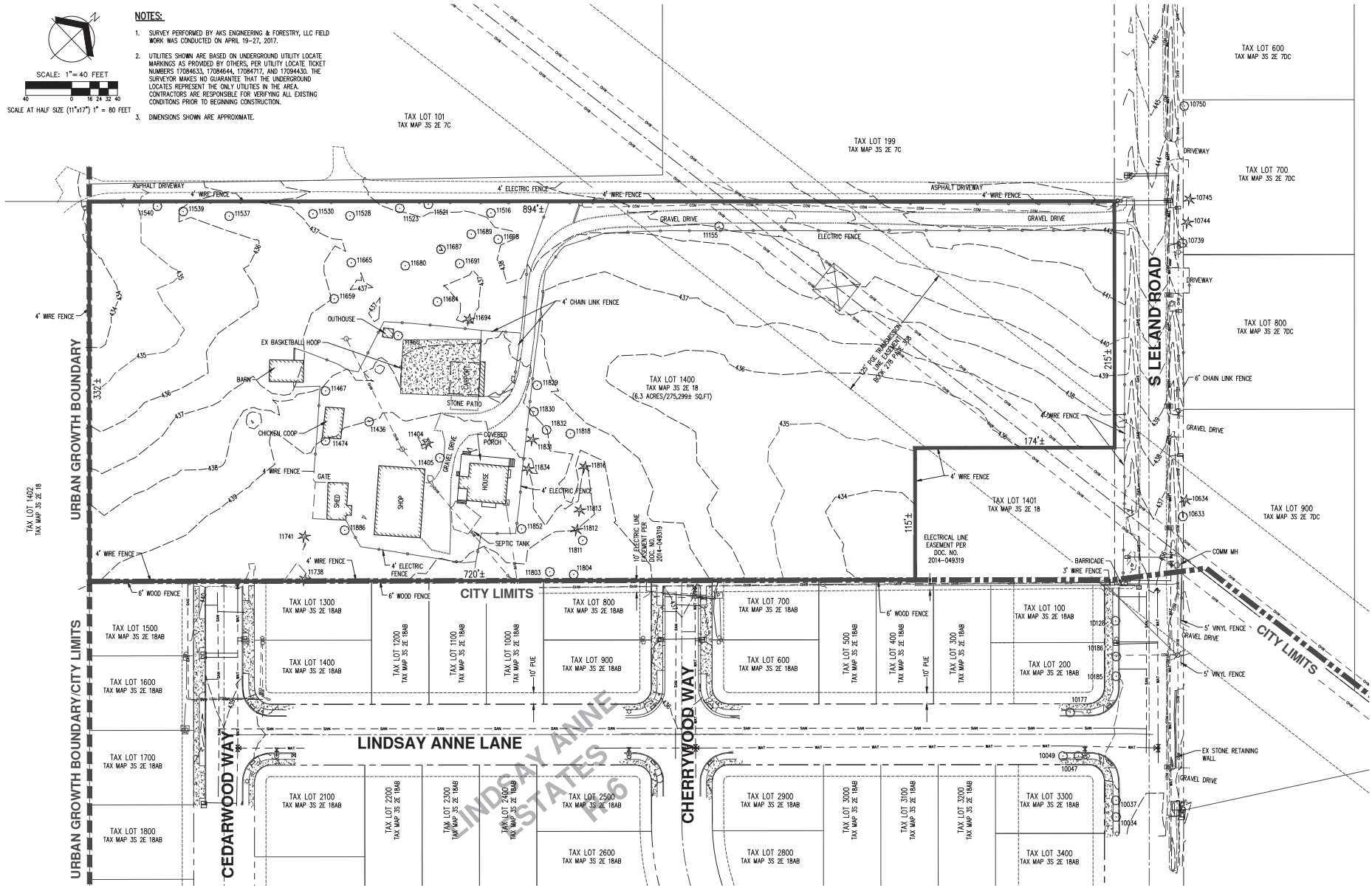


Exhibit K: Neighborhood Meeting Materials

Hillendale / Tower Vista Neighborhood Steering Meeting
/w Presenters
June 6, 2017

7:00 – 7:10	Call to order – Introductions
7:10 – 7:15	Minutes from 4/4/17 meeting
7:15 – 8:00	Jacki Herb, AKS Engineering Annexation & Subdivision Presentation
8:00 – 8:30	CIC report, PRAC report, Chief's Advisory report Land Use report
8:30 – 9:00	Open Discussion, plans for July General Meeting
9:00	Adjourn.



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LELAND ROAD SUBDIVISION

OREGON CITY, OREGON
CLACKAMAS CO. TAX MAP 3S2E18
TAX LOT 1400

PRELIMINARY EXISTING CONDITIONS PLAN

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	CCG
SCALE:	AS NOTED
DATE:	06/01/2017

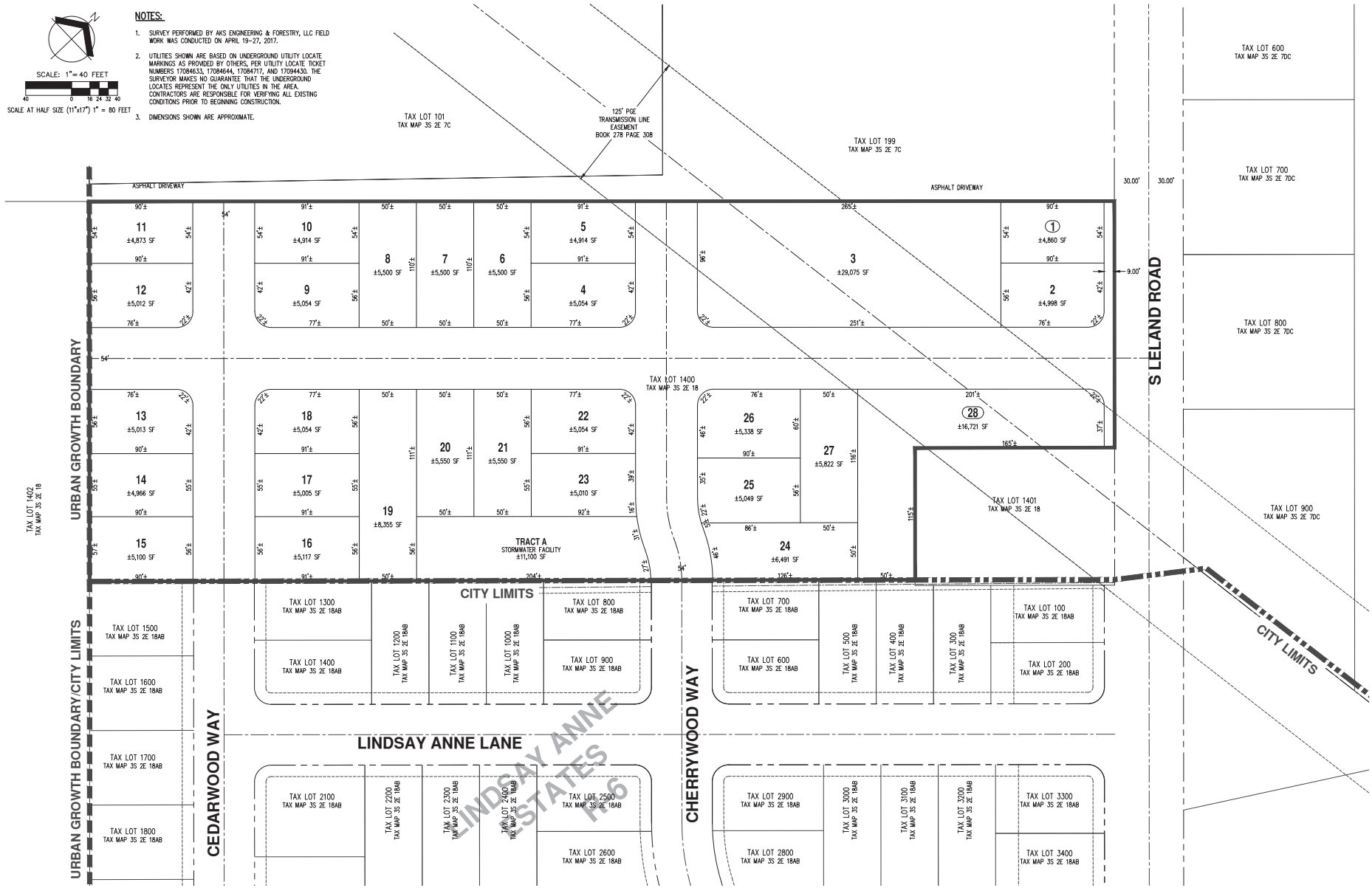
PRELIMINARY

REVISIONS

JOB NUMBER 5837

SHEET 1

AKS DRAWING FILE: 5837-I-NEIGHBORHOOD PLANS.DWG | LAYOUT: 1



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LELAND ROAD SUBDIVISION

OREGON CITY, OREGON
CLACKAMAS CO. TAX MAP 3S2E18
TAX LOT 1400

PRELIMINARY SUBDIVISION LAYOUT

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	CCG
SCALE:	AS NOTED
DATE:	06/01/2017

PRELIMINARY

REVISIONS

JOB NUMBER 5837

SHEET 2

AKS DRAWING FILE: 5837-2-NEIGHBORHOOD PLANS.DWG | LAYOUT: 2

SCALE: 1"= 40 FEET

40 0 16 24 32 40

SCALE AT HALF SIZE (11"x17") 1" = 80 FEET

NOTES:

1. SURVEY PERFORMED BY AKS ENGINEERING & FORESTRY, LLC FIELD WORK WAS CONDUCTED ON APRIL 19-27, 2017.
2. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PER UTILITY LOCATE TICKET NUMBERS 17084633, 17084644, 17084717, AND 17094430. 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.
3. DIMENSIONS SHOWN ARE APPROXIMATE.

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LELAND ROAD SUBDIVISION

OREGON CITY, OREGON

TAX LOT 1400 CLACKAMAS CO. TAX MAP 3S2E18

AERIAL PHOTO PLAN

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	CCG
SCALE:	AS NOTED
DATE: 06/01/2017	

PRELIMINARY

REVISIONS

JOB NUMBER 5837

SHEET 3

AKS DRAWING FILE: 5837-3-NEIGHBORHOOD PLANS.DWG | LAYOUT: 3

PRELIMINARY

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	CCC
SCALE:	AS NOTED
DATE:	06/01/2017

REVISIONS

JOB NUMBER 5837
SHEET 4

OVERALL AERIAL

LELAND ROAD SUBDIVISION

OREGON CITY OREGON
TAX LOT 1400 CLACKAMAS CO. TAX MAP 3S2E18

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June 6, 2017

To whom it may concern:

Matt Scheidegger

~~Chris Goodell~~ with AKS Engineering & Forestry attended a Hillendale/Tower Vista Neighborhood Association meeting and provided a project summary of a planned annexation, zone change and subdivision for property located at 19701 S. Leland road.

Meeting Date: June 6, 2017
Time: 7:00 PM
Location: Living Hope Church, 19691 Meyers Road, Oregon City, OR

Sincerely,

Hillendale Neighborhood Association — 06 JUN 17 Date

WILLIAM CIFFORD

Tower Vista Neighborhood Association — 06/June 17 Date

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

June 12, 2017

Neighborhood Meeting Minutes: Leland Road Subdivision
19701 S. Leland Road, Oregon City, OR

Meeting Date: June 6, 2017
Time: 7:00 PM
Location: Living Hope Church, 19691 Meyers Road, Oregon City, OR

The Applicant's representative attended a Hillendale/Tower Vista Neighborhood Association meeting to present details to neighbors and community members in preparation for the submission of land use applications for an annexation, zone change, and subdivision. Matt Scheidegger, with AKS Engineering & Forestry, was present. An overview of the project location, current and future zoning, lot sizes, lot configuration, public utilities, and public streets was provided. The planned applications and a general process and timeframe for the land use reviews and construction permitting process were described. Business cards were provided.

Following the presentation, attendees asked questions and/or provided general comments about the project. The following topics were discussed:

- Timing of construction of new homes
- Estimated price of future homes
- Traffic concerns
- Other nearby developments
- Off-site intersections
- Existing trees

The meeting concluded at approximately 7:30 p.m.

Sincerely,
AKS ENGINEERING & FORESTRY, LLC

Matt Scheidegger, Planner

Jacki Herb

From: Joyce Gifford <Joyce@smALLFLAGs.com>
Sent: Tuesday, June 13, 2017 8:04 PM
To: Jacki Herb
Cc: 'Roy and Anna Harris'
Subject: RE: Neighborhood Association Meeting

The attendees were:
Roy Harris – Hillendale Neighborhood Association (HNA)
Vern Johnson – Tower Vista NA
Debbie DeRusha – HNA
Craig DeRusha – HNA
Mike Albin – Gaffney Lane NA
William Gifford – HNA
Joyce Gifford – HNA

Email address can be provided if needed.

From: Jacki Herb [mailto:herbj@aks-eng.com]
Sent: Monday, June 12, 2017 11:48 AM
To: Roy and Anna Harris <royandanna@centurylink.net>; 'Joyce Gifford' <Joyce@smALLFLAGs.com>
Subject: RE: Neighborhood Association Meeting

Hello,

I was just following up to see if you would be able to email this? I sometimes get documents stuck in my spam filter, so I apologize if you have already sent it.

Regards,

Jacki Herb

AKS ENGINEERING & FORESTRY, LLC
12965 SW Herman Road, Suite 100 | Tualatin, OR 97062
P: 503.563.6151 ext. 279 | F: 503.563.6152 | www.aks-eng.com | herbj@aks-eng.com
Offices in: Tualatin, OR | Salem-Keizer, OR | Vancouver, WA

NOTICE: This communication may contain privileged or other confidential information. If you have received it in error, please advise the sender by reply e-mail and immediately delete the message and any attachments without copying or disclosing the contents. AKS Engineering and Forestry shall not be liable for any changes made to the electronic data transferred. Distribution of electronic data to others is prohibited without the express written consent of AKS Engineering and Forestry.

From: Roy and Anna Harris [mailto:royandanna@centurylink.net]
Sent: Wednesday, June 07, 2017 6:37 PM
To: Jacki Herb <herbj@aks-eng.com>; 'Joyce Gifford' <Joyce@smALLFLAGs.com>
Subject: Re: Neighborhood Association Meeting

Joyce,

Could you get a copy of the sign in sheet over to Jacki?

Thanks,

Roy

On 6/7/2017 1:43 PM, Jacki Herb wrote:

> Roy,
>
> Thank you fitting us into your neighborhood association meeting and allowing us to present information on the Leland Road project.
>
> Would it be possible to get a copy of the meeting in sign in sheet? The City requires that we include this in our application submittal materials. If you could email it to me at your earliest convenience, we would appreciate it.
>
> Thank you again,

Jacki Herb

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Exhibit L: City Pre-Application Conference Summary

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

PRE-APPLICATION MEETING NOTES
Date of Meeting: March 8, 2017

File Number:	**PA 17-07** – Annexation / Zone Change / Subdivision
Address:	19701 S. Leland Road, Oregon City, OR 97045
Tax Assessor Map:	3S 2E 18, Tax Lot: 1400
Total Acres:	6.32 acres
Project Name:	Annexation, Zone Change to R-6, Subdivision
Staff Present:	Pete Walter, AICP, Associate Planner Email: pwalter@orcity.org Ph: (503) 496-1568 Mario De La Rosa, PE, Development Project Engineer, Email: mdelarosa@orcity.org Ph: (503) 974-5518

Approval Criteria

City Code Chapter 14

- OCMC 14.04.050.(E).(1-9). The required narrative statement in response to items 7(a) through (g) must be included:

  7. A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:

  a. *Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;*
  b. *Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;*
  c. *Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;*
  d. *Statement outlining method and source of financing required to provide additional facilities, if any;*
  e. *Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced;*
  f. *Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;*
  g. *Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;*

- OCMC 14.04.060 – Annexation Factors. Narrative shall address each of the required Annexation Factors (1) through (7). *When reviewing a proposed annexation, the commission shall consider the following factors, as relevant:*

  1. Adequacy of access to the site;
  Comment: Address how current and future access to the site is adequate.

  2. Conformity of the proposal with the city's comprehensive plan;
  Comment: The applicant's narrative should the applicable goals and policies. Staff will include the applicable goals and policies with the Code Response Template.

  3. Adequacy and availability of public facilities and services to service potential development;
  Comment: The applicant's narrative should the current Oregon City public facilities plans for Water, Sewer, Stormwater and Transportation and the respective demand placed on these services by the potential development of the site.

  4. Compliance with applicable sections of ORS Ch. 222, and Metro Code Section 3.09;
  Comment: The applicant's narrative should these criteria.

  5. Natural hazards identified by the city, such as wetlands, floodplains and steep slopes;
  Comment: The applicant's narrative should address any natural hazards present on site.

  6. Any significant adverse effects on specially designated open space, scenic, historic or natural resource areas by urbanization of the subject property at time of annexation;
  Comment: The applicant's narrative should address any specially designated open space, scenic, historic or natural resource areas on the site. Staff is not aware of any, although there are constraints on building in a powerline easement. We recommend contacting the County Historic Preservation staff for any cultural or historic records for the site.

  7. Lack of any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.
  Comment: The applicant's narrative should address any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.

Metro Code 3.09.045.A-D (Boundary Change Criteria)

- Whether the proposed boundary change will promote the timely, orderly and economic provision of public facilities and services.
- Whether the proposed boundary change will affect the quality and quantity of urban services
- Whether the proposed boundary change would eliminate or avoid unnecessary duplication of facilities or services.
- **Comment**: See comments from Public Works.
- Water - Please see attached comments from CRW regarding water services along Leland Road.
  Schools - Oregon City School District representative indicated verbally at the pre-application that school capacity at Gardiner Elementary and Oregon City High School should have sufficient capacity to serve development of the proposed annexation area.

Oregon City Comprehensive Plan – Applicable Goals and Policies

- Goal 14.1.2 – Concept Plans (Address Park Place Concept Plan)
- Goal 14.3 - Orderly Provision of Services to Growth Areas
- Goal 14.4 – Annexation of Lands to the city

Concept Plan Goals and Policies

- This area was not within any Concept Plan study area boundary regulated under Metro Title 11.

Zone Change

- The Zone Change request to R-6 may be submitted concurrently with the annexation request or submitted separately and is a discretionary zone change processed pursuant to the criteria in OCMC 17.68.
- Non-discretionary default zoning is R-10 based on the designation of Low Density Residential, pursuant to OCMC 17.68.025.
- Discretionary re-zoning to R-6 must comply with the criteria in 17.68.020 - Criteria. These include:
  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.
- A separate zone change application is required for both R-10 and R-6 rezoning.
- Applicant is advised to review and consider the City's decision on the current applications AN-16-0003 (OC Golf Course, 113 acres), and AN-16-0004 / ZC-16-0001 (Serres Property, 35 acres). Staff can provide this information.

Subdivision

- Subdivisions are typically reviewed as a Type II process based on clear and objective review criteria and staff recommends that the applicant apply separately for subdivision following approval of annexation and zone change.
- Pursuant to ORS 227.175, any applicant may elect to consolidate applications for two or more related permits needed for a single development project. Any grading activity associated with development shall be subject to preliminary review as part of the review process for the underlying development. It is the express policy of the city that development review not be segmented into discrete parts in a manner that precludes a comprehensive review of the entire development and its cumulative impacts.
- Review of a concurrent subdivision application may be submitted either concurrently with or separate from the annexation and zone change, however, the subdivision cannot be approved until the zone change is effective. The applicant should discuss and propose appropriate conditions of approval with staff and the City attorney if the applicant intends to submit the application for subdivision as a Type II.
- It appears that the subdivision could meet the requirements of the R-6 zone district and land division requirements
- Per OCMC 16.12.070 - Building site—Setbacks and building location. Lots 1 and 2 shall orient the front setback and the most architecturally significant elevation toward Leland Road. The applicant shall maintain the proposed access to the aforementioned lots by utilizing a shared driveway at the rear of the lots. If the applicant chooses to alter the access to the lots, the access shall comply with OCMC 16.12.070. (P)

Transportation

Traffic Impact Analysis is required. Fees for review of the traffic impact analysis will be required pursuant to the TIA fee structure. The City's transportation consultant John Replinger has reviewed the pre-application and has the following comments;

> *Please provide the following guidance to the applicant in connection with the pre-app for the proposed development:*
>
> *The applicant will need to have a traffic engineer 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.*
>
> *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.*
>
> *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'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.*

To summarize, zone changes must comply with the Transportation Planning Rule, and development will not be permitted until compliance with the TPR is shown. ODOT staff will likely be involved with the scoping analysis for the TIA / TPR. A copy of the recent Staff Report with proposed Condition of Approval for transportation mitigation, developed in collaboration with ODOT staff, for the zone change and annexation of 35 acres north of Holcomb Boulevard (AN-16-0004/ZC-16-0001) is attached for reference.

Annexation Election

It appears that this annexation may be exempt from the voter approval requirements of OCMC 14.04, pursuant to SB 1573. SB 1573 is survived a recent legal challenge from Corvallis in Benton County Circuit Court. Staff will be tracking this issue as it develops.

Review Fees (2017 Fee Schedule)

Annexation: $4,342.00

Zone Change:	$2,798.00
Traffic Impact Analysis:	
TIA Base Fee (<50 units):	$1,092.00
- Zone Change / Comp Plan Amendment	$2,046.00
Mailing Labels:	$15.00
Metro Mapping Fees:	$300.00
Subdivision:	$4,136.00 + $344 per lot

Neighborhood Association Meeting Required

Per OCMC 17.50.055 - Neighborhood association meeting. Documentation of the meeting with the applicable Neighborhood Association is required for a complete application. Staff will confirm which N.A. the annexation would be included within upon annexation. The annexation property is within the Hillendale Neighborhood Association boundary. See Web page http://www.orcity.org/community/neighborhood-associations for contact and meeting information.

Miscellaneous Comments

Staff will provide you a Code Response template similar to a Staff Report and electronic versions of the applicable plans, policies and approval criteria above to assist in the preparation of your application.

These pre-application conference notes were prepared in accordance with OCMC 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.

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: 03-10-2017

Planning Project Number:	PA 17-07
Address:	19701 S Leland Road
Map Number(s):	3S 2E 18
Tax Lot(s):	1400
Project Name:	19701 S Leland Road Annexation/Subdivision
Meeting Date:	March 8, 2017
Reviewer(s):	Mario de la Rosa, PE

ENGINEERING - UTILITIES

Stormwater

1. The City Stormwater and Grading Design Standards dated 2015 must be adhered to for this development. The Standards can be found online here:**http://www.orcity.org/sites/default/files/final_manual_0.pdf**

2. An existing storm sewer conveyance system exists directly to the east along two (2) separate stub streets located within Lindsey Anne Estates to the east. An existing 12-inch storm main is located within S Leland Road just east of the project frontage.

3. A downstream analysis per the requirements of the Stormwater and Grading Design Standards will be required to document existing conditions and demonstrate adequate conveyance capacity of the natural and constructed drainage system downstream of the project site.

4. Based on review of City GIS System, the project site is mostly located within a high water table area. A Geotechnical Report will be required for this project and should identify elevation of ground water.

5. Applicant indicates stormwater outfall from proposed stormwater facility will be discharged to Leland Road or Cherrywood Way and is still to be determined.

Water

1. The City of Oregon City has 12-inch water main located nearby within Leland Road. The water main would need to be extended to and through to the west property boundary along Leland Road.

2. Water service extension to adjacent property owners along Leland Road property frontage will be required via Developer Agreement with City will be required for following addresses off of S Leland Road, 19717, 19658, 19646, and 19634.

3. An existing 6-inch water main owned by Clackamas River Water is located along the property frontage within S Leland Road.

4. The proposed annexation area is within the Upper Zone water system pressure zone.

5. The 2012 Water Distribution System Master Plan was adopted in February 2012. A PDF version of the adopted master plan is available on our City website.

6. The Water Master Plan currently indicates a 6" water main proposed for S Leland Road along the project frontage. However, the minimum water main size is 8-inches. The City will reimburse the Applicant for the cost difference between a 12-inch and 8-inch water main.

Sanitary Sewer

1. The 2014 Sanitary Sewer Master Plan Update was adopted in November 2014. A PDF version of the adopted master plan is available on our City website.

2. The 2014 Sanitary Sewer Master Plan identifies a proposed 8-inch, sanitary sewer main to be constructed along Leland Road in the vicinity of the proposed project.

3. An existing 8-inch PVC sanitary sewer main is located approximately 120-feet east of the proposed site along S Leland Road, which will need to be extended to the west end of the project frontage to serve the site.

4. Existing sanitary sewer manholes currently exist along the east property line and are located at Cedarwood Way and Cherrywood Way, which are stub streets from Lindsay Anne Estates and are also able to serve the site.

5. Two-way cleanouts will be required for each lot located at Right-of-Way.

Transportation

1. No development of this property will occur as result of annexation. The transportation analysis will be deferred until the time a future zone change is approved.

2. Local streets are stubbed to the annexation area from adjacent single-family neighborhoods at Cedarwood Way and Cherrywood Way. Connections to these streets can be made from Lindsay Anne Lane, which has direct access off of Leland Road.

3. Primary access to the subject property will be from the north along Leland Road. Leland Road is a minor arterial street owned by Clackamas County. Street improvements and permitting for Leland Road will need to be coordinated with Clackamas County.

4. SDC credits for construction of S Leland Road will be available similar to Lindsay Anne Estates.

Questions

Access / Transportation / Circulation

10. Please confirm if the City or County has jurisdiction of Leland Road, which jurisdiction standards apply, who will be reviewing plans, issuing permits, etc. RESPONSE: Leland Road is a Clackamas County owned roadway. Plans associated with road improvements will be reviewed/issued a permit by Clackamas County. All utilities within S Leland Road are owned by City of Oregon City and will be reviewed/issued a permit by City of Oregon City excluding the 6-inch water main owned by Clackamas River Water.

11. Please confirm access spacing requirements and if the planned spacing of the new street is acceptable. RESPONSE: Spacing between local streets is 150-feet.

12. Please discuss requirements for access to Leland Road for Lots 1 and 2. RESPONSE: Access for Lots 1 and 2 will need to be coordinated with Clackamas County. We believe it will need to be a shared driveway off of S Leland Road or access will be required from internal street.

13. Please confirm required right-of-way dedication for S. Leland Road, Cherrywood Way, Cedarwood Way, and the new internal street. RESPONSE: Right-of-Way dedication for S. Leland Road should meet the right-of-way required for a minor arterial and should match the right-of-way required for Lindsay Anne Estates. A 9-foot dedication was required for Lindsay Anne Estates for a half-street right-of-way width of 39-feet. Right-of-way dedication for Cherrywood Way, Cedarwood Way and the new internal street should meet the right-of-way required for a local street, which is 54-feet.

14. Please discuss requirements for frontage improvements along S. Leland Road. RESPONSE: Frontage improvements for S. Leland Road will need to be coordinated with Clackamas County.

15. Will a traffic study be required? If so, please describe the required scope. RESPONSE: See Planning Notes.

16. Please confirm if there are any known transportation issues in the area that may affect the annexation/zone change or subdivision applications. RESPONSE: See City's traffic subconsultant – John Repliner's comments.

Service and Utilities

17. Please confirm the stormwater requirements (water quality, detention, etc.) for this site/project. RESPONSE: Yes, per above, the City Stormwater and Grading Design Standards dated 2015 must be adhered to for this development.

18. Are the stormwater planters, rain gardens, or vegetated swales required to treat and detain stormwater runoff from the public right-of-way area? Can these facilities be located in the planter strip in between the curb and sidewalk? Does the City have any standard details yet? RESPONSE: Per the City's Stormwater and Grading Design Standards, low-impact development (LID) facilities such as planters, swales, rain gardens, ponds, and other vegetated facilities are best management practices and are the preferred strategy to meet the stormwater management requirements for water quality treatment, and flow control. Yes, facilities can be located in planter strip. The City is currently updating a standard detail for this application.

19. Please confirm access, side slope, and other requirements for the stormwater facility? RESPONSE: See Appendix C of Stormwater and Grading Standards for specific stormwater facility design.

20. Are there any known stormwater capacity issues with the site or surrounding areas? RESPONSE: To the best of our knowledge there are no known stormwater capacity issues within the project vicinity.

21. Are there any known water supply (capacity or pressure issues)? RESPONSE: No, per the Water Master Plan there are no known capacity or pressure issues. The master plan indicates the extension of 6-inch and 8-inch water mains within the project vicinity.

22. Are there any known sanitary sewer capacity issues? RESPONSE: No, per the Sanitary Sewer Master Plan there are no known capacity issues. The master plan indicates the extension of 8-inch sanitary sewer lines in the vicinity.

23. Are there any other known utility issues that we should be made aware of? RESPONSE: No, not to the best of my knowledge.

24. Please discuss the status of new City requirements for performance bonding. RESPONSE: Currently in progress, will have by time construction will start for this project.

25. Please confirm what items are planned to be included in the required performance bond. RESPONSE: Everything in existing right-of-way plus erosion control, vegetation to button up site in event Contractor walks away from project.

26. How is this affected by Clackamas County's jurisdiction of Leland Road? RESPONSE: Applicant will need to coordinate with Clackamas County.

27. Please discuss the status of the City's new stormwater facility maintenance option program? RESPONSE: The stormwater facility maintenance option program is being implemented.

28. Please describe the methodology for the City fee option. How is it calculated? RESPONSE: Fee is calculated per SF of pond.

29. Please confirm that the fee would not include maintenance of dead storage areas? RESPONSE: Yes, this is correct.

30. Please confirm that if the fee is paid to the City that the City will be responsible for replanting required vegetation that does not survive. RESPONSE: Yes, this is correct.

31. Are any special studies or assessments (natural resources, traffic, etc.) required? RESPONSE: A TPR Analysis will be required for the annexation.

32. Please confirm if a geotechnical/soils/infiltration report will be required for land use application? RESPONSE: A geotechnical report will be required for infiltration testing based on the Professional Method and should determine depth of groundwater. See Stormwater and Grading Standards for Infiltration Testing procedures.

The Confederated Tribes of the Grand Ronde Community of Oregon

Historic Preservation Department
Phone (503) 879-2185
1-800 422-0232
Fax (503) 879-2126

8720 Grand Ronde Rd
Grand Ronde, OR 97347

4/11/2017

Diliana Vassileva
Assistant Planner, Planning Division
City of Oregon City
PO Box 3040
221 Molalla Avenue, Suite 200
Oregon City, Oregon 97045

RE: Development Review in Oregon City -- Multiple Properties

Greetings Diliana,

The Confederated Tribes of Grand Ronde Cultural Protection staff have reviewed Oregon City Projects PA 17-06, PA 17-07, PA 17-08, and PA 17-09. We have no additional information to provide at this time for this project. We request that an inadvertent discovery plan be in place for projects with ground disturbing activities. We also ask to be contacted immediately if archaeological and/or cultural resources are discovered during the project.

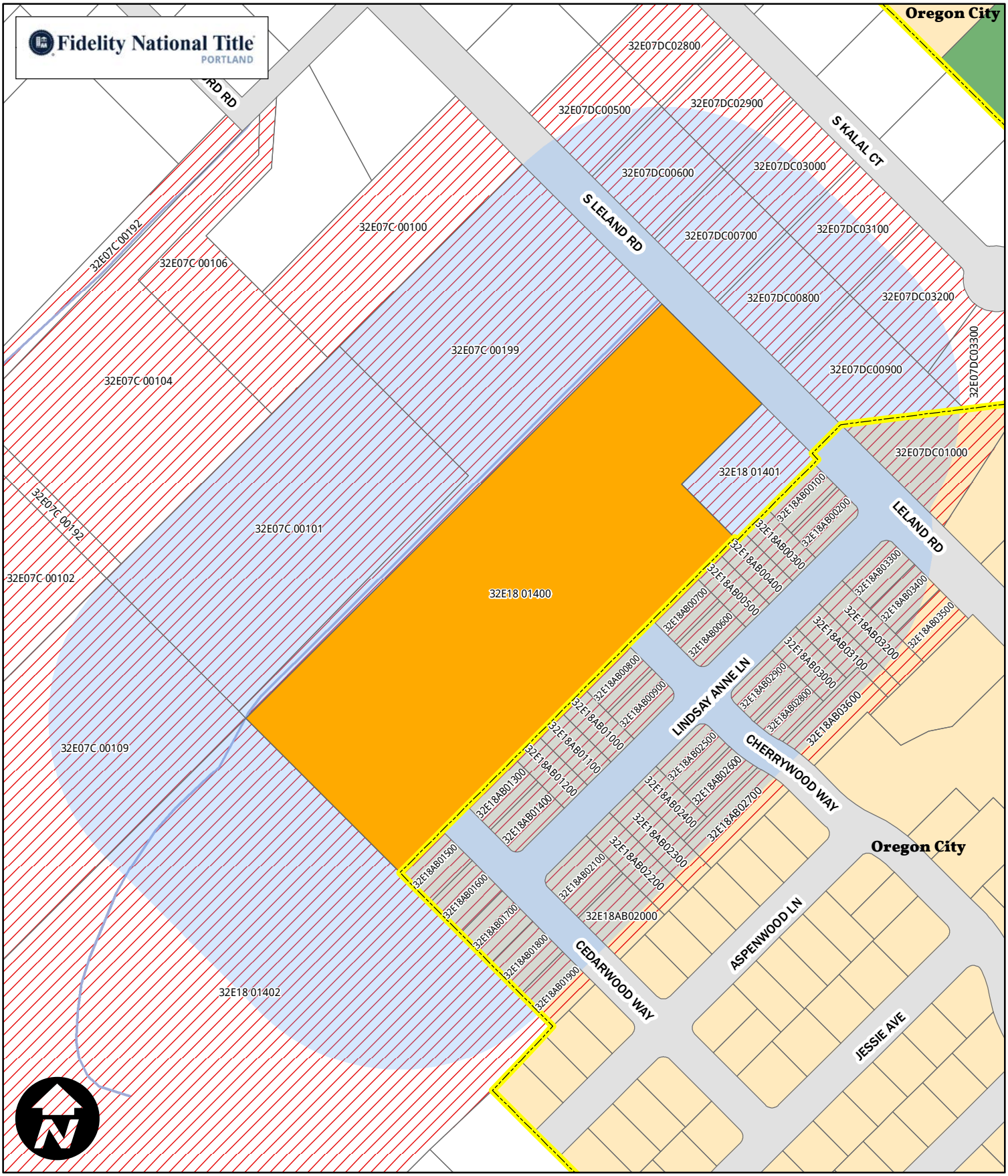
Should you have any questions, please feel free to contact me.

Respectfully,

Christopher Bailey
Cultural Protection Specialist
Cultural Protection
Historic Preservation
Confederated Tribes of the Grand Ronde Community of Oregon

chris.bailey@grandronde.org
503-879-1665

Exhibit M: Mailing Labels for 300-Foot Radius Owners



Public Notification Search

- Subject
- Notification
- City limits
- Radius
- Parks and/or Natural Areas
- Taxlots
- Incorporated city

300 Feet

Prepared by: Fidelity National Title
Data: CoreLogic, Metro RLIS
Date: 7/10/2017
This information is reliable, but not guaranteed. It is not a survey.

32E07C 00100
Wayne & Patsy Streight
19673 Leland Rd
Oregon City, OR 97045

32E07C 00101
Patricia Lynae McClure
19681 Leland Rd
Oregon City, OR 97045

32E07C 00102
Shawna Faye Co-E Morris
19659 Mccord Rd
Oregon City, OR 97045

32E07C 00104
Levi & Jillian Morris
19665 Mccord Rd
Oregon City, OR 97045

32E07C 00106
Jerry & Faye Rainbolt
19663 Mccord Rd
Oregon City, OR 97045

32E07DC00500
Terry & Anita Anderson
19600 Leland Rd
Oregon City, OR 97045

32E07DC00600
Patricia & Thomas Kitancevski
Po Box 1297
Oregon City, OR 97045

32E07DC00700
Trina Houck
19634 Leland Rd
Oregon City, OR 97045

32E07DC00800
Colleen Commons
19646 Leland Rd
Oregon City, OR 97045

32E07DC00900
Arhondisa Thompson
19658 Leland Rd
Oregon City, OR 97045

32E07DC01000
Paul Daniel Wyland
19700 Leland Rd
Oregon City, OR 97045

32E07DC02800
Kurt & Susan Gross
19590 Kalal Ct
Oregon City, OR 97045

32E07DC02900
John Rizzo
19600 Kalal Ct
Oregon City, OR 97045

32E07DC03000
Angelika Murray
19620 Kalal Ct
Oregon City, OR 97045

32E07DC03100
Sean & Lauren Fuller
19630 Kalal Ct
Oregon City, OR 97045

32E07DC03200
Wendy Smith
19640 Kalal Ct
Oregon City, OR 97045

32E07DC03300
Mark & Cindy Shaw
19650 Kalal Ct
Oregon City, OR 97045

32E18 01400
Bruce Raymond Trstee Miller
19701 Leland Rd
Oregon City, OR 97045

32E18 01401
Jeff & Tina Westenfelt
19717 Leland Rd
Oregon City, OR 97045

32E07C 00109
Ross & Kay Smith
19691 Leland Rd
Oregon City, OR 97045

32E18 01402
Rick & Keli Dotson
19695 Leland Rd
Oregon City, OR 97045

32E07C 00192
Bradley Dean Co-E Morris
19659 Mccord Rd
Oregon City, OR 97045

32E07C 00199
Ross & Kay Smith
19691 Leland Rd
Oregon City, OR 97045

32E18AB00100
Andrew & Shannon Hietschold
19727 Leland Rd
Oregon City, OR 97045

32E18AB00200
Lindsey Suzanne Wilde
19737 Leland Rd
Oregon City, OR 97045

32E18AB00300
Shane Killian
12795 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB00400
Jonathan & Jane Newman
12787 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB00500
Curtis Lee Williams
12779 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB00600
Roland Romero
19736 Cherrywood Way
Oregon City, OR 97045

32E18AB00700
Bryan & Donna Easlick
19726 Cherrywood Way
Oregon City, OR 97045

32E18AB00800
Matthew Johnson
19725 Cherrywood Way
Oregon City, OR 97045

32E18AB00900
Justin Meininger
19735 Cherrywood Way
Oregon City, OR 97045

32E18AB01000
Nicholas & Natalie Cardoza
12755 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB01100
Mysha Angell
12747 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB01200
Joshua & Eileen Weeks
12739 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB01300
Jeremy Todd Pincoski
19724 Cedarwood Way
Oregon City, OR 97045

32E18AB01400
Billie Adams
19734 Cedarwood Way
Oregon City, OR 97045

32E18AB01500
Betty Meisel
19723 Cedarwood Way
Oregon City, OR 97045

32E18AB01600
Mark Horn
Po Box 118
Oregon City, OR 97045

32E18AB01700
Amber & Adam Wilkins
19743 Cedarwood Way
Oregon City, OR 97045

32E18AB01800
Kimberly Donaca
19753 Cedarwood Way
Oregon City, OR 97045

32E18AB01900
Shanon Kmetic
19763 Cedarwood Way
Oregon City, OR 97045

32E18AB02000
Jennifer Porter Bown
19764 Cedarwood Way
Oregon City, OR 97045

32E18AB02100
Ronald & Kathleen Rodwick
19754 Cedarwood Way
Oregon City, OR 97045

32E18AB02200
Michael Harrison
12738 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB02300
Jeffery Dunham
12746 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB02400
James Williams
12754 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB02500
Corey Johnson
Po Box 743
Canby, OR 97013

32E18AB02600
Stefanie Hassan
19755 Cherrywood Way
Oregon City, OR 97045

32E18AB02700
Donald & Rita Bredehoeft
19765 Cherrywood Way
Oregon City, OR 97045

32E18AB02800
Shavon Albee
19756 Cherrywood Way
Oregon City, OR 97045

32E18AB02900
Aleksandr & Julia Mazhnikov
19746 Cherrywood Way
Oregon City, OR 97045

32E18AB03000
Benjamin & Michelle Johnson
12778 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB03100
Kimhun Bartel
12786 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB03200
Julieanne Reincke
12794 Lindsay Anne Ln
Oregon City, OR 97045

32E18AB03300
Thomas Baker Jr.
19747 Leland Rd
Oregon City, OR 97045

32E18AB03400
Julie Lyons
19757 Leland Rd
Oregon City, OR 97045

32E18AB03500
Nicholas Fiorante
19767 Leland Rd
Oregon City, OR 97045

32E18AB03600
City Of Oregon City
625 Center St
Oregon City, OR 97045

Clackamas River Water

Date:	November 1, 2017	**SENT VIA EMAIL**
To:	Christina Robertson-Gardiner, Senior Planning City of Oregon City	
From:	Betty Johnson, Engineering Associate Clackamas River Water	
Subject:	Notice of Land Use Application:	**File #TP 17-07**
Applicant:	PDX Development, Inc P.O. Box 2559 Oregon City, OR 97045	
Site Address:	19701 S Leland Rd, Oregon City, Or 97045	
Legal Description:	32E18 01400	

Clackamas River Water District Conditions of Approval:

1. Clackamas River Water (CRW) is currently serving 19701 S Leland Road with the following infrastructure within the public right-of-way:
    a. 1960 era 6-inch steel waterline located within S Leland Rd Road.

2. CRW currently is serving the site with the following service:
    a. 3/4-inch domestic meter located at the east property line of 19717 S Leland Rd.
    b. Abandonment of service by disconnection at the main to be coordinated with CRW.

3. **Water Distribution Design & Infrastructure Requirements:**
    a. It is anticipated as the Leland Road area develops, water service will be through the Oregon City system. CRW is requesting the following service modifications to minimize future impacts:
        i. Developer to install a 1-inch service connection for future ¾" water meter at:
            1. 19695 S Leland Road – locate in future right-of-way at lot 12 or 13.
            2. 19634 S Leland Road – locate at or near existing service.
            3. 19646 S Leland Road – locate at or near existing service.
            4. 19658 S Leland Road – locate at or near existing service.
            5. 19717 S Leland Road – locate at or near existing service.
    b. CRW will be financially responsible for those services not impacted by the development and located outside the City limits.
    c. CRW will coordinate with the City of Oregon City on the S Leland Rd construction plan review regarding the transferring or abandonment of water services.

4. **Oregon City Development Permit:**
    a. The applicant shall provide on the final subdivision plat any access or utility easements for the benefit of 19695 S Leland Rd.
    b. CRW and Oregon City will negotiate at a later date a Joint User Agreement as the Oregon City area annexes and develops within the Urban Growth Area.

16770 SE 82nd Drive
Clackamas, OR 97015-2539
503.722.9240
www.crwater.com

c. CRW will initiate the withdrawal process of this property from the District's Boundary.

CRW has no objections to this application, however these comments are introductory and may change based on the preliminary/final design.

For further information regarding application please contact Betty Johnson, 503-723-2571.

cc: Clackamas Fire
Applicant
file

MEMORANDUM

TO: Christina Robertson-Gardiner, City of Oregon City, Planning Division
FROM: Kenneth Kent, Clackamas County, Land Use Review Coordinator
DATE: November 1, 2017
RE: TP 17-07 Lindsay Anne Estates Too
3-2E-18 TL 1300

This office has the following comments pertaining to this proposal:

FACTS AND FINDINGS

1. The proposed land use application includes annexation of the project site into the City of Oregon City, and a 28-lot subdivision. The property fronts S Leland Road, which is under the jurisdiction of Clackamas County. Following annexation, the roadway will remain a county road. These comments address frontage improvements and access along the S Leland Road project site frontage.

2. Generally, where the City standard exceeds the county's minimum standard, the County will defer to the City street section. However, certain standards relating to access and storm drainage may not allow construction of full City standard.

3. The proposed subdivision has approximately 215 feet of frontage on the southerly side of S Leland Road. Clackamas County has designated S Leland Road a minor arterial roadway. Clackamas County has adopted roadway standards that pertain to the structural section, right-of-way width, construction characteristics, and access standards for arterial roadways.

4. *Clackamas County's Roadway Standards* indicate that minor arterial roadways shall have a right-of-way width that ranges from 60 to 134 feet, depending on the planned road section. The standard urban minor arterial roadway section calls for 50-foot paved width, typically requiring 70-80 feet of right-of-way. The proposed 9-foot dedication is acceptable.

5. Minimum improvements on the S Leland Road frontage consistent with *Clackamas County's Roadway Standards* include, but are not limited to, up to a half-street improvement, pavement widening, curb, landscape strip and sidewalk. The proposed 26-foot wide, one half street improvement, including curb, 5-foot wide landscape strip and 7-foot wide sidewalk is acceptable.

6. Prior to commencement of site work, a Development Permit and a Utility Placement Permit are required and must be obtained from Clackamas County for all work performed in the S Leland Road right-of-way.

7. The proposed subdivision will create a new public road intersection with S Leland Road. Intersections on a county road are required to meet minimum intersection sight distance, per Section 240 of the Clackamas County Roadway Standards. S Leland Road has a posted speed of 35 miles per hour. The design speed for purposes of determining sight distance is based on the posted speed plus 5 miles per hour. For a speed of 40 miles per hours, a minimum of 445 feet of intersection sight distance is required. The traffic impact study for the proposed subdivision indicates that sight distance can meet minimum intersection sight distance. The applicant will be required to demonstrate site lines in compliance with minimum intersection sight distance as part of the Development Permit.

8. *Clackamas County Roadway Standards, Table 2-2* establishes the minimum access requirements by functional classification. Minor arterial roadways require that access points be separated a minimum of 250 feet. The proposed new street is separated from Lindsay Ann Lane by approximately 315 feet.

9. Clackamas County standards limit residential driveway access to minor arterial roadways. Driveway access is typically not permitted on an arterial when alternatives are available. Access is required from a road with a lower functional classification. The preliminary subdivision plan proposes an access drive serving Lots 1 and 2 from S Leland Road. All access for the proposed subdivision will be required from proposed Miller Road.

10. Clackamas County is currently the surface water management authority for the subject site. With annexation to the city, it appears surface water management will fall under the jurisdiction of WES Tri-City service district. However, Clackamas County will continue to be responsible for maintenance of storm drainage within in the right-of-way of S Leland Road. Storm drainage will be require to comply with Clackamas County Roadway Standards, Chapter 4. The proposed storm water management plan includes a stormwater planter within the right-of-way of S Leland Road. Although, the Clackamas County Roadway Standards address "green street" or Low Impact Development Approaches (LIDA) (Section 420), specific designs have not been adopted. LIDA designs are considered on a case by case basis. In addition, maintenance of water quality swales and planters within the public right-of-way is not currently part of the county's maintenance program. Therefore, proposed swales or similar facilities will require provisions for maintenance. This can be accomplished through maintenance agreement with the homeowner's association through the CC&Rs, or the city could provide maintenance through an agreement with the county.

CONCLUSION

Although the County does not have land use jurisdiction over the proposed subdivision, the County does have jurisdiction over improvements along S Leland Road. However, the following recommended conditions reflect the County's minimum standards. Where Oregon

City's standards are greater, and do not otherwise conflict with the County's storm drainage standards and maintenance practices.

If the City of Oregon City approves the request, the following conditions of approval are recommended. If the applicant is advised to or chooses to modify the proposal in terms of access location and/or design following the preparation of these comments this office requests an opportunity to review and comment on such changes prior to a decision being made.

1. All frontage improvements in, or adjacent to Clackamas County right-of-way, shall be in compliance with *Clackamas County Roadway Standards* if City of Oregon City Standards are not utilized.
2. The applicant shall dedicate an additional approximately 9 feet of right-of-way on S Leland Road and shall verify by survey that a 39-foot wide, one-half right-of-way width exists along the entire site frontage, or shall dedicate additional right-of-way as necessary to provide it.
3. The applicant shall design and construct improvements along the entire site frontage of S Leland Road in accordance with *Clackamas County Roadway Standards,* as modified to reflect the Oregon City street section.

   These improvements shall consist of:

   a. Up to a half-street improvement. Structural section for S Leland Road improvements shall consist of 7.5 inches of asphalt concrete per Clackamas County Roadway Standards Standard Drawing C100.

   b. Standard curb, or curb and gutter if curbline slope is less than one percent, and pavement with the face of the new curb located 26 feet from the centerline of the existing 60 foot wide right-of-way. Centerline of the right-of-way shall be established by a registered survey.

   c. Drainage facilities in conformance WES Tri-City Service District regulations and Clackamas Roadway Standards, Chapter 4.

   d. A minimum 7-foot wide unobstructed setback sidewalk, with a 5-foot landscape strip, including street trees shall be constructed along the entire site frontage. The applicant shall relocate mailboxes, fire hydrants, utility poles, etc., when they are located within the limits of the sidewalk or construct an eyebrow so that the full width of the sidewalk is provided around the obstruction. Additional easement, as necessary, shall be granted to provide for any sidewalk eyebrows.

   e. If the sidewalk does not connect to sidewalk on adjacent property, the end of the sidewalk shall require the construction of a concrete ramp, adjacent to the end of the sidewalk, providing a transition from the new sidewalk to the edge of the pavement. The ramp shall meet ADA guidelines.

f. Appropriate pavement tapers shall be provided, per Clackamas County Roadway Standards Section 250.6.4.

g. Any surface water runoff from the site to the S Leland Road right-of-way shall be detained outside of the right-of-way, except for approved water quality swales/planter (LIDAs), in conformance with *Clackamas Roadway Standards*. Any surface water runoff discharged to the S Leland Road right-of-way will only be allowed if it can be shown that the existing system has the capacity to accept the runoff and no adverse downstream impacts will be created.

h. Stormwater planters or water quality swales within the public right-of-way of S Leland Road require a maintenance agreement. The agreement shall be with the homeowner's association through the CC&Rs, or with the city. The agreement shall include a maintenance and operation plan, as approved by Clackamas County Engineering.

4. Proposed Miller Road shall intersect S Leland Road at as close to a 90 degree angle as possible. In addition, a tangent section shall be carried at least 100 feet from the intersection.

5. Lots 1, 2 and 28 shall take access from Miller Road. No residential driveway access is permitted onto S Leland Road. A note shall be placed on the plat indicating no access to Miller along the frontage of Lots 1, 2 and 28.

6. The applicant shall provide minimum intersection sight distance at the intersection of the new road, Lindsay Anne Lane with S Leland Road. In addition, no plantings at maturity, retaining walls, embankments, fences or any other objects shall be allowed to obstruct vehicular sight distance. Minimum sight distance is 445 feet in each direction. Sight distance shall be measured from a point 14.5 feet back from the edge of the travel lane at a driver's eye height in the driveway of 3.5 feet to a vehicle height of 3.5 feet in the oncoming travel lanes. The applicant shall demonstrate sight lines and compliance with minimum intersection sight distance as part of the Development Permit for the project.

7. The applicant shall submit an Engineer's cost estimate to be approved by Clackamas County Engineering for the asphalt concrete, aggregates, and any other required public improvement in the S Leland Road right-of-way.

8. Prior to commencement of site work and recording of the plat the applicant shall obtain a Development Permit from this office for design and construction of required improvements to S Leland Road. To obtain the Permit, the applicant shall submit plans prepared and stamped by an Engineer registered in the State of Oregon, provide a Performance Guarantee, and pay an Inspection Fee. The Performance Guarantee is 125% of the approved Engineer's cost estimate for the required improvements.

9. Prior to commencement of utility work within the right-of-way, a Utility Placement Permit shall be obtained from this office.

OREGON CITY

Community Development – Planning

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

LAND USE TRANSMITTAL

DISTRIBUTION OF APPLICATION

- Building Official
- Development Services
- Public Works Operations
- City Engineer
- Public Works Director
- Parks Manager
- Community Services Director
- Police
- Economic Development Manager
- Traffic Engineer
- Natural Resource Committee
- City Manager's Office

NOTICE OF THE APPLICATION MAILED TO

- All Properties within 300 feet
- Oregon City Neighborhood Associations
- Clackamas County Transportation
- Clackamas County Planning
- Clackamas Fire District #1
- ODOT – Division Review
- Oregon City School District
- Tri-Met
- Metro
- PGE
- South Fork Water Board
- Hamlet of Beavercreek
- Holcomb Outlook CPO
- Central Point / Leland Road / New Era CPO
- Other – See Email List

COMMENTS DUE BY:	**November 1, 2017**
HEARING DATE:	PC- November 13 2017, CC- TBD
HEARING BODY:	_ _Staff Review; _____PC; _____HRB; __X___CC
FILE # & TYPE:	AN- 17-03 Annexation/ ZC 17-03 Zone Change/ TP-17-07 Subdivision
PLANNER:	Christina Robertson-Gardiner, Planner, 503-722-3789
APPLICANT:	PDX Development, Inc.
REQUEST:	The applicant is seeking approval for the Annexation of a 6.33 acre property into the city limits of Oregon City. The site is within the Oregon City Urban Growth Boundary and has a Comprehensive Plan designation of Low Density Residential. The applicant is additionally seeking approval for a Zone Change from Clackamas County Future Urban 10-Acre (FU-10) Zone to "R-6" Single-Family Dwelling District and a Subdivision of 28 lots, w/ one Stormwater Facility Tract. https://www.orcity.org/planning/project/17-03-annexation-zc-17-03-zone-change-tp-17-07-subdivision
LOCATION:	19701 S Leland Road, Oregon City, OR 97045

This application material is referred to you for your information, study and official comments. If extra copies are required, please contact the Planning Department. Your recommendations and suggestions will e used to guide the Planning staff when reviewing this proposal. If you wish to have your comments onsidered and incorporated into the staff report, please return the attached copy of this form to facilitate he processing of this application and insure prompt consideration of your recommendations. Please check he appropriate spaces below.

___ The proposal does not conflict with our interests.
___ The proposal conflicts with our interests for the reasons attached.
_X_ The proposal would not conflict our interests if the changes noted below are included.

THE PROPERTY IS NOT IN THE TRI-CITY SERVICE DISTRICT. AND MUST ANNEX TO TCSD TO RECEIVE SANITARY SEWER SERVICE.

Signed Erika Carr - WATER ENVIRONMENT SERVICES (WES)

Tri City Service District Annexation Packet

Contact: Rob Hungerford
Technical Services Specialist
Water Environment Services
150 Beavercreek Road
Oregon City, OR 97045

Ph# 503-742-4576
Dept. Ph# 503-742-4567

Revised June 2017

ANNEXATION FEES

The elections office will require two checks with boundary change applications: one to Clackamas County for the application fee, and the second to Metro for the "mapping fee". The former will be deposited by the County, and the latter sent along to Metro's Boundary Commission's agent with the application materials.

ANNEXATION OR WITHDRAWAL FROM THE SEWER DISTRICT INSIDE THE REGIONAL URBAN GROWTH BOUNDARY:

(Check payable to Clackamas County)

1. Consisting of 1 acre or less…….$225
2. Consisting or more than 1 acre, but less than 2 acres…….$395
3. Consisting of at least 2 acres, but less than 5 acres…… $605
4. Consisting of at least 5 acres, but less than 10 acres……. $895
5. Consisting of at least 10 acres, but less than 20 acres…… $1160
6. Consisting of at least 20 acres, but less than 40 acres…… $1535
7. Consisting of 40 acres or more……...$1835

MAPPING FEE

(An additional mapping fee will be charged for all applications according to the schedule below, check payable Metro 3/15/2000).

1. Single tax lot of less than 1 acre…….$150
2. 1 – 5 acres……...$250
3. 5 – 40 acres……..$300
4. Greater than 40 acres……..$400

Annexation Instruction Information

Water Environment Services
A Department of Clackamas County
(On Behalf of Tri City Service District)
150 Beavercreek Road
Oregon City, Oregon 97045
PHONE: 503-742-4567
FAX: 503-742-4565

The Annexation Packet needs to be filled out in order to process the annexation request.

You need to fill out the following forms:

- ❑ (1) PETITION OF ALL LAND OWNERS (Please include Exhibit A with legal description and Exhibit B with map of proposed area if possible)
- ❑ (2) PETITION for ANNEXATION of TERRITORY to TRI CITY SERVICE DISTRICT
- ❑ (5) LIST OF LANDOWNER(S)
- ❑ (6) LIST OF SURROUNDING LANDOWNER(S) & MAILING LABELS
- ❑ (7) BOUNDARY CHANGE DATA SHEET
- ❑ (8) Attachments, surveys, deeds, records, plats (if necessary)
- ❑ (9) Tax lot Map with boundary change highlighted

After you complete the above forms submit the uncompleted packet and the required checks (One to Clackamas County for the application fee and One to Metro for the mapping fee) to Water Environment Services (WES).

WES will complete forms listed below.

The District will complete the following form:

- ❑ (3) CERTIFICATION OF PETITION OF LAND OWNER(S)
- ❑ (4) CERTIFICATION OF LEGAL DESCRIPTION AND MAP
- ❑ (11) ENDORSEMENT OF ANNEXATION OF TERRITORY TO TRI CITY SERVICE DISTRICT
- ❑ (12) AFFIDAVIT OF POSTING

Once all the forms are completed, the packet is taken to Clackamas County Election Division, along with the two checks. The Election Division takes the packet and forwards the County check to County Finance, and submits the completed annexation packet along with the check made out to Metro to Clackamas County Boundary Consultant.

Annexation Checklist for WES

Date / Initials

- ☐ **1)** *Petition of Landowners, with Legal Description Attached & Area Map* _____
- ☐ **2)** *Petition - Signature Form* _____
- ☐ **3)** *Certification of Property Ownership & Certification of Legal Description* _____
- ☐ **4)** *Notice List (Property Owners Info) and Mailing Labels* _____
- ☐ **5)** *Boundary Change Data Sheet* _____
- ☐ **6)** *Attachments, surveys, deeds, records, plats* _____
- ☐ **7)** *Taxlot Map with boundary change highlighted.* _____
- ☐ **8)** *WES Director's recommendation to annex* _____

- ☐ **A)** *Compliance Review (Submit to County Clerk w/ Fees)* _____
- ☐ **B)** *Public Hearing Date* _____
- ☐ **C)** *Public Hearing Notice* _____
- ☐ **D)** *Staff Report* _____
- ☐ **E)** *Public Hearing* _____
- ☐ **F)** *Board Approval / Denial* _____

PETITION OF LAND OWNER(S)
FOR A DISTRICT ANNEXATION

PETITION FOR ANNEXATION TO THE: Tri City Service District, a district organized under ORS 451. This petition is filed pursuant to ORS 198.705 to 198.955.

TO: The Board of Commissioners of Clackamas County

We, the undersigned land owner(s) in the territory proposed to be annexed, as described below, hereby petition for, and give our consent to, annexation of the area to the Tri City Service District.

The area to be annexed is inhabited.

Other affected districts (if any), and the principal Act of each are: _____

The affected county is: Clackamas County

The proposed annexation is subject to the following terms and conditions (if any):

_____

We request that the Board of Commissioners, the governing body of Tri City Service District, undertake annexations proceedings pursuant to ORS 198.850 to 198.869.

The Chief Petitioners are: _____
(name)

_____
(name)

_____
(name)

The property to be annexed is described as follows:

See Exhibit A for description
See Exhibit B for map

ANNEXATION PETITION - LANDOWNER SIGNERS

To: The Board of Commissioners of Clackamas County

We, the undersigned land owners in the area described below, hereby petition for, and give our consent to, annexation of the area to the Tri City Service District.

Land Owner Signature(s)	Printed Name	Mailing Address	Land Address, or Taxlot No.	Date

I, _____, certify that every person who signed this petition did so in my presence.

CERTIFICATION OF LAND OWNERS

ORS 198.855(3) If the annexation petition is signed by all of the owners of all land in the territory proposed to be annexed or is signed by a majority of the electors registered in the territory proposed to be annexed and by the owners of more than half of the land in the territory, an election in the territory and district shall be dispensed with. After the hearing on the petition, if the county board approves the petition as presented or as modified or, if an election is held, if the electors approve the annexation, the county board shall enter an order describing the boundaries of the territory annexed and declaring it annexed to the district (https://www.oregonlaws.org/ors/198.855)

Petition signed by all landowners (100%)

I hereby certify that the attached petition for a proposed boundary change involving the territory described in the petition contains the names of the owners* of all land in the territory proposed to be annexed within the area described in the petition, as shown on the last available complete assessment roll.

NAME_____

TITLE_____

DEPARTMENT_____

COUNTY OF CLACKAMAS

DATE_____

*"Landowner" or "owner of land" means any person shown as the owner of land on the last available assessment roll; however, where such person no longer holds the title to the property, then the terms mean any person entitled to be shown as owner of land on the next assessment roll; or, where land is subject to a written agreement of sale, the terms mean any person shown in the agreement as purchaser to the exclusion of the seller; and the terms include any public agency owning land.

CERTIFICATION OF LEGAL DESCRIPTION AND MAP

I hereby certify that the description of the property included within the attached petition (located on Assessor's Map _____) has been checked by me and it is a true and exact description of the property under consideration, and the description corresponds to the attached map indicating the property under consideration.

NAME_____

TITLE_____

DEPARTMENT_____

COUNTY OF CLACKAMAS

DATE_____

LIST OF LAND OWNERS

(This form is NOT the petition)

LIST ALL LAND OWNERS OF PROPERTY INCLUDED IN BOUNDARY OF THE AREA PROPOSED TO BE ANNEXED.

(Only those land owners within the area of annexation)

NAME OF OWNER	ADDRESS	PROPERTY DESIGNATION (Indicate tax lot, section number township and range)
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		

(Attached additional sheets if necessary)

NOTICE LIST FOR SURROUNDING PROPERTY OWNERS

(This form is NOT the petition)

*LIST ALL LAND OWNERS OF PROPERTY WITHIN **100 FEET** OF THE OUTSIDE BOUNDARY OF THE AREA TO BE ANNEXED. IF THE TERRITORY TO BE ANNEXED IS OUTSIDE AN URBAN GROWTH BOUNDARY, THE DISTANCE IS **250-FEET**, OR **500-FEET** IF THE TERRITORY TO BE ANNEXED WITHIN A FARM OR FOREST ZONE.*

NAME OF OWNER	ADDRESS	PROPERTY DESIGNATION (Indicate township and range, section, tax lot number)
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		

(Attach additional sheets if necessary)

BOUNDARY CHANGE DATA SHEET

I. EXISTING CONDITIONS IN AREA TO BE ANNEXED OR WITHDRAWN

A. General location _____

B. Land Area: Acres ___ or Square Miles _____

C. General Description of Territory. (Include topographic features such as slopes, vegetation, drainage basins, floodplain areas, which are pertinent to this proposal.)

_____

_____.

D. Describe land uses on surrounding parcels. Use tax lots as reference points.

North: _____

East: _____

South: _____

West: _____

E. Existing Land Use:

Number of single family units:_____ Number of multi-family units:_____

Number commercial structures:_____ Number industrial structures:_____

Public facilities or other uses:_____

What is the current use of the land proposed to be annexed:

_____

F. Current year total Assessed Value: $_____

G. Total existing population: _____

II. REASON FOR BOUNDARY CHANGE

A. The County Board is required to utilize the criteria spelled out in ORS 199.462 to determine if the area can be benefited by annexation to the District. That statute says the County " . . . . shall consider local comprehensive planning for the area, economic, demographic, and sociological projections pertinent to the proposal, and past and prospective physical developments of land that would directly or indirectly be affected by the proposed boundary change **. . .** " The Metro Code spells out additional criteria for consideration (Metro Code 3.09.050):

1. Consistency with directly applicable provisions in an urban service provider agreement or annexation plan adopted pursuant to ORS 195.065. [Urban service provider agreements are agreements between various service providers about who will provide which services where. Annexation plans are timelines for annexation, which can only be done after all required 195 agreements are in place and which must have been voted on by the City residents and the residents of the area to be annexed.]
2. Consistency with directly applicable provisions of urban planning or other agreements, other that agreements adopted pursuant to ORS 195.065, between the affected entity and a necessary party.
3. Consistency with specific directly applicable standards or criteria for boundary changes contained in comprehensive land use plans and public facility plans.
4. Consistency with specific directly applicable standards for boundary changes contained in the Regional Framework Plan or any functional plan.
5. Whether the proposed boundary change will promote or not interfere with the timely, orderly and economic provision of public facilities and services.
6. The territory lies within the Urban Growth Boundary.
7. Consistency with other applicable criteria for the boundary change in question under state and local law.

You may wish to provide additional information on all or any of these considerations. Use additional pages if necessary.

III. LAND USE AND PLANNING

A. If the property to be served is entirely or substantially undeveloped, what are the plans for future development? Be specific. Describe type (residential, industrial, commercial, etc.), density, etc.

_____

_____

_____

B. Is the subject territory inside or outside the Metro Regional Urban Growth Boundary? _____

C. Do agreements pursuant to ORS 195.065 exist for this area and if so how does this proposal measure up to those agreements?

_____

D. What is the applicable County Planning Designation?_____Or City Planning Designation?_____
Does the proposed development comply with applicable regional, county or city comprehensive plans? Please describe.

_____

_____

E. What is the zoning on the territory to be served?

_____

F. Can the proposed development be accomplished under current county zoning?

☐ Yes ☐ No

If No, ---has a zone change been sought from the county either formally or informally.

☐ Yes ☐ No

G. Please describe outcome of zone change request if answer to previous question was Yes.

_____

H. Is the proposed development compatible with the city's comprehensive land use plan for the area?

☐ Yes ☐ No ☐ City has no Plan for the area

Has the proposed development been discussed either formally or informally with any of the following? (Please indicate)

☐ City Planning Commission ☐ City Planning Staff
☐ City Council ☐ City Manager

Please describe the reaction to the proposed development from the persons or agencies indicated above.

_____

_____

I. Please indicate all permits and/or approvals from a City, County, or Regional Government that will be needed for the proposed development. If already granted, please indicate date of approval and identifying number:

APPROVAL	PROJECT FILE#	DATE OF APPROVAL	FUTURE REQUIREMENT
Metro UGB Amendment			
City or County Plan Amendment			
Pre-Application Hearing (City or County)			
Preliminary Subdivision Approval			
Final Plat Approval			
Land Partition			
Conditional Use			
Variance			
Sub-Surface Sewage Disposal			
Building Permit			

Please submit copies of proceedings relating to any of the above permits or approvals which are pertinent to the annexation.

J. If a city and/or county-sanctioned citizens' group exists in the area of the annexation, please list its name and the name and address of the contact person.

_____

_____

IV. SERVICES AND UTILITIES

A. Please indicate the following:

1. Location and size of nearest water line which can serve the subject area.

_____

_____

2. Location and size of nearest sewer line which can serve the subject area.

_____

_____

3. Proximity of other facilities (storm drains, fire engine companies, etc.) which can serve the subject area.

_____

_____

4. The time at which services can be reasonably provided by the district.

_____

5. The estimated cost of extending such facilities and/or services and what is to be the method of financing? (Attach any supporting documents.)

_____

_____

6. Availability of the desired service from any other unit of local government. (Please indicate the government.)

_____

7. What other assurances exist that demonstrate that urban services are now or can be made available?

_____

B. If the territory described in the proposal is presently included within the boundaries of or being served extraterritorially or contractually by any of the following types of governmental units, please so indicate by stating the name or names of the governmental units involved:

City _____ Rural Fire Dist. _____

County Service Dist._____ Sanitary District _____

Hwy Lighting Dist. _____ Water District _____

Grade School Dist._____ Drainage District _____

High School Dist. _____ Diking District _____

Library Dist. _____ Park & Rec District _____

Special Road Dist._____ Other Dist. Supplying Water Service_____

C. If any of the above units are presently servicing the territory (for instance, are residences in the territory hooked up to a public sewer or water system), please so describe.

_____

_____

_____

APPLICANT'S NAME: _____

MAILING ADDRESS: _____

_____

TELEPHONE NO.: _____(work)

_____ (Res.)

REPRESENTING: _____

DATE: _____

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

October 27, 2017

Ms. Christina Robertson-Gardiner
City of Oregon City
PO Box 3040
Oregon City, OR 97045

SUBJECT: REVIEW OF TRANSPORTATION IMPACT STUDY – LINDSAY ANNE ESTATES TOO – TP17-07, AN17-3, & ZC17-03

Dear Ms. Robertson-Gardiner:

In response to your request, I have reviewed the materials submitted in support of the proposed Lindsay Anne Estates Too Subdivision. The relevant materials included the project narrative, site plan and the Transportation Impact Study (TIS). The TIS is dated August 3, 2017 and was prepared under the direction of Todd E. Mobley, PE of Lancaster Engineering.

The proposed subdivision with 28 lots is located on the southwest side of Leland Road between S McCord Road and S Jessie Avenue. The proposed subdivision is adjacent to Lindsay Anne Estates that also lies southwest of Leland Road. The site totals approximately 6.32 acres. There is currently one single-family dwelling on the property. New local street segments would be constructed to serve the subdivision and create extensions to adjacent parcels. The principal new street, identified as Miller Road, would run roughly parallel with Lindsay Anne Lane in the adjacent subdivision and would intersect with Leland Road. Two other streets, Cedarwood Way and Cherrywood Way, would extend from the adjacent subdivision and would run roughly parallel with Leland Road. The proposal involves annexation and rezoning of the parcel from FU10 (county zoning) to R6.

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 three locations. The key intersections were:

- S Leland Road at McCord Road
- Miller Road at S Leland Road
- Lindsay Anne Lane at S Leland Road

The first of these intersections is the only intersection of collector street with collector street or higher where site traffic volumes exceed 25 vehicles during either the AM or PM peak hour. The other two intersections are locations where traffic generated by the subdivision could be expected to access Leland Road, the nearest collector street.

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 28 single-family dwellings. The trip generation rates were taken from the Institute of Transportation Engineers' *Trip Generation Manual.* After accounting for one existing home, the subdivision is predicted to produce 20 new AM peak hour trips, 27 new PM peak hour trips, and 256 new weekday trips.

4. ***Trip Distribution.*** The engineer's trip distribution shows 20 percent of traffic going to and from the northwest on S McCord Road; 35 percent to and from the north on Leland Road; 15 percent to and from the north on Claremont Avenue; 15 percent to and from the northwest on Meyers Road via Jessie Avenue; and 15 percent to and from the southeast on Meyers Road via Jessie Avenue.

   For access to and from the subdivision, the engineer predicts that the primary access to S Leland Road will be via Miller Road, the new connection serving the subdivision.

   The use of Miller Road for the principal site access and 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 2037 analysis

done to assess the long-term impact 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 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, 2037 background conditions, and 2037 conditions with the proposed subdivision and the proposed zone change to R-6.

   According to the engineer, the all of the study area intersections are calculated to meet the city's operational standard in 2019 and in 2037 with or without the proposed subdivision. All intersections are calculated to operate at level of service (LOS) B or better and a volume-to-capacity ratio (v/c) of 0.10 or better during all analysis years.

   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 traffic volumes on Leland Road at the site are so low and the predicted performance at the site access is excellent, so the engineer did not specifically analyze left-turn lane warrants on Leland Road at the site. It is clear that a left-turn lane on Leland Road will not meet volume warrants for the foreseeable future. Based upon the site plan, it appears sufficient width would be available on Leland Road upon build-out to accommodate a left-turn lane.

8. ***Crash Information.*** The TIS provides crash information for the most recent five-year period at the study area intersections. There were no reported crashes at the intersection of Leland Road with McCord Road or Leland Road with Lindsay Anne Lane. He concluded that that there are no apparent safety deficiencies at any study intersection, and that on-site observations and available data suggest that all intersections will continue to operate safely in the future. I concur with his analysis and conclusions.

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 access would be provided by a new connection to Leland Road. Other streets parallel with Leland Road connect to the adjacent subdivision to the southeast. These same streets will provide connections when adjacent parcels develop to the northwest. Due to topographic constraints, principally the powerline easement, two lots are proposed to have direct access to Leland Road. All other lots would have access to local streets.

11. ***Intersection Spacing.*** One new intersection would be created on Leland Road approximately 300 feet northwest of the existing intersection of Leland Road with Lindsay Anne Lane. The spacing is appropriate given the configuration of the existing parcel and the location of existing streets.

12. ***Sight Distance.*** The engineer measured sight distance at the proposed access of driveways to Leland Road and the proposed Leland/Miller intersection and determined that at least 445 feet would be available, meeting applicable distances associated with the speed and classification of Leland Road.

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. ***Impact on other Streets.*** The TIS also provides an analysis of the impact on Jessie Avenue and Frontier Parkway. The engineer discusses the potential for traffic to use these streets rather than Leland Road. He notes the presence of stop signs, roadway geometry and traffic calming provisions. He concludes three vehicles could use these streets during the AM peak hour and four during the PM peak hour. He concludes that the proposed development is not projected to adversely affect the safety, culture, or operation of Jessie Avenue or Frontier Parkway, and no mitigations are needed or recommended.

15. ***Transportation Planning Rule (TPR) Analysis.*** As noted above, the proposal involves rezoning from county FU10 zoning to R-6 zone. The TIS provides estimates of the number of lots that could be developed under R-6 (28 lots) and R-10 (17 lots). R-6 zoning represents the worst-case development scenario from a transportation impact perspective. The engineer states that 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. Furthermore, even with the increase in trips from the zone change to R-6, all study area intersections will operate acceptably through the planning horizon. The

concludes that the TPR is satisfied, since the proposed zone change does not significantly affect the transportation system. I concur with his conclusions and agree the subdivision and zone change does not change the functional classification of any existing or planned transportation facility.

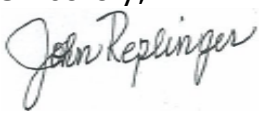
16. Conclusions and Recommendations. The engineer concludes that traffic operations would be adequate at all analyzed intersections. He concludes no mitigation is needed for traffic operations or for safety. I concur with the conclusions of the applicant's engineer.

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\TP17-07

TUALATIN • VANCOUVER • KEIZER • BEND
12965 SW HERMAN RD., SUITE 100 · TUALATIN, OR 97062
AKS ENGINEERING & FORESTRY
WWW.AKS-ENG.COM
P: (503) 563-6151 F: (503) 563-6152

November 13, 2017

Wendy L. Marshall, PE
City of Oregon City
Development Projects Manager
625 Center Street
Oregon City, OR 97045

RE: Sanitary Sewer Service Capacity
Lindsay Anne Estates Too – 28 Lot Subdivision
Clackamas County Assessor's Information: Map 32E18, Tax Lot 1400
± 6.33 Acres

Wendy:

The purpose of this sanitary sewer analysis is to demonstrate the actual design wastewater flow from this development has the same (or less than) the predicted future wastewater flow (per the City of Oregon City Sanitary Sewer Master Plan dated November 2014).

Per the City of Oregon City Sanitary Sewer Master Plan dated November 2014, the wastewater flow calculation is based on the following:

- Gross area: 6.33 acres
- Net area: 5.06 acres (assuming 20% of the gross site area would be used for streets, easements, and other utilities)
- Number of lots: 25 (LDR = 5 dwellings per net acre)
- Total wastewater flow: 13.94 gpm (see attached Exhibit A-1)

Per the actual designed development, the wastewater flow calculation should be based on the following:

- Gross area: 6.33 acres
- Net area: 3.48 acres (actual net area after subtracting the streets, stormwater facility, and the area of the PGE transmission line easement – see attached Exhibit A-2)
- Number of lots: 28
- Total wastewater flow: 14.09 gpm (see attached Exhibit A-1)

Per the Future Developed Parcels Map (see attached Exhibit B) in the City of Oregon City Sanitary Sewer Master Plan November dated 2014, all future lots in the Anastyn Estates subdivision are assumed to flow to Settler's Point pump station. However, when Rian Park Development, Inc. developed Anastyn Estates (the same developer for Lindsay Anne Estates Too), the site was designed such that the wastewater flow for Lot 2 does not flow to the Settler's Point pump station (see attached Exhibits C and D). The predicted wastewater flow to Settler's Point pump station from Lot 2 of Anastyn Estates is available as extra wastewater flow for Lindsay Anne Estates Too.

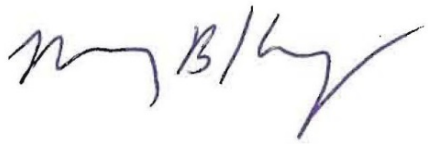
Wastewater flow calculation from Lot 2 of Anastyn Estates:

- Net area: 0.15 acres
- Number of lots: 1
- Total wastewater flow: 0.52 gpm (see attached Exhibit A-1)

The actual design wastewater flow for Lindsay Anne Estates Too is 13.57 gpm (14.09 gpm minus 0.52 gpm), which is less than the predicted future wastewater flow per the City of Oregon City Sanitary Sewer Master Plan dated November 2014.

Sincerely,

AKS ENGINEERING & FORESTRY, LLC



Montgomery B. Hurley – PE, PLS, Principal

Sanitary Sewer Flow Calculation

		Lindsay Anne Estates Too (Per Sanitary Sewer Master Plan)	Lindsay Anne Estates Too (Actual Design Scenario)	Lot 2 of Anastyn Estates (Actual Built Scenario - Not Flow to Settler's PS)
Gross area (acre):		6.33		
Net area - 80% of Gross area[a] (acre):		5.06		
No. of lots[a] (5 lot per acre):		25		
Actual net area[b] (acre):			3.48	0.15
Actual No. of lots:			28	1
People per lot[a]:	2.5			
Unit flow[a] (gpcd):	80			
Peaking Factor[a]:	3			
I/I[c] (gpad):	1000			
Domestic Flow (gpm):		10.42	11.67	0.42
I/I Flow (gpm):		3.52	2.42	0.10
Total Wastewater Flow (gpm):		**13.94**	**14.09**	**0.52**

[a] Per Section 3.5.1 Future Base Flows in the City of Oregon City Sanitary Sewer Master Plan dated November 2014

[b] Per Attachment A - Future Development Flow Method - Analysis Step 21 in the City of Oregon City Sanitary Sewer Master Plan dated November 2014

[c] Per Section 3.5.2 Future Wet Weather Flows in the City of Oregon City Sanitary Sewer Master Plan dated November 2014

EXHIBIT A-1

Net Area Calculation

Lot	Area (sf)
1	4,860
2	4,998
3	29,075
4	5,054
5	4,914
6	5,500
7	5,500
8	5,500
9	5,054
10	4,914
11	4,873
12	5,012
13	5,013
14	4,966
15	5,100
16	5,117
17	5,005
18	5,054
19	5,551
20	5,549
21	5,550
22	5,054
23	5,010
24	6,491
25	5,049
26	5,338
27	5,822
28	16,721

Total Lot Area: 181,644 sf

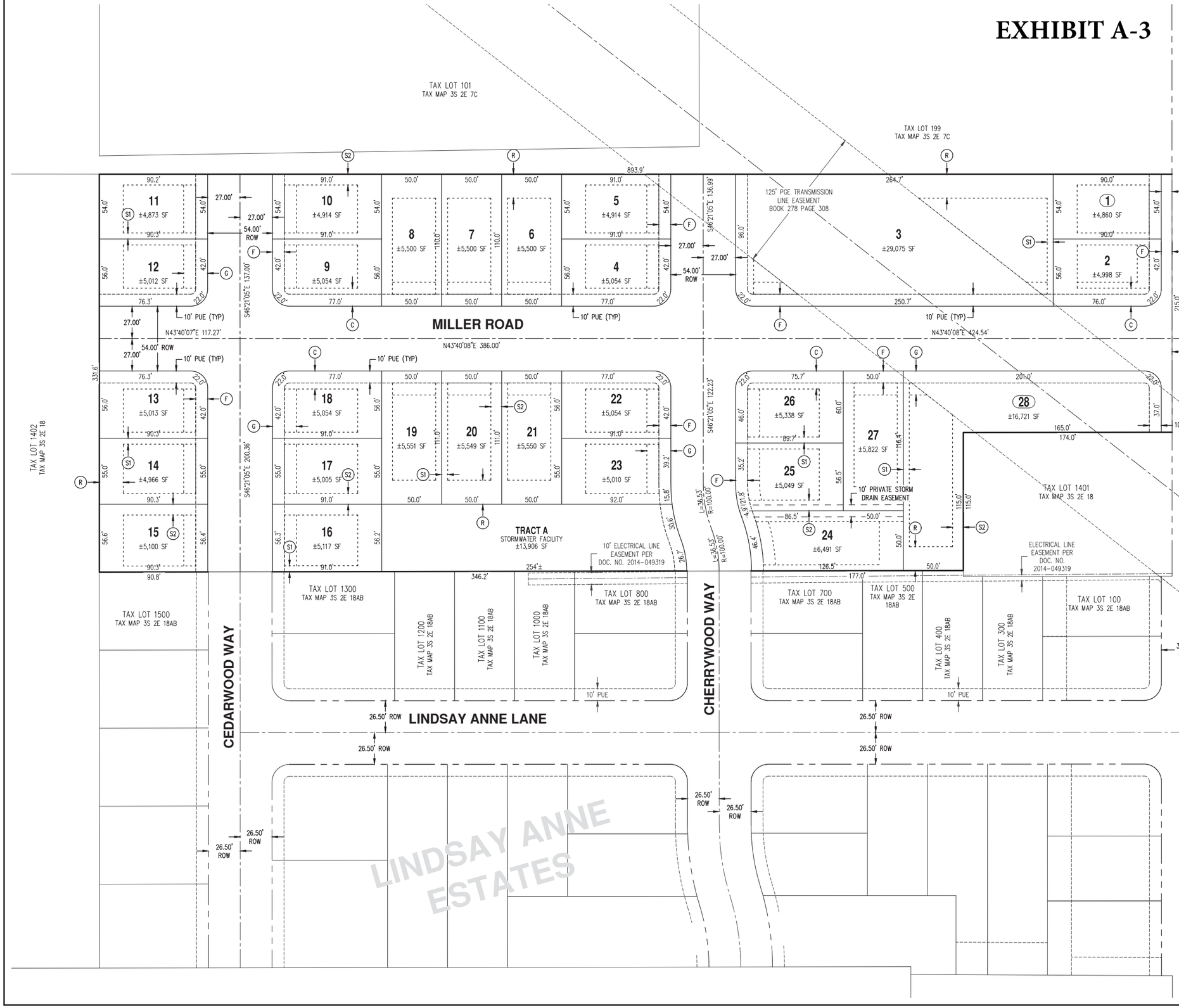
Total PGE Easement Area: 30,078 sf

Total Net Area: **151,566** sf

3.48 acres

EXHIBIT A-2

EXHIBIT A-3



SETBACK LEGEND

- (F) 10' MINIMUM FRONT YARD SETBACK
- (G) 20' MINIMUM GARAGE SETBACK
- (S1) *5' MINIMUM SIDE YARD SETBACK (ONE SIDE)
- (S2) *9' MINIMUM SIDE YARD SETBACK (ONE SIDE)
- (C) 15' CORNER SIDE YARD SETBACK
- (R) 20' REAR YARD SETBACK

*5' AND 9' INTERIOR SIDE YARD SETBACKS CAN BE SWAPPED (TYPICAL). ONE SIDE YARD HAS TO BE A MINIMUM OF 5', 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-6

NET AREA: 181,644 SQUARE FEET ±
AVERAGE LOT AREA: 6,487 SQUARE FEET ±

LINDSAY ANNE ESTATES

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

LINDSAY ANNE ESTATES TOO

OREGON CITY, OREGON
CLACKAMAS COUNTY TAX MAP 3-2E-18
TAX LOT 1400

PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS

DESIGNED BY:	VHN
DRAWN BY:	NMC
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	08/07/2017

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 13, 2007
MONTGOMERY B. HURLEY
NOT FOR CONSTRUCTION
MAY 9, 2017
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
5837

SHEET
P1-03

AKS DRAWING FILE: 5837 PLAT.DWG | LAYOUT: P1-03

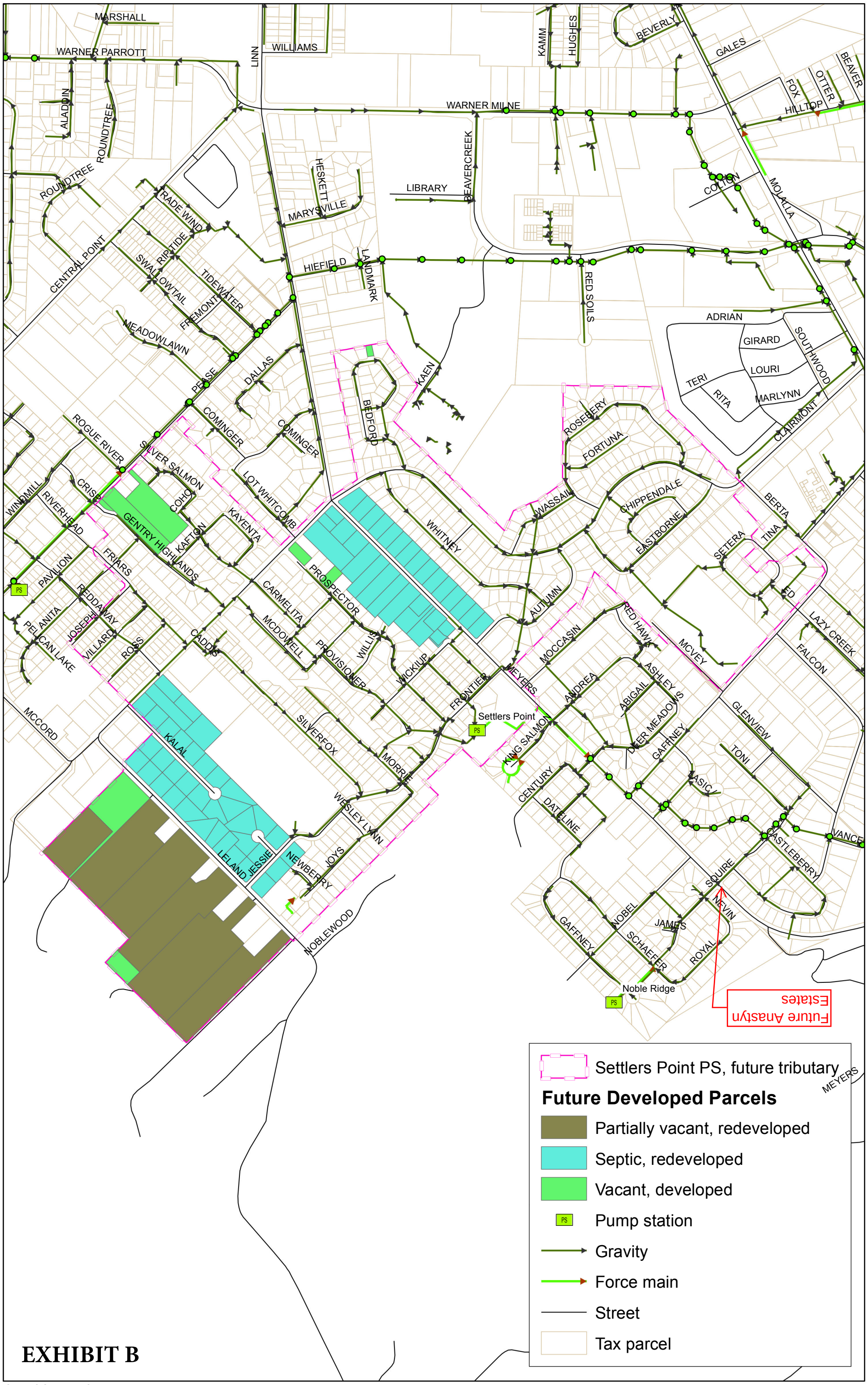


EXHIBIT B

City of Oregon City
Settlers Point Pump Station - Future, Additional Sewer Flow

March 2014

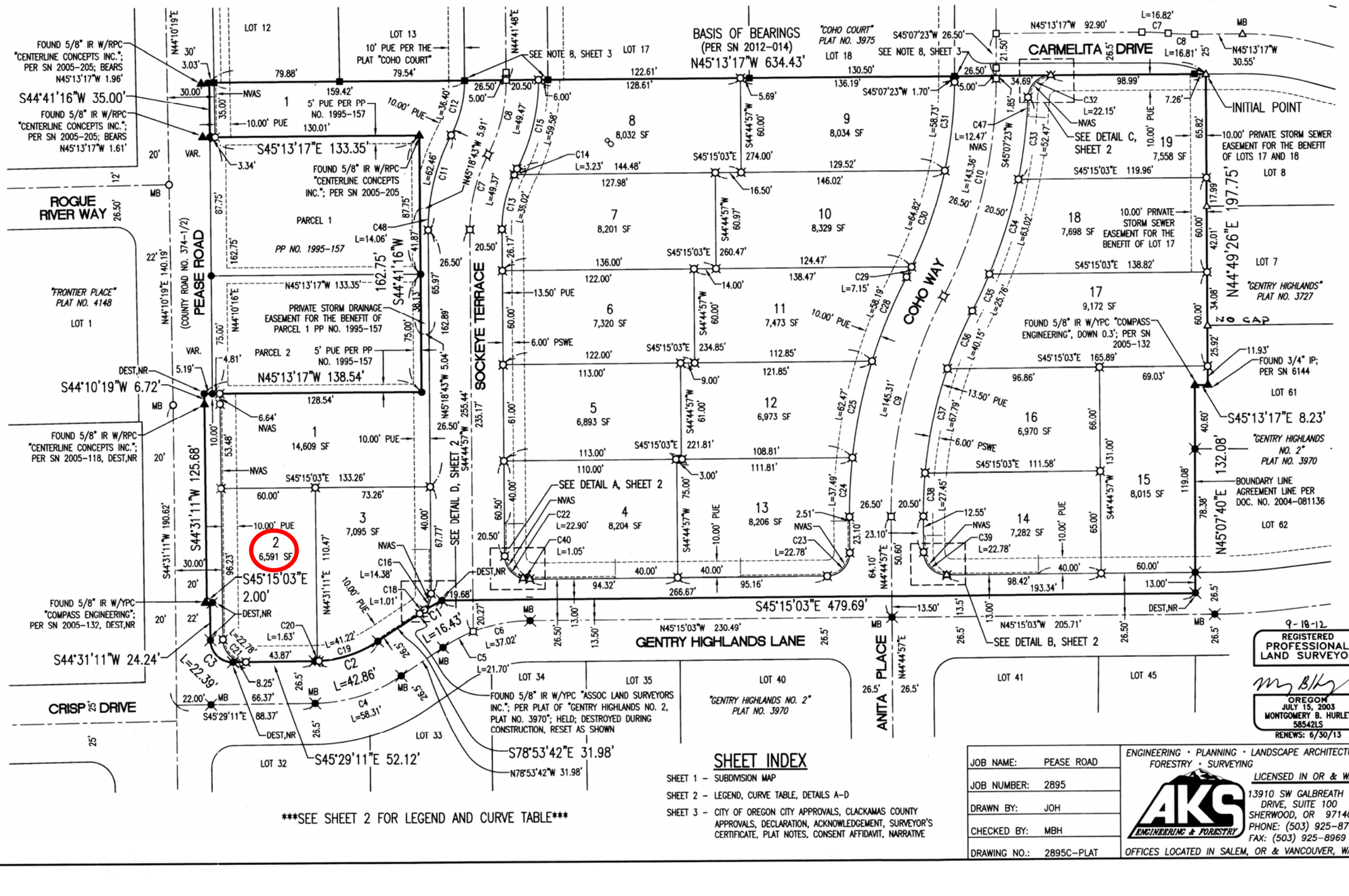
BOOK 143 PAGE 003
4351 SHEET 1 OF 3

ANASTYN ESTATES

A REPLAT OF PARCEL 3 OF PARTITION PLAT NO. 1995-157, TRACT 'E' OF "GENTRY HIGHLANDS NO. 2" PLAT NO. 3970,
AND A TRACT OF LAND LOCATED IN THE NORTHEAST 1/4 OF SECTION 7, TOWNSHIP 3 SOUTH, RANGE 2 EAST,
WILLAMETTE MERIDIAN, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON
CITY OF OREGON CITY CASE FILE NUMBER TP 11-02
SEPTEMBER 7, 2012

SCALE 1" = 40 FEET

PREPARED FOR
RIAN PARK DEVELOPMENT, INC.
15239 S. LAKERIDGE WAY
OREGON CITY, OR 97045



SEE SHEET 2 FOR LEGEND AND CURVE TABLE

SHEET INDEX

SHEET 1 - SUBDIVISION MAP
SHEET 2 - LEGEND, CURVE TABLE, DETAILS A-D
SHEET 3 - CITY OF OREGON CITY APPROVALS, CLACKAMAS COUNTY APPROVALS, DECLARATION, ACKNOWLEDGEMENT, SURVEYOR'S CERTIFICATE, PLAT NOTES, CONSENT AFFIDAVIT, NARRATIVE

9-18-12
REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 15, 2003
MONTGOMERY B. HURLEY
58542LS
RENEWS: 6/30/13

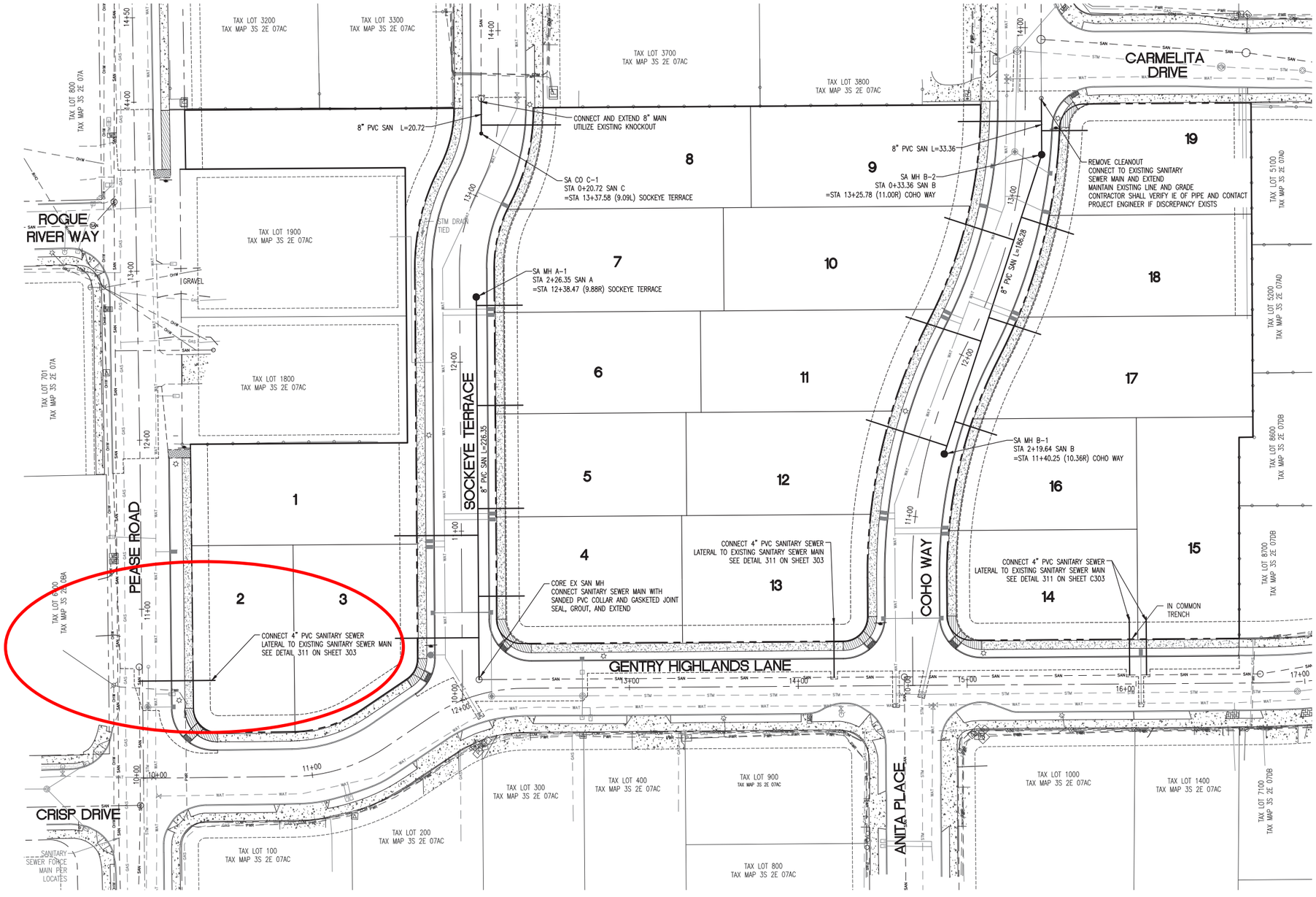
JOB NAME:	PEASE ROAD
JOB NUMBER:	2895
DRAWN BY:	JOH
CHECKED BY:	MBH
DRAWING NO.:	2895C-PLAT

ENGINEERING · PLANNING · LANDSCAPE ARCHITECTURE
FORESTRY · SURVEYING
AKS ENGINEERING & FORESTRY
LICENSED IN OR & WA
13910 SW GALBREATH DRIVE, SUITE 100
SHERWOOD, OR 97140
PHONE: (503) 925-8799
FAX: (503) 925-8969
OFFICES LOCATED IN SALEM, OR & VANCOUVER, WA

EXHIBIT C

SCALE 1" = 30 FEET

30 0 12 18 24 30



NOTES:

1. SANITARY SEWER PIPE SHALL BE PVC, CONFORMING TO ASTM 3034 SDR 35.
2. TRENCH BACKFILL SHALL BE CLASS B 3/4"-0" GRANULAR WITHIN THE STREET AND NATIVE OUTSIDE THE STREET.
3. SANITARY SEWER LATERALS SHALL COMPLY WITH THE UNIFORM PLUMBING CODE.
4. SANITARY SEWER LATERALS SHALL BE 4" PVC UNLESS OTHERWISE NOTED.
5. INSTALL WATERTIGHT CAP AT SERVICE LATERAL END.
6. A 2"x4" WOOD MARKER SHALL BE PLACED AT THE LATERAL END FROM THE PIPE INVERT TO TWO FEET ABOVE THE GROUND. THE 2"x4" TOP SHALL BE PAINTED GREEN AND MARKED WITH AN "S" AND THE DEPTH OF THE LATERAL MEASURED FROM GROUND TO INVERT OF PIPE. CONTRACTOR WILL BE REQUIRED TO EXCAVATE SERVICE LATERAL ENDS FOR DEPTH VERIFICATION PRIOR TO PROJECT COMPLETION IF THE DEPTH TO INVERT IS NOT PROPERLY NOTED ON THE LATERAL MARKER. THE CURB LINE SHALL HAVE AN "S" STAMPED ON THE TOP OF THE CURB AT THE LATERAL CROSSING.

AS-BUILT DISCLAIMER:
AS-BUILT INFORMATION IS BASED ON A COMBINATION OF FIELD SURVEY INFORMATION, SPOT INSPECTION INFORMATION, CITY-PROVIDED INFORMATION, AND CONTRACTOR-PROVIDED INFORMATION. THE ENGINEER ONLY CERTIFIES INFORMATION WHICH COULD BE FIELD-VERIFIED AFTER CONSTRUCTION WAS COMPLETED.

EXHIBIT D

10170.20

SANITARY SEWR PLAN

ANASTYN ESTATES
SUBDIVISION AS-BUILTS
OREGON CITY
CLACKAMAS COUNTY TAX MAP 3S 2E 07AC
TAX LOTS 1500, 1600, 2000

AKS ENGINEERING & FORESTRY
ENGINEERING · PLANNING
SURVEYING · FORESTRY
13910 SW GALBREATH DR.
SUITE 100
SHERWOOD, OR 97140
PHONE: (503) 925-8799
FAX: (503) 925-8969

DESIGNED BY:	MBH
DRAWN BY:	BDT
CHECKED BY:	MBH
DRAWING NO.:	A1-C301
SCALE:	AS NOTED

PREPARED FOR:
RIAN PARK DEVELOPMENT
15239 S LAKERIDGE WAY
OREGON CITY, OR 97045

DATE: 1-4-13

REGISTERED PROFESSIONAL ENGINEER
58542PE
OREGON
JULY 9, 2009
MONTGOMERY B. HURLEY
RENEWAL DATE: 6/30/13

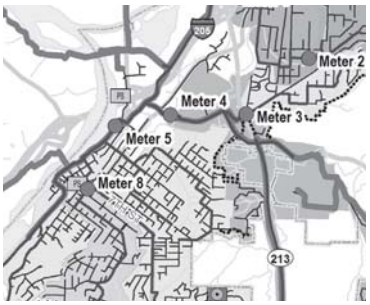
JOB NUMBER
2895

SHEET
C301

Prepared for
City of Oregon City

Sanitary Sewer Master Plan

November 2014



Brown AND Caldwell

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3.5 Future Flows

Base flows and RDII from future developments were estimated and routed through the model to estimate future capacity deficiencies in the trunk sewer system. Three types of future development areas were included in the analysis:

- Large future development areas at the boundaries of the City's urban growth area: South End Road, Park Place, and Beavercreek Road.
- Expected development areas within the city limits. This category includes all parcels identified by the City excluding those considered to be un-developable (e.g., existing parks) and lots considered not to have future development potential (e.g., small single residential lots with existing connections to the sewer system).
- Individual land parcels within the city limits with redevelopment potential. These consist of both vacant parcels and parcels where the existing land use is less dense than the parcel zoning. This category also includes individual parcels in unincorporated areas (within the urban growth area) with single family residential land use. It was assumed these parcels are currently serviced by onsite septic systems and will connect to the sanitary sewer system in the future.

3.5.1 Future Base Flows

Future average daily base flows were estimated from industry standard rates for each land use designation. For the large development areas, the proposed gross acreage for each land use designation was provided by the City. For parcels with areas greater than 1 acre, the net acreage was calculated assuming that 20 percent of the gross acreage would be used for local roads, easements, and other utilities. Table 3-2 lists the rates used to develop future base flows.

Table 3-2. Future Sewer Base Flow Unit Rates

Land use	Unit type	Unit flow
Residential[a,b]	Gallons per capita per day	80
Commercial[c]	Gallons per acre per day (gpad)	1,000
Industrial[c]	gpad	2,000

[a] *An average of 2.5 people per household was assumed.*

[b] *Development densities specified in the 2004 Oregon City Comprehensive Plan were used to determine the number of dwellings per acre. LDR = 5 dwellings per acre, MDR = 10 dwellings per acre, HDR = 22 dwellings per acre.*

[c] *Unit flow rates for commercial and industrial areas were based on industry standard.*

3.5.2 Future Wet Weather Flows

RDII from future areas was calculated by estimating the amount of future sewered areas and applying an infiltration/inflow (I/I) rate of 1,000 gpad. I/I was not applied to parcels within the city limits that are already developed, because it was assumed the I/I contribution from these parcels already would be accounted for in the existing conditions model.

16. ID those parcels located in concept plan areas
    a. Add field, type string, named “CONCEPT”
    b. Select by location parcels in “taxlot_model” with their centroid within any of the 3 concept plan polygons provided by the City.
    c. Field calculate “CONCEPT”=”YES”
17. Determine area of constrained land on each parcel
    a. Union “taxlot_model” and selection of “All_Constraints” that intersects “BASE_UGB_Fill”
        i. Resulting fc is named “taxlot_constrained_union”
        ii. Note: Set definition query on “All_Constraints” of "Building" = 'N'. This omits buildings from the constrained layer.
    b. Union “taxlot_constrained_union” and selection of “Vacant_Lands” that intersects “BASE_UGB_Fill”
        i. Resulting fc is named “taxlot_cnstrnd_vacant_union”
    c. Calculate vacant area slices
        i. Add field, type double, named “AREA_CONSTR”
        ii. Select features in “FID_All_Constraints” <> -1. This is all the constrained features.
        iii. Calculate geometry of “AREA_CONSTR” attribute, which represents “constrained land” area
        iv. Add field, type double, named “AREA_CONSTR_PRTL”
        v. Select features in “FID_All_Constraints” = -1 AND “FID_Vacant_Lands”<> ”-1”. This is vacant land that is also constrained (i.e. vacant and constrained land overlap).
        vi. Calculate geometry of “AREA_CONSTR_PRTL” attribute, which represents “constrained vacant land” area
    d. Dissolve “taxlot_cnstrnd_vacant_union” based on “TLID” attribute
        i. During dissolve, calculate sum of “AREA_CONSTR” and “AREA_CONSTR_PRTL” attributes.
        ii. Resulting fc is named “taxlot_cnstrnd_vcnt_union_dissolv”
    e. Transfer constrained land information to the “taxlot_model” fc
        i. Add field to “taxlot_model” fc named “CONSTR_AREA” – type Double.
        ii. Add field to “taxlot_model” fc named “CONSTR_VAC_AREA” – type Double.
        iii. Join “taxlot_constrained_union_Dissolv” fc to “taxlot_model” fc based on “TLID” attribute
        iv. Calculate “CONSTR_AREA” = “AREA_CONSTR”
            1. Select null values and set to 0
        v. Calculate “CONSTR_VAC_AREA” = “AREA_CONSTR_PRTL”
            1. Select null values and set to 0
18. Estimate net developable acres
    a. Add field to “taxlot_model”, type double, named “NET_DEV_ACRES”
    b. Select those parcels where only the vacant portion will be developed. Select features from “taxlot_model” where “DEV_MOD” = “YES_PARTIAL”
    c. Field calculate “NET_DEV_ACRES” = (“AREA”* “PRCNT_VACANT”- “CONSTR_VAC_AREA”) /43560
    d. Switch the selection
    e. Field calculate “NET_DEV_ACRES” = ([AREA]- [“CONSTR_AREA”])/43560
19. Identify Model Junction where development drains
    a. Add field to “taxlot_model”, type long, named “MANHOLE”
    b. Use “Tax_parcel_redevelopment_5” as a start – join this fc based on Tlid
20. Flow assumptions
    a. MFR is 5 units
21. Estimate ex and future flow

a. Add fields to “taxlot model”
    i. LU_UNIT_Q, type long
    ii. LU_UNIT_Q_TYPE, type text
    iii. EX_Q, type double
    iv. ZONE_UNIT_Q, type long
    v. ZONE_UNIT_Q_TYPE, type text
    vi. FUT_Q, type double
    vii. “AREA_RED”, type double
b. Create lookup tables
c. Join tables
d. Estimate flow by following logic
    i. Existing
        1. If gpd, then same
        2. if gpad, then unit q by area
    ii. Future
        1. Select features with “NET_DEV_ACRES” > 1
        2. Field calc “AREA_RED” = 0.8
        3. Switch selection
        4. Field calc “AREA_RED” = 1.0
        5. if gpd, then unit q x (“NET_DEV_ACRES” x “AREA_RED” x 43560) / “ZONE_MINLOTSF”
        6. if gpad, then unit q x (“NET_DEV_ACRES” x “AREA_RED”)
e. Identify areas where additional I/I could be expected (i.e. currently unsewered areas)
    i. Add field named “II_GPD”, type double
    ii. Select “SEPTIC” = “SEPTIC” and “VACANT_ID”=”VACANT” and “LANDUSE_COMPILE” = “RUR” and “LANDUSE_COMPILE” = “FOR” and “LANDUSE_COMPILE” = “AGR”
    iii. Field calc “II_GPD” = 1000 x “NET_DEV_ACRES”
        1. Assume 1,000 acre/day I/I
    iv. Switch selection, and calculate “II_GPD”= 0

22. Estimate additional flow
    a. Add field named “ADD_FLOW_GPD”, type double
        i. Select “SEPTIC” = “SEPTIC” and "DVLPMNT_MOD" = 'YES_PARTIAL'
        ii. Calc “ADD_FLOW_GPD” = “FUT_Q”
        iii. Select all features with no value for “ADD_FLOW_GPD”
        iv. Calc “ADD_FLOW_GPD” --

```
dim flow
if ([FUT_Q] + [II_GPD])  < [EX_FLOW] then
flow = 0
elseif ([FUT_Q]  - [EX_FLOW]) < 0 then
flow = 0
else
flow = [FUT_Q]  - [EX_FLOW]
end if
```

From:	Jamin Moore
To:	Christina Robertson-Gardiner
Subject:	Comments on 19701 S Leland rd land use change
Date:	Monday, November 06, 2017 5:38:37 AM

1. I note that there was is no park to be included in the new addition to the subdivision. Currently there is no park or access to a park for the neighborhood. The neighborhood is predominantly families with small children and as such, this creates a dangerous situation where children cross S Leland road (which has no crosswalk) to go to Wesley Lynn park. There is also no sidewalk access to the park after crossing S Leland. Please explain how this does not violate **12.04.199 - Pedestrian and bicycle accessways and 12.04.245 - Street design—Pedestrian and bicycle safety.**

This situation also appears to be contrary to goals 2.4.2, 2.4.3 and 2.4.5 found in the Oregon City comprehensive plan.
In addition please explain how denying residents a safe pedestrian access to a city park is consistent with the American with Disabilities Act.

It is further noted that the City will be encumbering a 50 wide and 1000ft long plus section of Wesley Lynn park with a paved access easement to benefit several soon to be built houses and not the public interest. In effect the city is increasing the number of people who will use the park while shrinking its size. This also appears inconsistent with Oregon City Goals found in the comprehensive plan

2. In the proposed plat, lot 3 is an extreme size for a single family residence. As in exists in the ROW, it seems lot 3 is best suited to use as a neighborhood park. Has Oregon City followed policy 8.1.14 and encouraged or required the developer to create a park?

If not, lot 3 offers a unique opportunity to do so for several reasons. First open space in the ROW is likely preferred by the utility company. Second, an extreme lot size-unless completely fenced - is likely to become a children's play area regardless of ownership. An extremely large lot is also likely to be neglected leading to a nuisance situation. Third- as lot 3 can be split -the developer can still build the same number of houses in the tract and the city can have a park. It's a true win-win scenario that deserves a serious look.

Thank you for your time

Jamin Moore

EXHIBITS ENTERED INTO THE RECORD AT A HEARING

Community Development Department, 221 Molalla Avenue, Suite 200, P.O. Box 3040, Oregon City, OR 97045, (503) 722.3789
www.orcity.org

Hearing Date: Nov 27, 2017

File Number: ~~AN~~ AN 17-01, ZC 17-03, TP 17-07

Exhibit Number:	Description of Exhibit:	Submitted By:
1	Letter from Mike Robinson	Applicant

Exhibit 1

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November 27, 2017

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VIA EMAIL

Ms. Denyse McGriff, Chair
City of Oregon City Planning Commission
221 Molalla Ave, Suite 200
Oregon City, OR 97045

Re: City of Oregon File No. AN 17-01, TP 17-07 and ZC 17-03 (the "Applications")

Dear Chair McGriff and Members of the Oregon City Planning Commission:

This office represents PDX Development, Inc., the Applicant. This letter identifies certain issues that may arise in the public hearing and the Applicant's response to those issues.

1. **School capacity is not an issue unless the school district raises the issue.**

ORS 195.110(13)(a)-(c) prohibits school capacity as a basis for denial of a residential development application unless the issue is raised by the school district (**Exhibit 1**). The school district has not raised school capacity as an issue in the Applications.

2. **The Applications satisfy Oregon City Municipal Code ("OCMC") 17.68.020.A-.D.**

OCMC 17.68.020.A-.D contain the approval criteria for a zoning map amendment. The Applications requests approval of a change from the FU-10 zone to the R-6 zone. The Applications contains substantial evidence demonstrating that each approval criterion is satisfied.

The Planning Commission can find that the criteria for the zoning map amendment are satisfied.

3. **The street capacity is adequate based on the Applicant's Transportation Impact Study and the City's Traffic Engineer's analysis.**

OCMC 16.08.025.B. requires that the applicant demonstrate that affected street intersections will have adequate capacity in order for the zoning map amendment to be approved. The Applicant submitted a Traffic Impact Study (the "TIS") by Mr. Todd Mobley dated August 3, 2017. The TIS concluded that all affected intersections will have adequate capacity following the zoning map amendment. The City's Traffic Engineer, Mr. John Replinger, has reviewed the TIS and agreed with the Applicant's TIS, concluding that affected street intersections will have adequate capacity.

4. OCMC 16.12.050, "Calculations of Lot Area", is a clear and objective standard that allows up to 20% of the lots to be less than the minimum lot size if the average lot size meets the zone's minimum lot size.

OCMC 16.12.050 provides for lot size reductions subject to clear and objective standards. The Applications proposes 28 lots. Some of the lots are less than the minimum lot size in the R-6 zone. However, the average lot size of 6487 square feet meets the requirement of this standard.

The Planning Commission can find that OCMC 16.12.050 is a clear and objective standard applicable to all subdivisions. Because the Applications satisfy the requirements of OCMC 16.12.050, the Applications' proposed lot averaging meets this approval criterion.

5. The Applications satisfy Oregon City Comprehensive Plan (the "Plan") Goal 2.4, "Neighborhood Livability".

Plan Goal 2.4, "Neighborhood Livability", provides as follows":

> **"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."**

The other relevant Plan Policies are as follows:

- Plan Policy 2.4.3 provides: **"Promote connectivity between neighborhoods and neighborhood commercial centers through a variety of transportation modes."** The proposed subdivision provides connectivity with adjacent neighborhoods.

- Plan Goal 10.1, "Diverse Housing Opportunities" provides: **"Provide for the planning, development and preservation of a variety of housing types and lot sizes."** The proposed subdivision provides a variety of lot sizes.

- Plan Policy 10.1.3 provides: **"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."** Plan Policy 10.1.3 is not applicable to quasi-judicial applications because it is a direction for the establishment of zoning districts. Alternatively, if it does apply, the Planning Commission can find that it is satisfied because the Applications implements the Plan Designation.

- Plan Policy 10.4 provides: **"Aim to reduce 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 Applications support the affordability of housing and diversity of income groups by providing a variety of lot sizes.

6. The Planning Commission can find that Plan Goal 11.1 is not applicable or, if it is, that it is satisfied.

Plan Goal 11.1 provides:

> **"Serve the health, safety, education, welfare and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities."**

The Planning Commission can find that this Plan Goal does not apply to a development application. Instead, it is a more general Plan Goal for the City to follow in adoption of implementing regulations. ORS 197.175(2)(b) provides that cities with acknowledged comprehensive plans apply those Plans to land use decisions. Nevertheless, not every Plan Goal and Policy is an approval criterion for a land use decision.

Alternatively, if Plan Goal 11.1 is applicable to the Applications, the Planning Commission can find that substantial evidence in the whole record shows that adequate public facilities are provided for in the subdivision.

7. Conclusion.

The Applications contain substantial evidence demonstrating that each approval criterion is satisfied. For this reason, the Applicant respectfully requests that the Planning Commission follow the Planning Department's recommendation and recommend to the Oregon City Commission that it approve the Applications.

Very truly yours,

Michael C. Robinson

MCR:rsr
Enclosure

cc: Ms. Laura Terway (via email) (w/encl.)
Ms. Christina Robertson-Gardiner (via email) (w/encl.)
Mr. Bruce Ament (via email) (w/encl.)
Mr. Monty Hurley (via email) (w/encl.)
Mr. Chris Goodell (via email) (w/encl.)

13) A city or county may deny an application for residential development based on a lack of school capacity if:

(a) The issue is raised by the school district;

(b) The lack of school capacity is based on a school facility plan formally adopted under this section; and

(c) The city or county has considered options to address school capacity.