City of Oregon City

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

Meeting Agenda

Planning Commission

Monday, April 22, 2013 | **7:00 PM** | **Commission Chambers**

1. **Call To Order**
2. **Public Comments**
3. **Public Hearing**

CU 12-01, SP 12-19, VR 12-05: Conditional Use, Site Plan and Design Review, and Variance Application for new Modular 8-Classroom Building At Gardiner Middle School.

Staff: Planning Commission and Community Development Director Tony Konkol

Attachments:

- Commission Report
- Staff Report and Recommendations
- Vicinity Map and Aerial
- Mailed Public Notice
- Clackamas Review OC News Affidavit of Publication
- Affidavit of Posting Signed
- Gardiner LU Transmittal
- Narrative and Code Responses
- Transparency Variance Response
- General Site Plan
- Engineering Plan Set
- Floor Plans and Elevations
- Landscaping Plan
- TIS and Parking Study
- PA 12-20 Pre-Application Conference Summary
- NA Meeting Summary
- OCSD Exterior product sample Sheet
- Exterior Lighting package
- Storm Narrative and OCMC 13.12 Responses
- Canopy Plans
- Replinger
- SHPO_Dennis Griffin
- Gardiner Gazette Oct 2011
- Water and sewer demand for Gardiner
- Curb Ramp Corner

19370 Pease Road: Request for a Zone Change and approval of an 11-lot subdivision and geologic hazards review. Planning Files ZC 12-01, TP12-04 and US 12-01.

Staff: Community Development Director Tony Konkol

Attachments:
- Commission Report
- Revised Staff Report
- Exhibit 1: Vicinity Map
- Exhibit 2: Applicant's Submittal
- Exhibit 3: Comments from John Replinger of Replinger and Associates
- Exhibit 4: Engineering Policy EP 11-01
- Exhibit 5: Planning File NR 12-04 Staff Report for Natural Resource Exemption

L 13-01: Transportation System Plan (TSP)
L 13-02: Associated Amendments to the Oregon City Municipal Code

Staff: Community Development Director Tony Konkol

Attachments:
- Commission Report
- L 13-01 and 13-02 Staff Report
- Proposed Transportation System Plan- Volume 1
- Items to Amend in the TSP
- Proposed Code Amendments 4.15.13
- L 13001 and 13002 RTFP and TPR compliance findings

4. Communications

5. Adjournment

City of Oregon City

625 Center Street
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503-657-0891

Staff Report

File Number: PC 13-033

Agenda Date: 4/22/2013

Status: Agenda Ready

To: Planning Commission

Agenda #:

From: Planning Commission and Community Development

File Type: Land Use Item

SUBJECT:
CU 12-01, SP 12-19, VR 12-05: Conditional Use, Site Plan and Design Review, and Variance Application for new Modular 8-Classroom Building At Gardiner Middle School.

RECOMMENDED ACTION (Motion):
Approval with Conditions, with the exception of the request for a variance from OCMC 17.52.040.B (number of bicycle parking spaces).

BACKGROUND:
See Staff Report.

OREGON CITY

Community Development – Planning

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

FILE NO.:	CU 12-01: Conditional Use SP 12-19: Site Plan and Design Review VR 12-05: Variance
HEARING DATE / LOCATION:	April 22, 2013 Oregon City City Hall – Chambers 625 Center Street Oregon City, Oregon 97045
APPLICANT/ PROPERTY OWNER:	Oregon City Public Schools Ted Thonstad 1417 12th Street Oregon City, Oregon 97045
REPRESENTATIVE:	Rick Givens 204 SE 10th Avenue Canby, Oregon 97013
REQUEST:	Conditional Use, Site Plan and Design Review and Variance Application for new Modular 8-Classroom Building At Gardiner Middle School.
LOCATION:	180 Ethel Street, Oregon City, OR 97045 Clackamas County Map: 3-2E-06AD-07800
REVIEWER:	Pete Walter, Associate Planner, AICP, (503) 496-1553 Gordon Monro, Development Services Engineer
RECOMMENDATION:	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.

I. BACKGROUND:

This application requests conditional use permit approval to allow the placement of a modular building containing eight classrooms and restroom facilities 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 presently has an enrollment of 586 seventh and eighth graders, but is being expanded in order to also serve sixth grade students. At the present time, sixth grade students attend a school located at the former Mt. Pleasant Elementary School campus on Linn Avenue. The projected number of sixth grade students that will be enrolled at Gardiner Middle School in the fall of 2013 is 234. These students will be placed in the eight classrooms in the new modular building and eight teachers will be added to the staff at the Gardiner campus.

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 west wing in 1989, and subsequently the east wing was built along with other renovations thereafter.

The first issue of the student newspaper, the "*Gardiner Gazette*" of October 2011 includes an excellent history of the school (Exhibit 10, See Page 3) by Bryan Frazier.

The building received a remodel in 2004 and 2005. The most recent new structure is the covered play area (2005, File SP 05-02), which was reviewed as a minor site plan. Prior to that the eastern classroom wing, shown in the photo one the next page, was constructed following the afore-mentioned fire (1990, SP 90-23).

Conditional Use Process

The original building was constructed prior to the requirement for Conditional Use approval for schools in residential zones. 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. Therefore, the proposed expansion application has been reviewed as a modification to a pre-existing conditional use.

Existing Conditions

The proposed development site is to the rear of Gardiner Middle School in the corner between the east classroom wing and the gymnasium. The site has a slope to the southeast at about 4%. An existing paved loop road approximately 20' wide circles the eastern end of the building. There is also a fifteen-foot wide waterline easement on the site which crosses diagonally across the site (See Exhibit 7d).



View of site from South looking to the North. Existing loop road is marked by yellow arrow.



View of Site from Northeast looking Southwest

Project Information

Please refer to the submitted plans in Exhibit 7d and e. The proposed single-story classroom building measures approximately 68' wide by 128' long, and has a total height of approximately 16 feet at the ridge of the roof. There will be eight classrooms, 4 on each side of a central corridor, with separate boys and girls bathrooms bisecting the corridor in the middle of the structure.

The building would be placed approximately 20' from the existing classroom wing and 30' from the entrance into the existing building.

A new sidewalk system is proposed connecting the buildings and the relocated driveway, with a breezeway connection (Exhibit 8). New landscaped areas are proposed on three sides of the new building (Exhibit 7f).

The existing driveway will be relocated approximately 15-30 east of its current location.

The applicant proposes to remove the line of existing trees on the site to accommodate the placement of the modular classrooms, and mitigate for their removal pursuant to Oregon City code section 17.41.

Public Notice and Comment
In accordance with OCMC *17.50.090 - Public notices.* Public notice of the April 22 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 March 20, 2013 (Exhibit 4). The site was posted with a "Notice of Proposed Land Use Action" sign on March 14, 2013 (Affidavit in Exhibit 5).

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;
- 17.41 - Tree Protection Standards;
- 17.50 – Administration and Procedures;
- 17.52 – Off Street Parking and Loading;
- 17.56 – Conditional Uses;
- 17.60 – Variances;
- 17.62 - Site Plan and Design Review

Chapter 17.56 Conditional Uses

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 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.

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 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 Impact Assessment 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 TIS and recommends certain improvements that can be made to the site to ensure the continued adequate function of the transportation system through the attached conditions of approval. 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 Impact Assessment 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, although some improvements have been recommended (See section 12.08). Additional bicycle parking will be provided to accommodate students.

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 245 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. 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. Due to the existing development of the site it is not practicable to meet this requirement. 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 structure and use and the applicant has submitted the Conditional Use application in accordance with this requirement.

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 53 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.*

Finding: Complies as Proposed. The total site contains 795,217 sq. ft. of existing buildings plus the proposed building combine to cover 108,251 sq. ft. Parking and vehicular travel lanes total 95,848 sq. ft. The tennis courts, which presently cover 24,018 sq. ft. of the site will be removed, thereby increasing the landscaped area. Thus, following construction of the new building and with removal of the tennis courts, the total landscaped area will exceed 74 percent of the site.

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.
Finding: Conditionally Complies. The landscaping plan (Exhibit 7f) was prepared by David Anderson, registered Landscape Architect, and includes a mix of vertical and horizontal elements. Included on the preliminary landscape plan are groundcover plants with specifications for plant spacing that will meet the coverage requirements of this section.

The applicant's submitted landscaping plan includes 23 trees, of varying types and sizes, but does not specify which of the trees are proposed as landscaping trees and which trees are proposed as mitigation trees pursuant to Chapter 17.41. Landscaping trees are counted separately from mitigation trees. Additional tree plantings may be required to meet the intent of this section for adequate provision of trees and shrubs. Prior to issuance of a final certificate of occupancy of the building the applicant shall provide a revised final

landscaping plan which distinguishes mitigation trees from regular landscaping trees. **Applicant can assure this standard is met through Condition of Approval 7.**

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: Not applicable. The subject property is not located within a Natural Resource Overlay District, nor is it within the Downtown Design District.

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: Conditionally Complies. The existing ingress (Hood Street) and egress (Ethel Street) for the site are not proposed to change with this proposal. The existing parking lot is pre-existing provides adequate spaces to provide for the added classroom space. No changes are proposed to the existing parking lot.

In accordance with standard (f), there are two existing public pedestrian accessways from the cul-de-sacs Rilance Lane and Haley Court on the north side of the property, and a third public pedestrian accessway provides access from Laurel Lane from the east. A long-used dirt trail approximately 420 feet long exists

between the PGE maintenance yard fence and the line of evergreen trees on tax lot 3-2E-06DA-00200 (First Presbyterian Church) which connects between Warner Milne Road and the school property. This trail clearly gets frequent use based on site inspection.

Standards (c), (d), (e) (g) and (h) above are not applicable this development.

To improve the onsite circulation associated with the expansion, the applicant's engineer recommends the following specific actions to improve on-site parking utilization and pick-up and drop-off activity as follows:

> First, it is recommended that school staff be encouraged 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.
>
> Second, the loop drive provides ideal frontage for pick-ups and drop-offs, however vehicles are prohibited from using this frontage to ensure that the three short buses can be accommodated although the buses require only a small portion of this frontage. The school could open the loop drive to pickups and drop-offs so long as space for the buses was clearly off limits to these vehicles via pavement markings and signs. This would provide additional space for the increased pick-up and drop-off activity and reduce the likelihood that queues would extend beyond school property.

The city's transportation consultant, Replinger and Associates, concurs with the above recommendations and recommends that they be made Conditions of Approval.

The applicant can assure this standard is met through compliance with Conditions of Approval 4 and 5.

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 as Proposed. The applicant has provided floor plans and elevations for the modular classrooms and breezeway and exterior building materials and colors which will be complimentary to the surrounding area (Exhibit 7e and Exhibit 8). The site is not within a historic district or design district. The proposed building materials consist of a concrete foundation, white vinyl window frames, cement (hardiplank) siding, hardi stucco panels above and below the windows and under the gable ends of the roof,

and architectural roofing singles. These materials will provide a residential character despite the educational uses of the facilities occurring inside. Future alterations shall be subject to review by the Planning Division. Additional findings for compliance with the materials section of this code are provided below.

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: Complies with Conditions. The improvements are located in areas where the site is fairly level. No significant grading is anticipated. Review for compliance with grading design standards will take place prior to building permits being issued. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. **The Applicant can meet this standard through Conditions of Approval 1, 2, 15 and 16.**

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 sites are 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: Complies with Conditions - The applicant submitted a storm water narrative as part of the application. There is a 15 inch storm pipe that crosses the property and discharges to a swale off-site. Roof drainage from at least a portion of the existing building is discharged to the existing system, and that will not be changed. The storm water from the tennis courts currently sheet flows across the property, which is relatively flat and covered with lawn.

The applicant has proposed to remove the tennis courts (24,250 square feet) and add a building and impervious surfaces (10,843 square feet). The total impervious area will be decreased by 13,407 square feet. Therefore, additional treatment and detention of storm flow is not required. It is proposed that the storm water from the roof of the new building will be directed to the landscape area around the building, and that the storm water from the rest of the impervious area sheet flow across the lawn. This mimics the existing method of addressing storm water at the tennis court which will be removed, but with substantially less impervious area to account for. A portion of the sheet flow may end up in the swale, but would be no more than is already discharging to that location and likely less.

There will be no new public storm water facilities, and the impact to existing storm water facilities will likely be reduced from the existing conditions.

While the preliminary storm water narrative indicates that the proposed method for addressing storm water is expected to work and satisfy the City's storm water standards, a final report will be required that addresses the amount of storm water flow from the new facilities and the infiltration rate of the soil. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. **The Applicant can meet this standard through Conditions of Approval 1, 2 and 14.**

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 with Condition. No public sidewalks and curbs are affected with this proposal, since the loop drive is not located on public right-of-way. However, the city's transportation consultant has reviewed the impacts of this expansion on the transportation system and recommends that the applicant provide a section of sidewalk and the installation of an ADA compliant curb ramp in the northeast quadrant of the intersection where Hood Street turns and where access is provided to the south parking lot (See photo in Exhibit 13). **The Applicant can meet this standard through Conditions of Approval 1, 2, and 6.**

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 existing site provides for walkways from parking areas to the school entrances, although the city's transportation consultant has reviewed the impacts of this expansion on the transportation system and recommends that the applicant provide a section of sidewalk and the installation of an ADA compliant curb ramp in the northeast quadrant of the intersection where Hood Street turns and where access is provided to the south parking lot (See photo in Exhibit 13). The proposed modular building will be connected to the school with walkways and ramps as shown on the site plans submitted with this application. All walkways are hard-surfaced.

Prior to issuance of a certificate of occupancy, the applicant shall provide a section of sidewalk and the installation of an ADA compliant curb ramp in the northeast quadrant of the intersection where Hood Street

turns and where access is provided to the south parking lot. **The applicant can assure this standard is met through compliance with Condition of Approval 6.**

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: Please refer to the analysis in Chapter 17.41 of this report.

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 with Condition. The applicant indicated that proposed uses are educational in nature and will not have any significant impacts upon the environment. The applicant shall assure 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. **The applicant can meet this standard by complying with condition of approval 3.**

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 with Conditions. Sewer and water facilities are all available to serve the subject property and are adequate to serve the proposed uses.

There is a 12 inch water line that enters the site from Hood Street and circles the existing building connecting to an 8 –inch pipe on Laurel Lane and a 6 inch pipe on Rilance Lane. The proposed building will be constructed outside of the water line easement, so the water line and easement do not need to be

modified. There is an 8 inch pipe at the northwest corner of the project. The additional water demand has been estimated to be 6,000 gallons per day (12.5 gpm). The water service should be sufficiently sized, but this should be confirmed through the building permit process.

There is an 8 inch sanitary sewer line that serves the school located in Ethel Street. The additional sanitary sewer flow has been estimated to be 4,800 gallons per day (10 gpm). The sanitary sewer service should be sufficiently sized, but this should be confirmed through the building permit process.

The applicant can meet this standard by complying with conditions of approval 1, 2 and 17.

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 with Conditions. The applicant submitted a Traffic Impact Study (TIS) dated December 28, 2012 with the project narrative (Exhibit 7g). The TIS was prepared under the direction of Todd E. Mobley, PE of Lancaster Engineering. The proposed school expansion would increase its capacity from approximately 550 to approximately 800 students. The City's Transportation Consultant, John Replinger, P.E., reviewed the report (See comments in Exhibit 9) and found that the TIS provides an adequate basis upon which the proposal can be evaluated for transportation impacts.

The TIS includes analysis of the study area and existing and proposed traffic volume, trip generation, trip distribution, traffic growth, turn lanes, crash information, pedestrian and bicycle facilities, site plan and access, intersection spacing, sight distance, consistency with the city's adopted Transportation System Plan, site circulation and parking.

Upon review of the applicant's TIS, Mr. Replinger concurs with the applicant's traffic engineer that the school expansion does not adversely impact operations or safety of the study area intersections, that on-site parking will be adequate, and recommends conditioning the application to use the underutilized south parking lot and allow pick-up and drop-off activity in part of the loop driveway in front of the school.

Mr. Replinger also recommends that the applicant provide a section of sidewalk and the installation of an ADA compliant curb ramp in the northeast quadrant of the intersection where Hood Street turns and where

access is provided to the south parking lot (See Photo Exhibit 13). Staff concurs with this recommendation. **The applicant can assure this standard is met through compliance with Condition of Approval 1, 2 and 6.**

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: Not Applicable. The applicant has not proposed and is not required to provide changes to the utility system.

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 with Condition. ADA compliance for access to the building is required as part of building permit review by the building division. Additionally, The City's Transportation Consultant recommends that the applicant provide a section of sidewalk and the installation of an ADA compliant curb ramp in the northeast quadrant of the intersection where Hood Street turns and where access is provided to the south parking lot (See Exhibit 13). Staff concurs with this recommendation. **The applicant can assure this standard is met through compliance with Condition of Approval 6.**

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 ground-mounted heat pumps that will be located to the rear of the proposed building. Landscaping will screen the heat pumps from view. Prior to occupancy the Planning Division will inspect the screening and landscaping to assure that all mechanical equipment is adequately screened. **The applicant can assure this standard is met through compliance with Condition of Approval 8.**

17.62.050.A.21 *Building Materials.*
Finding: Complies as Proposed. Exterior building materials consist of Hardie Plank Lap siding, with Hardie Stucco Panels above and below windows to break up the façade. Narrow horizontal lap siding and stucco are both 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.

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 with Condition. The applicant recognizes the authority of the city to impose reasonable conditions of approval pursuant to this section. Within 90 days of the Planning Commission approval, the applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement; this includes paying the document recording fee. **The applicant can meet this standard by complying with condition of approval 2.**

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. This is a code oversight that will need to be corrected in a future code amendment process. 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 seven wall-mounted lights on the building walls, four sconce-type LED wall-mounted lights at the building entrances, under the canopy of the breezeway, and one 15' pole-mounted LED light in the landscaped area to the east of the building.

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 applicant's luminaire schedule indicates that there will be no illumination on other properties that exceeds 0.5 footcandles.

2. Any light source or lamp that emits more than nine hundred lumens (thirteen watt compact fluorescent or sixty watt incandescent) shall be concealed or shielded with a full cut-off style fixture in order to minimize the potential for glare and unnecessary diffusion on adjacent property. All fixtures shall utilize one of the following bulb types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high pressure sodium with a color rendering index above seventy.

Finding: Complies with Condition. The wall mounted "wall pack" lights listed as WP2F84 are indicated as emitting 6400 lumens on the submitted lighting plans, but do not indicate concealment or full cut-off style fixtures. The applicant shall modify the design to include these features or revise the design of the lighting fixtures in compliance with this applicable section of OCMC 17.62.065.D. prior to issuance of a certificate of

occupancy for the building. **The applicant can assure this standard is met through Condition of Approval 9.**

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: Complies as Proposed. The height pole for the single pole-mounted light proposed is 15'.

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. The applicant did not provide any information to determine compliance with the lighting levels. Prior to occupancy the applicant shall provide a table in accordance with this standard. **The applicant can assure this standard is met through Condition of Approval 10.**

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 LED lighting in the wall sconce designs at the building entrances and the single pole mounted light meets the intent of this standard. The proposed project does not include a parking lot.

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 proposal includes a canopy over the walkway between the modular and main building that includes LED canopy lighting. The pole mounted LED light in the landscaping area to the east provides adequate lighting of the pedestrian circulation system east of the modular building.

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: Complies as proposed. The LED canopy lighting meets the intent of this standard.

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 light standards and fixtures are consistent with the style and character of the modular building. The LED canopy lighting meets the intent of this standard.

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: Not applicable. 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. 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 of building orientation and 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. The existing placement of buildings, parking, and access roads preclude compliance with this standard. Please see discussion of requested variances 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. 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 this 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 as Proposed. The building façade is not visible from the street and cannot be oriented toward it, so the first part of this standard is in applicable. The primary building entrances are clearly defined and framed. A breezeway canopy is proposed as a sheltering element between the modular building and the existing building. The east end of the building has an entrance as well, but no sheltering element has been proposed in that location. The applicant shall propose a sheltering element on the east end of the building, 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. **The applicant can assure this standard is met through Condition of Approval 11.**

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. 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 building façade is divided into sections of less than 30 feet length by changes in the siding material used. Lap siding is interrupted by stucco panels placed at window locations. These materials have different texture and will employ a change in color to further provide visual interest. With the inclusion of the windows, the proposal includes at least two of the three features required for minimum wall articulation.

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: The applicant requests a variance to this standard. The proposed building is 125' 7" in length. Given the modular construction, it is not practicable to incorporate wall plane projections or recesses into the design. Refer to the variance section, below.

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.

Finding: Complies as proposed. The proposed building elevation includes changes in color, texture, and materials, as shown on the building elevation.

5. Facades shall have an expression of architectural or structural bays through a change in plane no less than twelve inches in width, such as an offset, reveal or projecting rib.

Finding: The applicant requests a variance to this standard. The modular design precludes plane changes, but the siding materials and paint selections accomplish a similar purpose. Please refer to variance discussion below.

6. Facades shall have at least one of elements subsections H.4. or H.5. of this section repeat horizontally. All elements shall repeat at intervals of no more than thirty feet, either horizontally or vertically.

Finding: Complies as proposed. The color, texture, and material module changes of H.4. repeat at intervals of less than 30 feet.

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 is 125' 7" in length and provides 44' of window glazing (35%). The side elevations of the building are approximately 68' in length and provide only 5' of glazing in the doors, below the 30% required. The applicant states that it is not practicable in a modular building to increase the percentage of window glazing. 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 89 vehicles. The existing school contains 15 general education classrooms including the two science classrooms, and 5 specific subject classrooms (band, choir, sewing, etc.). The new modular building provides an additional 8 classrooms, bringing the total number of classrooms to 28. The minimum number of parking spaces that would be required by this section would be 28. The existing parking lot predates the adoption of the maximum parking standards and, therefore, it is not necessary to address compliance with the maximum standard in this application. As a practical matter, the Traffic Impact Analysis submitted with this application demonstrates that the amount of parking provided at the school is appropriate for the existing and proposed use of the site.

17.52.020.*B*. *Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced if one or more of the following is met:*
5. On-Street Parking. On-street parking for commercial, multifamily, industrial and institutional, uses shall conform to the following standards:
1. Dimensions. The following constitutes one on-street parking space:
a. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;
b. [Forty-five/sixty] degree diagonal, each with [twelve] feet of curb;
c. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.
2. Location. Parking may be counted toward the minimum standards in the Parking Requirement Table below when it is on the block abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it must not violate any law or street standard.

3. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.

Finding: Not applicable. The 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. 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.*
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: Complies with Condition. The additional parking spaces for the eight new classrooms can be accommodated in the existing parking lot which has 89 spaces, but does not currently include any van pool or carpool marked spaces. With the expanded use of the facility and new parking lot circulation patterns recommended by the applicant's traffic engineer, provisions for carpool and vanpool are needed. The applicant shall mark at least 4 spaces as reserved for van and carpool use located closer to the main employee, student or commuter entrances than all other employee, student or commuter parking spaces with the exception of handicapped parking spaces. This condition shall be met prior to issuance of a certificate of occupancy for the building. **The applicant can assure this standard is met through Condition of Approval 12.**

17.52.040 – BICYCLE PARKING

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: The applicant has requested a variance to this standard. The eight new classrooms require 32 bicycle additional parking spaces. The existing school, which predates the bicycle parking standard, currently has covered parking with two 10-foot bike racks containing space to accommodate approximately 18 bikes. The existing bicycle parking is located near the front entrance to the building. The School District believes the required number of spaces is excessive and requests that the Planning Commission allow a variance to reduce this number to 16 spaces to more accurately reflect actual need.

Staff does not recommend that the Planning Commission approve this variance request for the following reasons.

In the submitted Transportation Impact Study (Exhibit 7g), the applicant's traffic engineer indicates that the existing straight racks are often difficult to utilize. He also notes that since observations were made in December, bike parking demand is likely to be higher in warmer, drier months.

The City's Transportation Consultant Replinger and Associates reviewed the applicant's TIS (See TIS in Exhibit 7g) and Mr. Replinger's comments in Exhibit 9) regarding bicycle parking, and states the following:

> "The TIS recommends increasing the number of bicycle parking spaces and the site plan notes that additional bicycle parking will be provided. In the TIS, the engineer indicates racks have capacity for 12 bicycles; the site plan narrative claims space for 18. The engineer indicated some bicycles were parked using posts and railing rather than the existing bicycle racks. He noted that this occurred during winter months and suggested increased bicycle use may occur in warmer, drier months. The site plan narrative indicates that the school district believes that providing 32 additional bicycle parking spaces is excessive and proposes that it be reduced to 16 additional spaces. I find the engineer's observations of bicyclists using alternative locations and explanation of seasonal use to be evidence of a need for more bicycle parking. I think these argue against a reduction in the number of required bicycle parking spaces. Even with the required 32 bicycle parking spaces associated with eight new classrooms, the bicycle parking provided on the site would be far less than would be required for a new school under the code. I am not persuaded by the proposal to reduce required bicycle parking."

Staff recommends that the applicant provide 32 new bicycle parking spaces in accordance with this standard. **The applicant can meet this standard by complying with condition of approval 13.**

Location of Bicycle Parking
17.52.040.C.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 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. This standard is met.

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. The applicant indicates that the area for bicycle parking will be clearly marked.

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. The applicant's site plans indicate that the bicycle parking area will provide the required separation and will not obstruct or conflict with pedestrian accessibility.

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 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 with Condition. The applicant did not indicate the proposed design of the bicycle racks. The applicant shall indicate the design of the bicycle racks on all final construction plans and shall install bicycle parking in compliance with OCMC 17.52.040. **The applicant can meet this standard by complying with condition of approval 13.**

17.52.060 *- Parking lot landscaping.*
Finding: Not Applicable. The existing parking lot is landscaped. The applicant is not making any changes to the parking lot that requires compliance with this standard.

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: Complies with Conditions. The street system in the area of the subject property is a well-established grid system. No new streets are proposed or required. Certain on-site pedestrian circulation improvements in the form of curb ramps and pathways have been separately reviewed under Chapter 17.62. There are no dead-end streets in this area that would need to be extended. No additional findings for compliance with Chapter 12.04 are necessary. **The applicant can assure this standard is met through compliance with Condition of Approval 1, 2 and 6.**

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 street system in the area of the subject property is a well-established grid system. The existing street configuration does not provide any street frontage with adequate planting area. No new street trees are proposed or required. 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 new building is located to the rear of the existing school and is generally within the setback envelope of the current facility. The rear setback distance would be somewhat reduced, at approximate 245' to the east property line.

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 footprint of 94,031 square feet. Additionally, there are a 5,000 sq. ft. covered play area and an outbuilding measuring approximately 930 sq. ft. in area. With the addition of the new 8,290 sq. ft. modular building, the total lot coverage would come to 108,251 sq. ft. This would equal 13.61% coverage for the 795,217 sq. ft. site, which is well under the 40 percent maximum allowable coverage.

Chapter 17.50 Administration and Procedures
Finding: Complies.

Consistent with the requirements of this section, this application for a Conditional Use Permit and Site Plan and Design Review is processed through a Type III process. This process provides 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 was held prior to the submission of this application (PA 12-20). As required by Section 17.50.055, the applicant contacted the Neighborhood Association and notes are attached that reflect the discussion with the representative of that group (Exhibit 7i). 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 has provided appropriate notice pursuant to Section 17.50.090 and the applicant has posted signs on the property consistent with Section 17.50.100.

Notice of the public hearings for the proposal was mailed to property owners within 300 feet of the subject site on March 12, 2013, and to the Rivercrest Neighborhood Association. The notice was advertised in the Clackamas Review on March 20, 2013 for one week, and the site was posted with land use notification signs on March 14, 2013. The notice requested comments and indicated that interested parties could testify at the public hearing or submit written comments prior to or at the hearing

(See Exhibits 3-5 for public notices).

No additional public comments were received prior to the release of this staff report.

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: 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.

1. Variance from OCMC 17.62.055.C. - Variance of maximum allowed 5' setback from the street for an institutional building.

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, 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.

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

2. Variance from OCMC 17.62.055.G. - Variance of requirement for variation in 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.

The applicant states that the provisions of Section 17.62.055.G. require a variation in building massing that is not practicable with modular construction.

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

A. The requirement for variation in massing affects only the appearance of the building. Granting a variance from this standard will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities.
B. Modular buildings are limited in their ability to provide variation in massing due to the need to be constructed in units that may be moved from the factory to the site on surface streets. This requires that the design be a single story and that roofing heights not vary significantly. The School District has the need to provide for classroom facilities for sixth-graders at Gardiner Middle School and, given the current economic conditions, modular construction is the only means to meet this need within the District's budget. For these reasons, the requested variance to not require variation in massing is the minimum necessary.
C. The purpose of the requirement for varying massing is to ensure that institutional buildings are visually interesting and are appealing in appearance. The proposed design achieves this purpose by providing variation in siding materials and paint colors to break up the façade of the building. Placement of the building to the rear of the existing school, coupled with screening by the existing building and proposed landscaping, will ensure that the new building does not detract from the appearance of the school campus.
D. The proposed placement of the building, variation in siding materials and paint color, and landscape screening will serve to mitigate for any impacts associated with the variance.
E. Because of the limits imposed by modular building design constraints, no other alternatives have been identified to meet the District's needs while meeting this standard.
F. There are no comprehensive plan policies that require variation in massing. The intent of the ordinance, to provide for visually appealing institutional buildings, will be met by other means, including variation in siding materials and paint color, and landscape screening.

Finding: Complies as Proposed. Staff concurs with the applicant's response and finds that the criteria for granting a variance to OCMC 17.62.055.G. are met.

3. Variance from OCMC 16.62.055.H.2. & H.5. – Variance of Minimum Wall Articulation

The provisions of Section 17.62.055H(2) and (5), respectively require:

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; and

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

A. As with the requirement for variation in massing, these standards are intended to provide for visually appealing institutional building design. These standards affect only the appearance of the building. Granting a variance from them will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities.

B. Modular buildings are limited in their ability to provide variation in wall plane due to the need to be constructed in standard-sized units that may be moved from the factory to the site on surface streets. The School District has the need to provide for classroom facilities for sixth-graders at Gardiner Middle School and, given the current economic conditions, modular construction is the only means to meet this need within the District's budget. For these reasons, the requested variance to not require variation in wall plane is the minimum necessary.
C. The purpose of the requirement for varying the wall plane is to ensure that institutional buildings are visually interesting and are appealing in appearance. The proposed design achieves this purpose by providing variation in siding materials and paint colors to break up the façade of the building. Placement of the building to the rear of the existing school, coupled with screening by the existing building and proposed landscaping, will ensure that the new building does not detract from the appearance of the school campus.
D. The proposed placement of the building, variation in siding materials and paint color, and landscape screening will serve to mitigate any impacts associated with the variance.
E. Because of the limits imposed by modular building design constraints, no other alternatives have been identified to meet the District's needs while meeting this standard.
F. There are no comprehensive plan policies that require variation in wall plane. The intent of the ordinance, to provide for visually appealing institutional buildings, will be met by other means, including variation in siding materials and paint color, and landscape screening.

Finding: Complies as Proposed. Staff concurs with the applicant's response and finds that the criteria for granting a variance to OCMC 16.62.055.H.2. & H.5. are met.

4. Variance to OCMC 17.62.055.I. – Transparency

Please Note – the applicant's code responses were inadvertently left out of the original narrative, although the applicant clearly indicated that this variance is requested in the original application. An addendum with the code responses was subsequently submitted by the applicant, see Exhibit 7c.

The provisions of Section 17.62.055.I.(1) state:
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's Response to Variance Criteria (A-F):
The front elevation is 125' 7" in length and provides 44' of window glazing (35%). The side elevations of the building are approximately 68' in length and provide only 5' of glazing in the doors, below the 30% required. It is not practicable in a modular building to increase the percentage of window glazing.

A. These standards are intended to provide for visually appealing institutional building design. These standards affect only the appearance of the building. Granting a variance from them will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities.
B. Modular buildings are limited in their ability to provide variation in window glazing due to the need to be moved from the factory to the site on surface streets. Excessive window glazing would be

susceptible to breakage during transport. The School District has the need to provide for classroom facilities for sixth-graders at Gardiner Middle School and, given the current economic conditions, modular construction is the only means to meet this need within the District's budget. For these reasons, the requested variance to not require variation in wall plane is the minimum necessary.

C. The purpose of the requirement for higher than normal window glazing on front elevations is to ensure that institutional buildings are visually interesting and are appealing in appearance. The proposed design achieves this purpose by providing variation in siding materials and paint colors to break up the façade of the building. Placement of the building to the rear of the existing school, coupled with screening by the existing building and proposed landscaping, will ensure that the new building does not detract from the appearance of the school campus.
D. The proposed placement of the building, variation in siding materials and paint color, and landscape screening will serve to mitigate any impacts associated with the variance.
E. Because of the limits imposed by modular building design constraints, no other alternatives have been identified to meet the District's needs while meeting this standard.
F. There are no comprehensive plan policies that require transparency standards on institutional buildings. The intent of the ordinance, to provide for visually appealing institutional buildings, will be met by other means, including variation in siding materials and paint color, and landscape screening.

Finding: Complies as Proposed. Staff concurs with the applicant's response and finds that the criteria for granting a variance to OCMC 17.62.055.I.(1). are met.

5. Variance to OCMC 17.52.060.A. – Variance of Number of Bicycle Parking Spaces

The applicant indicates that the bicycle parking standards of section 17.52.060.A would require 4 bicycle spaces per classroom, or 32 spaces for the proposed 8 classrooms. At the present time, the existing bicycle parking is under-utilized. The two 10-foot bike racks could accommodate approximately 18 bicycles, but there are typically eight or fewer bikes parked there on school days. The reasons for this include the fact that to access the school grounds via bicycle requires travel on Linn Avenue, a busy street. Additionally, other concerns for student safety are leading more parents to send their children on busses or to personally drop them off at the school. The School District is attempting to meet the educational needs of the community on a very constrained budget and spending money on facilities that are unlikely to be used is an unnecessary burden. A reduction in required bicycle parking from 32 to 16 spaces is requested.

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. The requested variance affects only the amount of racks to be provided for parking bicycles on the school grounds.
B. We believe that the requested variance is the minimum that would alleviate the hardship of spending limited funds on facilities that are not needed.
C. Granting the variance will equal or exceed the purpose of the regulation to be modified. While school enrollment will increase by approximately one-third with the introduction of sixth-graders on the campus, the bicycle parking would be approximately doubled. The existing racks are not used to near their capacity.
D. Any impacts resulting from the adjustment are mitigated by the availability of school bussing and areas for parents to drop students off at the campus.
E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance. The hardship is simply being required to spend limited funds on a facility that the District does not foresee being necessary based upon experience at this and other schools in the district.
F. There are no comprehensive plan policies that specifically require 4 bicycle parking spaces per classroom. The intent of the ordinance being varied is, presumably, to provide sufficient bicycle parking to meet the needs of children who may choose to ride their bicycles to school. Based upon

current usage and the size of the projected enrollment, the 16 additional bicycle parking spaces will effectively achieve this intent.

FINDING: Complies with Condition. Staff finds that the applicant's responses are inadequate to show that all of the variance criteria are met, for the reasons below.

In the submitted Transportation Impact Study, the applicant's transportation consultant indicates that the existing straight racks are often difficult to utilize. He also notes that since observations were made in December, bike parking demand is likely to be higher in warmer, drier months.

The City's Transportation Consultant Replinger and Associates reviewed the applicant's TIS (See Exhibit 7g) regarding bicycle parking, and states the following:

> "The TIS recommends increasing the number of bicycle parking spaces and the site plan notes that additional bicycle parking will be provided. In the TIS, the engineer indicates racks have capacity for 12 bicycles; the site plan narrative claims space for 18. The engineer indicated some bicycles were parked using posts and railing rather than the existing bicycle racks. He noted that this occurred during winter months and suggested increased bicycle use may occur in warmer, drier months. The site plan narrative indicates that the school district believes that providing 32 additional bicycle parking spaces is excessive and proposes that it be reduced to 16 additional spaces. I find the engineer's observations of bicyclists using alternative locations and explanation of seasonal use to be evidence of a need for more bicycle parking. I think these argue against a reduction in the number of required bicycle parking spaces. Even with the required 32 bicycle parking spaces associated with eight new classrooms, the bicycle parking provided on the site would be far less than would be required for a new school under the code. I am not persuaded by the proposal to reduce required bicycle parking."

Staff concurs with Mr. Replinger's assessment and recommends that the applicant provide 32 new bicycle parking spaces in accordance with this standard. **The applicant can meet this standard by complying with condition of approval 13.**

III. STAFF RECOMMENDATION

Staff recommends that the Planning Commission approve Planning files CU 12-01, SP 12-19 and VR 12-05 as submitted by the applicant with the attached recommended conditions of approval in Exhibit 1, with the exception of the request for a variance from OCMC 17.52.040.B (number of bicycle parking spaces).

IV. EXHIBITS

The following exhibits are attached to this staff report.

1. Recommended Conditions of Approval for CU 12-01, SP 12-19, VR 12-05
2. Vicinity Map
3. Public Notice
4. Clackamas Review Affidavit of Publishing
5. Signed Affidavit of Property Posting of Land Use Notice Sign
6. Land Use Transmittal Comment Form
7. Applicant's Submittal
    b. Narrative and Code Responses
    c. Transparency Variance Code Responses
    d. General Site Plan
    e. Full Plan Set of Building Layout, Floor Plans and Elevations
    f. Landscaping Plan
    g. Traffic Impact Statement and Parking Analysis
    h. Pre-Application Conference Summary
    i. Neighborhood Association Meeting Summary
    j. Exterior Materials Sheet
    k. Lighting Details
    l. Luminaire Schedule
    m. Stormwater Narrative and OCMC 13.12 Code Responses
8. Canopy Roof Plans for Breezeway (submitted late on April 8, 2012)
9. TIS Review by John Replinger of Replinger and Associates
10. "Gardiner Gazette" Article on History of Gardiner Middle School, October 2011.
11. Water and Sewer Demand Calculations
12. Comments by Gordon Monro, P.E., Development Services Consulting Engineer
13. *Google Earth* photo of corner where curb ramp and sidewalk is needed.

EXHIBIT 1
Recommended Conditions of Approval
CU 12-01: Conditional Use
SP 12-19: Site Plan and Design Review
VR 12-05: Variance
Planning Commission Hearing: April 22, 2012

1. The applicant is responsible for this project's compliance to Engineering Policy 00-01. The applicant shall participate in a pre-design meeting with the City prior to beginning design of the public improvements. *(DS)*

2. Within 90 days of the Planning Commission approval, the applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement; this includes paying the document recording fee. *(DS)*

3. The applicant shall assure 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. *(P)*

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. *(P)*

5. 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. *(P)*

6. Prior to occupancy, the applicant shall install a section of sidewalk and the installation of an ADA compliant curb ramp in the northeast quadrant of the intersection where Hood Street turns and where access is provided to the south parking lot. *(P)*

7. Prior to occupancy, the applicant shall provide a revised final landscaping plan which distinguishes mitigation trees from regular landscaping trees. *(P)*

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

9. The wall mounted "wall pack" lights listed as WP2F84 are indicated as emitting 6400 lumens on the submitted lighting plans, but do not indicate concealment or full cut-off style fixtures. The applicant shall modify the design to include these features or revise the design of the lighting fixtures in compliance with this applicable section of OCMC 17.62.065.D. prior to issuance of a certificate of occupancy for the building. *(P)*

10. The applicant did not provide any information to determine compliance with the lighting levels in *Table 1-17.62.065. Foot-candle Levels.* Prior to occupancy the applicant shall provide a table in accordance with this standard for review by the Community Development Director, and install lighting in compliance with the approved submittal. *(P)*

11. The applicant shall propose a sheltering element on the east end of the building, 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. *(P)*

12. The applicant shall mark at least 4 spaces as reserved for van and carpool use located closer to the main employee, student or commuter entrances than all other employee, student or commuter parking spaces with the exception of handicapped parking spaces. This condition shall be met prior to issuance of a certificate of occupancy for the building. *(P)*

13. The applicant shall provide at least 32 new bicycle parking spaces in the location proposed on the applicant's plans. The applicant shall indicate the design of the bicycle racks on all final construction plans and shall install bicycle parking in compliance with OCMC 17.52.040. *(P)*

14. The applicant shall provide a final storm water report that documents the storm water flow from the new facilities, and the infiltration rate of the soils. (DS)

15. The applicant shall provide an Erosion Prevention and Sedimentation Control Plan suitable to the Public Works Department to meet the Public Works requirements for erosion control. (DS)

16. The applicant shall provide a Grading Plan and the review fee to the City for approval prior to the approval of building plans. (DS)

17. The applicant shall verify that the water and sanitary sewer service lines are adequately sized, and modify them as needed as part of the Building permit. (DS)

(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.

Gardiner Middle School - Oregon City



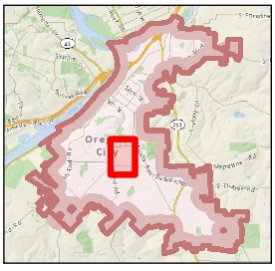
Legend

- City Limits
- UGB
- Taxlots
- Unimproved ROW
- Aerial Photos - 2012Leafoff

Notes

Conditional Use (Mod), Site Plan and Design Review and Variance Application for new Modular 8-Classroom Building At Gardiner Middle School.

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.

N

0 436 Feet

1: 5,232

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

Map created 2/1/2013

OREGON CITY

Community Development – Planning

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

NOTICE OF LIMITED LAND USE APPLICATION
Mailed on March 12, 2013

COMMENT DEADLINE:	On Monday, **April 22, 2013,** the **City of Oregon City - Planning Commission** will conduct a public hearing at 7:00 p.m. in the Commission Chambers at City Hall, 625 Center Street, Oregon City 97045 on the following Type III Land Use Applications. Any interested party may testify at the public hearing or submit written testimony at or prior to the close of the Planning Commission hearing. Written comments on these Type III Land Use Applications must be received by the Oregon City Planning Division, no later than Friday, **April 5, 2013** to be included in the Staff Report. Comments received after this date will be provided to the Planning Commission at the hearing. The public record will remain open until the Planning Commission closes the public hearing.
FILE NUMBER:	CU 12-01: Conditional Use SP 12-19: Site Plan and Design Review VR 12-05: Variance
APPLICANT:	Ted Thonstad, Oregon City Public Schools
OWNER:	Oregon City Public Schools
REPRESENTATIVE:	Rick Givens, Planning Consultant
REQUEST:	Conditional Use, Site Plan and Design Review and Variance Application for new Modular 8-Classroom Building At Gardiner Middle School.
LOCATION: **(see map on reverse)**	180 Ethel Street, Oregon City, OR 97045 Clackamas County Map: 3-2E-06AD-07800
CONTACT PERSON:	Pete Walter, AICP, Associate Planner (503) 496-1568, pwalter@orcity.org
NEIGHBORHOOD ASSOCIATION:	Rivercrest
CRITERIA:	Oregon City Municipal Code. 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; • 17.41 - Tree Protection Standards; • 17.50 – Administration and Procedures; • 17.52 – Off Street Parking and Loading; • 17.56 – Conditional Uses; • 17.60 – Variances; • 17.62 - Site Plan and Design Review

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 7:30 a.m. to 6:00 p.m Monday thru Thursday and by appointment on Friday. The staff report, with all the applicable approval criteria, will also be available for inspection seven 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 decision of the Planning Commission may be appealed to the City Commission by parties with standing within 14 days of the notice of decision. Any appeal will be based on the record. The procedures that govern the hearing will be posted at the hearing and are found in OCMC Chapter 17.50 and ORS 197.763.

A city-recognized neighborhood association requesting an appeal fee waiver pursuant to OCMC 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.

COMMUNITY NEWSPAPERS
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AFFIDAVIT OF PUBLICATION

State of Oregon, County of Clackamas, SS

I, Charlotte Allsop, being the first duly sworn, depose and say that I am Accounting Manager of *Clackamas Review/Oregon City News and Estacada News*, a newspaper of general circulation, published at Clackamas, in the aforesaid county and state, as defined by ORS 193.010 and 193.020, that

City of Oregon City
Notice of Public Hearing/
CU 12-01; SP12-12; VR12-05
CLK12778

a copy of which is hereto annexed, was published in the entire issue of said newspaper for
1
week in the following issue:
March 20, 2013

Charlotte Allsop

Charlotte Allsop (Accounting Manager)

Subscribed and sworn to before me this March 20, 2013

Rene R Muller

NOTARY PUBLIC FOR OREGON
My commission expires Sept 11, 2016

OFFICIAL SEAL
RENÉ R MULLER
NOTARY PUBLIC-OREGON
COMMISSION NO. 471574
MY COMMISSION EXPIRES SEPTEMBER 11, 2016

Acct #500291
PO # 59690
Attn: Pete Walter
City of Oregon City
PO Box 3040
Oregon City, OR 97045-0304

Size: 2 x 7"
Amount Due: $165.90*
*Please remit to address above.

NOTICE OF PLANNING COMMISSION PUBLIC HEARING

COMMENT DEADLINE: On Monday, April 22, 2013, the City of Oregon City - Planning Commission will conduct a public hearing at 7:00 p.m. in the Commission Chambers at City Hall, 625 Center Street, Oregon City 97045 on the following Type III Land Use Applications. Any interested party may testify at the public hearing or submit written testimony at or prior to the close of the Planning Commission hearing. Written comments on these Type III Land Use Applications must be received by the Oregon City Planning Division, no later than Friday, April 5, 2013 to be included in the Staff Report. Comments received after this date will be provided to the Planning Commission at the hearing. The public record will remain open until the Planning Commission closes the public hearing.

FILE NUMBER: CU 12-01: Conditional Use / SP 12-19: Site Plan and Design Review / VR 12-05: Variance
APPLICANT: Ted Thonstad, Oregon City Public Schools
OWNER: Oregon City Public Schools
REPRESENTATIVE: Rick Givens, Planning Consultant
REQUEST: Conditional Use, Site Plan and Design Review and Variance Application for new Modular 8-Classroom Building At Gardiner Middle School.
LOCATION: 180 Ethel Street, Oregon City, OR 97045.
Clackamas County Map: 3-2E-06AD-07800
CONTACT PERSON: Pete Walter, AICP, Associate Planner (503) 496-1568, pwalter@orcity.org
NEIGHBORHOOD ASSOCIATION: Rivercrest
CRITERIA: Oregon City Municipal Code. 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;
- 17.41 - Tree Protection Standards;
- 17.50 – Administration and Procedures;
- 17.52 – Off Street Parking and Loading;
- 17.56 – Conditional Uses;
- 17.60 – Variances;
- 17.62 - Site Plan and Design Review

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 7:30 a.m. to 6:00 p.m Monday thru Thursday and by appointment on Friday. The staff report, with all the applicable approval criteria, will also be available for inspection seven days prior to the hearing. Copies of these materials may be obtained for a reasonable cost in advance.
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A city-recognized neighborhood association requesting an appeal fee waiver pursuant to OCMC 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.
Publish 03/20/2013. CLK12778

OREGON CITY

Community Development – Planning

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

AFFIDAVIT OF POSTING OF NOTICE FOR LAND USE APPLICATIONS

APPLICANT: Oregon City Public Schools, Ted Thonstad

LOCATION: 180 Ethel Street, Oregon City, OR 97045
Clackamas County Map: 3-2E-06AD-07800

FILE NO: CU 12-01: Conditional Use
SP 12-19: Site Plan and Design Review
VR 12-05: Variance

A land use action requires the posting of a sign at least 20-day prior to the public hearing, that provides a brief description of the application submitted. It is your responsibility to post the sign, which may be obtained at the Oregon City Department of Community Development. **Failure to post the signs by the date specified will result in the automatic extension of the public comment period. The sign shall be posted by April 2nd, 2013** so that it is clearly visible along the most traveled streets fronting the property.

The sign shall be mounted on a sturdy backing (such as plywood), and posted within 10 to 15 feet of the street so that it is clearly visible. The notice shall not be posted on trees or utility poles. If the weather is wet please cover the sign with clear plastic, or other clear weatherproof material.

Please remove the sign after **April 22, 2013.**

Please contact me if you have any questions.

Pete Walter, AICP, Associate Planner (503)496-1568
City of Oregon City - Planning Division
221 Molalla Ave., Suite 200
Oregon City, OR 97045

PLEASE SIGN AND RETURN THIS NOTICE TO THE PLANNING DIVISION

I hereby certify that on (date) 3/14/2013 I posted the required Notices on the subject site. I understand that the failure to post the notices as required will result in the automatic postponement of the hearing date.

Mike Ruiz 3/14/2013

Applicant Date

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 TRANSMITTAL

March 12, 2013

IN-HOUSE DISTRIBUTION OF APPLICATION

- ❑ ✓ Building Official
- ❑ ✓ Development Services Manager
- ❑ ✓ Public Works Operations
- ❑ ✓ City Engineer / Public Works Director
- ❑ ✓ GIS
- ❑ ✓ Parks Manager
- ❑ ✓ Addressing
- ❑ ✓ Police
- ❑ ✓ Traffic Engineer
- ❑ City Attorney

NOTICE OF THE APPLICATION MAILED TO

- ❑ All Properties within 300 feet
- ❑ Hamlet of Beavercreek
- ❑ Holcomb Outlook CPO
- ❑ Central Point / Leland Road / New Era CPO

MAIL-OUT DISTRIBUTION OF APPLICATION

- ❑ ✓ OREGON CITY NEIGHBORHOOD ASSOCIATIONS
  - ❑ CIC Chair _____
  - ❑ ✓ N.A. Chair _____Rivercrest_
  - ✓ N.A. Land Use Chair_____Rivercrest_
- ❑ Clackamas County Transportation and Planning
- ❑ ✓ Clackamas Fire District #1
- ❑ ODOT – Division Review
- ❑ ✓ School District# 62
- ❑ ✓ Tri-Met
- ❑ Metro
- ❑ Oregon City Postmaster
- ❑ DLCD / DEQ / DSL / USACE (circle)
- ❑ Other_____

COMMENTS DUE:	FOR INCLUSION IN STAFF REPORT: **April 5, 2013** Public Comments may be submitted up until close of Public Hearing.
HEARING DATE:	**April 22, 2013**
HEARING BODY:	__Staff Review; **_XX_** __PC; ___ _HRB; ___CC
FILE # & TYPE:	CU 12-01: Conditional Use SP 12-19: Site Plan and Design Review VR 12-05: Variances
PLANNER:	Pete Walter, AICP, Associate Planner (503) 496-1568
APPLICANT:	Ted Thonstad, Oregon City Public Schools
REPRESENTATIVE:	Rick Givens, Planning Consultant
REQUEST:	Conditional Use, Site Plan and Design Review and Variance Application for new Modular 8-Classroom Building At Gardiner Middle School.
LOCATION:	180 Ethel Street, Oregon City, OR 97045 Clackamas County Map: 3-2E-06AD-07800

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 be used to guide the Planning staff when reviewing this proposal. If you wish to have your comments considered and incorporated into the staff report, please return the attached copy of this form to facilitate the processing of this application and will insure prompt consideration of your recommendations. Please check the appropriate spaces below.

____ The proposal does not conflict with our interests.
____ The proposal conflicts with our interests for the reasons attached.
____ The proposal would not conflict our interests if the changes noted below are included.

_____

Signed _____

PLEASE RETURN YOUR COPY OF THE APPLICATION AND MATERIAL WITH THIS FORM.

Gardiner Middle School
Modular Classroom Addition
Application Narrative

Project Information:

Date:	December, 2012
Applicant/Owner:	Oregon City School District Attn: Ted Thonstad 1417 12th St. Oregon City, Oregon 97045 (503) 785-8421
Planning Consultant:	Rick Givens 11303 Brandow Street Oregon City, OR 97045 (503) 479-0097
Project Engineer:	ZCS Engineering, Inc. Zach Stokes, PE 524 Main St., Suite 2 Oregon City, OR 97045 (503) 659-2205
Landscape Architect:	Anderson Associates David Anderson, ASLA, LEED AP 3130 SW Ridge Drive Portland, OR 97219 (503) 245-3168
Surveyor:	Compass Engineering, Inc. 4107 SE International Way, Suite 705 Milwaukie, OR 97222 (503) 653-9093
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 Variances to place a modular classroom building containing 8 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 eight classrooms and restroom facilities 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 presently has an enrollment of 586 seventh and eighth graders, but is being expanded in order to also serve sixth grade students. At the present time, sixth grade students are located at the former Mt. Pleasant Elementary School campus on Linn Avenue. The projected number of sixth grade students that will be enrolled at Gardiner Middle School in the fall of 2013 is 234. These students will be placed in the eight classrooms in the new modular building and eight teachers will be added to the staff at the Gardiner campus.



Compliance with 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 new building is located to the rear of the existing school and is generally within the setback envelope of the current facility. The rear setback distance would be somewhat reduced, at approximate 245'to the east property line.
F. Not applicable. The site does not contain any garage structures.
G. The existing school building has a foot print of 94,031 square feet. Additionally, there are a 5,000 sq. ft. covered play area and an outbuilding measuring approximately 930 sq. ft. in area. With the addition of the new 8,290 sq. ft. modular building, the total lot coverage would come to 108,251 sq. ft. This would equal 13.61% coverage for the 795,217 sq. ft. site, which is well under the 40 percent maximum allowable coverage.

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 was held prior to the submission of this application (PA 12-20). As required by Section 17.50.055, the applicant contacted the 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 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 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 Impact Assessment 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 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 Impact Assessment 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 245 feet to the closest 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, architectural drawings showing floor plans, elevations, and exterior materials, a materials board, an erosion and sediment control plan, the legal description of the property, a lighting plan, and a traffic impact analysis.

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 plus the proposed building combine to cover 108,251 sq. ft. Parking and vehicular travel lanes total 95,848 sq. ft. The tennis courts, which presently cover 24,018 sq. ft. of the site will be removed, thereby increasing the landscaped area. Thus, following construction of the new building and with removal of the tennis courts, the total landscaped area will exceed 74 percent of the site. A landscape plan for the portion of the site that will be disturbed by this project has been prepared by a registered landscape architect and is included with the application submittal. Existing landscaped areas of the site are visible from the public streets that abut the property. The amount of landscaped area is well in excess of the 15% standard even if the parking lot landscaping is discounted.

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: The proposed grading plan has been designed in accordance with Chapter 15.48 and other applicable standards. Please refer to discussion of that chapter below in this narrative.

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: Site drainage from the new construction has been designed in accordance with Chapter 13.12. Please see discussion of that section below, as well as the plans and storm drainage report submitted with this application.

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 existing site provides for walkways from parking areas to the school entrances. The proposed modular building will be connected to the school with walkways and ramps as shown on the site plans submitted with this application. All walkways are hard-surfaced.

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: Please see discussion of Chapter 17.41 below in this narrative.

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 will connect to the on-site private sanitary sewer system that drains to this city line, as shown on the utility plan submitted with this application. These utilities have adequate capacity to serve the proposed modular building and 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 Transportation Impact Analysis 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: All new utility lines will be placed underground, as shown on the utility plan.

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: As shown on the site plan, 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 ground-mounted heat pumps that will be located to the rear of the proposed building. Landscaping will screen the heat pumps from view.

21. *Building Materials.*

    Applicant Response: Exterior building materials consist of Hardie Plank Lap siding, with Hardie Stucco Panels above and below windows to break up the façade. Narrow horizontal lap siding and stucco are both 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: 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. 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.*

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. The existing placement of buildings, parking, and access roads preclude compliance with this standard. Please see discussion of requested variances 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: 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 this 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.

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.*

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.*

Applicant Response: It is not practicable to comply with this standard in a modular 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 building façade is divided into sections of less than 30 feet length by changes in the siding material used. Lap siding is interrupted by stucco panels placed at window locations. These materials have different texture and will employ a change in color to further provide visual interest.

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: The proposed building is 125' 7" in length. Given the modular construction, it is not practicable to incorporate wall plane projections or recesses into the design. A variance to this standard is requested. Refer to the variance section, below.

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 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.

   Applicant Response: The proposed building elevation includes changes in color, texture, and materials, as shown on the building elevation.

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 modular design precludes plane changes, but the siding materials and paint selections accomplish a similar purpose. A variance to this standard is proposed. Please refer to variance discussion below.

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: The color, texture, and material module changes of H.4. repeat at intervals of less than 30 feet.

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 is 125' 7" in length and provides 44' of window glazing (35%). 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.

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 façade 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 89 vehicles. The existing school contains 15 general education classrooms including the two science classrooms, and 5 specific subject classrooms (band, choir, sewing, etc.). The new modular building provides an additional 8 classrooms, bringing the total number of classrooms to 28. The minimum number of parking spaces that would be required by this section would be 28. The existing parking lot predates the adoption of the maximum parking standards and, therefore, it is not necessary to address compliance with the maximum standard in this application. As a practical matter, the Traffic Impact Analysis submitted with this application demonstrates that the amount of parking provided at the school is appropriate for the existing and proposed use of the site.

17.52.030.A. Development of parking lots shall require site plan review. The standards address access, surfacing, drainage and dimensional requirements.

Applicant Response: No changes to the existing parking lot are proposed so this requirement does not apply.

17.52.030.B. 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.C. 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.D. 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.E. Dimensional Requirements.

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

17.52.040 – 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.

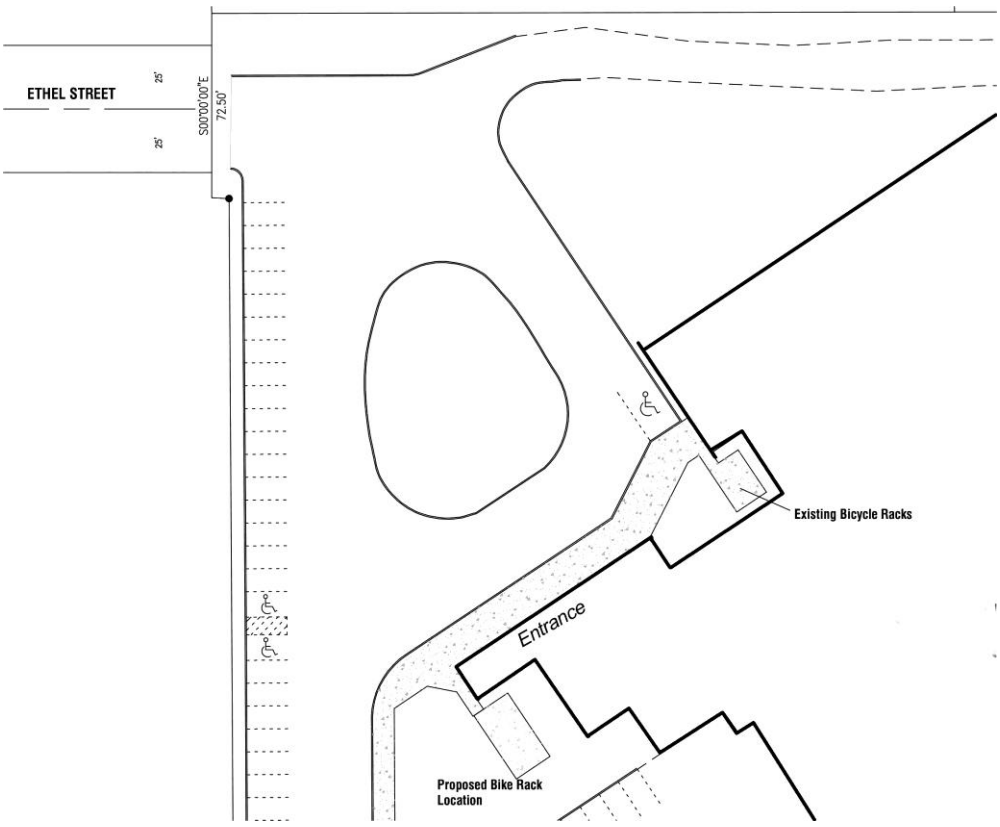
17.52.050 – Bicycle Parking

17.52.060.A Bicycle parking standards.
A. Bicycle parking spaces shall be provided for the uses described in Section 17.52.050, in the amounts specified in Table A,. 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 17.52.010 for determining automobile parking space requirements.

Applicant Response: The provisions of this section require a minimum of four bicycle spaces per elementary or junior high school classroom. The existing school, which predates the bicycle parking standard, has covered parking with two 10-foot bike racks containing space to accommodate approximately 18 bikes. The existing bicycle parking is located near the front entrance to the building. The eight new classrooms require 32 bicycle additional parking spaces. The School District believes this number is excessive and requests that the Planning Commission allow a variance to reduce this number to 16 spaces to more accurately reflect actual need.

17.52.060.A.1. Bicycle parking shall be located on-site, in one or more convenient, secure and accessible outdoor and indoor locations close to a main building entrance. 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.

Applicant Response: New bicycle parking spaces that are required are planned to be located near the main entrance as shown on the plan on the following page. For safety and security reasons, the applicant prefers to keep all bicycle parking near the main entrance.



17.52.060.A.*2*. *Bicycle parking areas shall be clearly marked. Outdoor bicycle parking areas shall be visible from on-site buildings or the street. Indoor bicycle parking areas shall not require stairs to access the space, except that bicycle parking may be allowed on upper stories within multi-story residential structures.*

Applicant Response: The bicycle parking will be clearly marked and is to be located in an area visible from the building and street.

17.52.060.B. *All bicycle parking areas shall be located to avoid conflicts with pedestrian and motor vehicle movement.*
1. 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. Areas set aside for required bicycle parking shall be clearly marked and reserved for bicycle parking only. If a bicycle parking area is not plainly visible from the street or main building entrance, then a sign must be posted indicating the location of the bicycle parking area.

Applicant Response: The proposed location will not interfere with pedestrian or vehicular movement. The area for bicycle parking will be clearly marked.

17.52.060.B.2. *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.*

Applicant Response: The proposed location is located adjacent to, but will not obstruct the pedestrian walkways near the existing school's main entrance.

17.52.060.C. *Outdoor bicycle areas shall be connected to main building entrances by pedestrian accessible walks. Outdoor bicycle parking areas also shall have direct access to public right-of-way and to existing and proposed pedestrian/bicycle accessways and pedestrian walkways.*

Applicant Response: The proposed location is directly adjacent to existing walkways that connect to the main entrance.

17.52.060.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 convenience.*

Applicant Response: The bicycle parking will include racks that will be securely anchored to the ground and will provide for bicycles to be locked to the racks.

17.52.070 – *Pedestrian Access in Off-Street Automobile Parking Areas*
Sidewalks and curbs shall be provided in accordance with the city's transportation master plan and development standards within Section 17.62.050A.7. of the Oregon City Municipal Code.

Applicant Response: Because site development costs are under the threshold for nonconforming uses, no parking improvements are required.

17.52.090.B.1 – Parking Lot Landscaping

Applicant Response: The existing parking lot is landscaped. No changes to the parking lot are proposed. No parking landscaping improvements are required.

17.52.090.B.2. Parking Area/Building Buffer.

Applicant Response: Existing landscaping and fencing around the perimeter of the property provides a buffer from adjacent residential uses. No changes to the existing parking lot are proposed. No parking buffer improvements are required.

Chapter 13.12 – Stormwater Management

The proposed construction is subject to the stormwater management provisions of this chapter. Please refer to the utility plan and the attached memorandum from ZCS Engineering that addressed stormwater management and compliance with city standards.

Chapter 15.48 – Grading, Filling and Excavating

A grading plan is required for this project and is included in the application submittal. Please refer to the grading plan by ZCS Engineering.

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.

Applicant Response: The proposed construction does not meet the criteria for an abbreviated grading plan.

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.

Applicant Response: A grading plan prepared by ZCS Engineering is attached.

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.

Applicant Response: A geotechnical engineering report is not required. No publicly maintained facility will be located on engineered fill, no embankment for a stormwater pond is proposed, and no soils will remain in place that 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.

Applicant Response: Not applicable.

A grading permit will be obtained prior to commencement of site grading work and the grading will be performed in accordance with the approved grading plan and city standards.

CHAPTER 17.41 – TREE PROTECTION STANDARDS

17.41.020 - Tree protection—Applicability.

Comment: The proposed modular classroom building is subject to the provisions of this chapter.

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*

Applicant Response: The proposed construction area contains ten trees that will need to be removed to allow for the placement of the proposed modular classroom. The ten trees range in size from 12" to 18" DBH. The new classroom building must go in the proposed location in order to be integrated with the existing main school building. Because of the location of an existing 12" city water line that passes through the subject property, it is not feasible to move the proposed building farther to the southeast in order to avoid the trees. The School District proposes to make use of Option 1 – Mitigation by replanting with the number of trees required pursuant to Sections 17.41.060.

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.*

   Applicant Response: There are no other trees near the construction area so preservation of trees to remain is not an issue.

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.*

Applicant Response: The applicant proposes to make use of Mitigation Option 1. The trees to be planted as mitigation are shown on the landscape plan submitted with this application. All of the trees to be removed are located within the construction area. One tree is 12" in diameter and requires the planting of one tree in mitigation. Nine trees measure 13" to 18" in diameter and, constant with Column 2 of Table 17.41.060-1, require the planting of 18 trees in mitigation.

17.41.080 - Tree preservation within subdivisions and partitions—Dedicated tract (Option 2).

Applicant Response: Not applicable.

17.41.110 - Tree protection by restrictive covenant (Option 3).

Applicant Response: Not applicable.

17.41.1[25] - Cash-in-lieu of planting (tree bank/fund) (Option 4).

Applicant Response: Not applicable. The applicant does not propose to make use of these provisions.

17.41.130 - Regulated tree protection procedures during construction.

Applicant Response: There are no other trees in the vicinity of the proposed modular building that could be impacted by construction. These provisions do not apply.

17.60 – Variance Requests

Several variances are requested in conjunction with this project. Variances may be allowed subject to the criteria listed in section 17.60.030:

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 variances requested for this project and their justification subject to the review criteria are listed below:

1. 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, unless a greater setback is accepted under the provisions of Section 17.62.055D. 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.
   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 240 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.

2. The provisions of Section 17.62.055G, require a variation in building massing that is not practicable with modular construction.

   A. The requirement for variation in massing affects only the appearance of the building. Granting a variance from this standard will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities.
   B. Modular buildings are limited in their ability to provide variation in massing due to the need to be constructed in units that may be moved from the factory to the site on surface streets. This requires that the design be a single story and that roofing heights not vary significantly. The School District has the need to provide for classroom

facilities for sixth-graders at Gardiner Middle School and, given the current economic conditions, modular construction is the only means to meet this need within the District's budget. For these reasons, the requested variance to not require variation in massing is the minimum necessary.

C. The purpose of the requirement for varying massing is to ensure that institutional buildings are visually interesting and are appealing in appearance. The proposed design achieves this purpose by providing variation in siding materials and paint colors to break up the façade of the building. Placement of the building to the rear of the existing school, coupled with screening by the existing building and proposed landscaping, will ensure that the new building does not detract from the appearance of the school campus.
D. The proposed placement of the building, variation in siding materials and paint color, and landscape screening will serve to mitigate for any impacts associated with the variance.
E. Because of the limits imposed by modular building design constraints, no other alternatives have been identified to meet the District's needs while meeting this standard.
F. There are no comprehensive plan policies that require variation in massing. The intent of the ordinance, to provide for visually appealing institutional buildings, will be met by other means, including variation in siding materials and paint color, and landscape screening.

3. The provisions of Section 17.62.055H(2) and (5), respectively require:
   a. 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; and
   b. 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.

A. As with the requirement for variation in massing, these standards are intended to provide for visually appealing institutional building design. These standards affect only the appearance of the building. Granting a variance from them will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities.
B. Modular buildings are limited in their ability to provide variation in wall plane due to the need to be constructed in standard-sized units that may be moved from the factory to the site on surface streets. The School District has the need to provide for classroom facilities for sixth-graders at Gardiner Middle School and, given the current economic conditions, modular construction is the only means to meet this need within the District's budget. For these reasons, the requested variance to not require variation in wall plane is the minimum necessary.
C. The purpose of the requirement for varying the wall plane is to ensure that institutional buildings are visually interesting and are appealing in appearance. The proposed design achieves this purpose by providing variation in siding materials and paint colors to break up the façade of the building. Placement of the building to the rear of the existing school, coupled with screening by the existing building and proposed landscaping, will ensure that the new building does not detract from the appearance of the school campus.

D. The proposed placement of the building, variation in siding materials and paint color, and landscape screening will serve to mitigate any impacts associated with the variance.
E. Because of the limits imposed by modular building design constraints, no other alternatives have been identified to meet the District's needs while meeting this standard.
F. There are no comprehensive plan policies that require variation in wall plane. The intent of the ordinance, to provide for visually appealing institutional buildings, will be met by other means, including variation in siding materials and paint color, and landscape screening.

4. The bicycle parking standards of section 17.52.060.A would require 4 bicycle spaces per classroom, or 32 spaces for the proposed 8 classrooms. At the present time, the existing bicycle parking is under-utilized. The two 10-foot bike racks could accommodate approximately 18 bicycles, but there are typically eight or fewer bikes parked there on school days. The reasons for this include the fact that to access the school grounds via bicycle requires travel on Linn Avenue, a busy street. Additionally, other concerns for student safety are leading more parents to send their children on busses or to personally drop them off at the school. The School District is attempting to meet the educational needs of the community on a very constrained budget and spending money on facilities that are unlikely to be used is an unnecessary burden. A reduction in required bicycle parking from 32 to 16 spaces is requested.

   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. The requested variance affects only the amount of racks to be provided for parking bicycles on the school grounds.
   B. We believe that the requested variance is the minimum that would alleviate the hardship of spending limited funds on facilities that are not needed.
   C. Granting the variance will equal or exceed the purpose of the regulation to be modified. While school enrollment will increase by approximately one-third with the introduction of sixth-graders on the campus, the bicycle parking would be approximately doubled. The existing racks are not used to near their capacity.
   D. Any impacts resulting from the adjustment are mitigated by the availability of school bussing and areas for parents to drop students off at the campus.
   E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance. The hardship is simply being required to spend limited funds on a facility that the District does not foresee being necessary based upon experience at this and other schools in the district.
   F. There are no comprehensive plan policies that specifically require 4 bicycle parking spaces per classroom. The intent of the ordinance being varied is, presumably, to provide sufficient bicycle parking to meet the needs of children who may choose to ride their bicycles to school. Based upon current usage and the size of the projected enrollment, the 16 additional bicycle parking spaces will effectively achieve this intent.

Rick Givens
Planning Consultant
18680 Sunblaze Dr.
Oregon City, Oregon 97045

April 8, 2013

Mr. Pete Walter
City of Oregon City Planning Dept.
221 Molalla Avenue, Ste. 200
Oregon City, Oregon 97045

Re: Gardiner Middle School Site and Design Review - Transparency Standard Variance

Dear Pete:

This letter is submitted to provide additional applicant testimony in support of a requested variance to the transparency standards of Section 17.62.055I. This information was inadvertently omitted from the applicant's narrative.

The provisions of Section 17.62.055I(1) state:

> *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 and rear elevations are 125' 7" in length and provide 44' of window glazing (35%). The rear elevation complies with the 30% transparency standard, but the front elevation does not meet the 60% standard. The side elevations are each 68 feet long and only have glazing in the entry doors, measuring approximately 5' in length. It is not practicable in a modular building to increase the percentage of window glazing.

A. These standards are intended to provide for visually appealing institutional building design. These standards affect only the appearance of the building. Granting a variance from them will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities.

B. Modular buildings are limited in their ability to provide variation in window glazing due to the need to be moved from the factory to the site on surface streets. Excessive window glazing would be susceptible to breakage during transport. The School District has the need to provide for classroom facilities for sixth-graders at Gardiner Middle School and, given the current economic conditions, modular construction is the only means to meet

this need within the District's budget. For these reasons, the requested variance to not require variation in wall plane is the minimum necessary.

C. The purpose of the requirement for higher than normal window glazing on front elevations is to ensure that institutional buildings are visually interesting and are appealing in appearance. The proposed design achieves this purpose by providing variation in siding materials and paint colors to break up the façade of the building. Placement of the building to the rear of the existing school, coupled with screening by the existing building and proposed landscaping, will ensure that the new building does not detract from the appearance of the school campus.

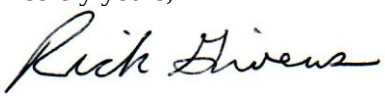
D. The proposed placement of the building, variation in siding materials and paint color, and landscape screening will serve to mitigate any impacts associated with the variance.

E. Because of the limits imposed by modular building design constraints, no other alternatives have been identified to meet the District's needs while meeting this standard.

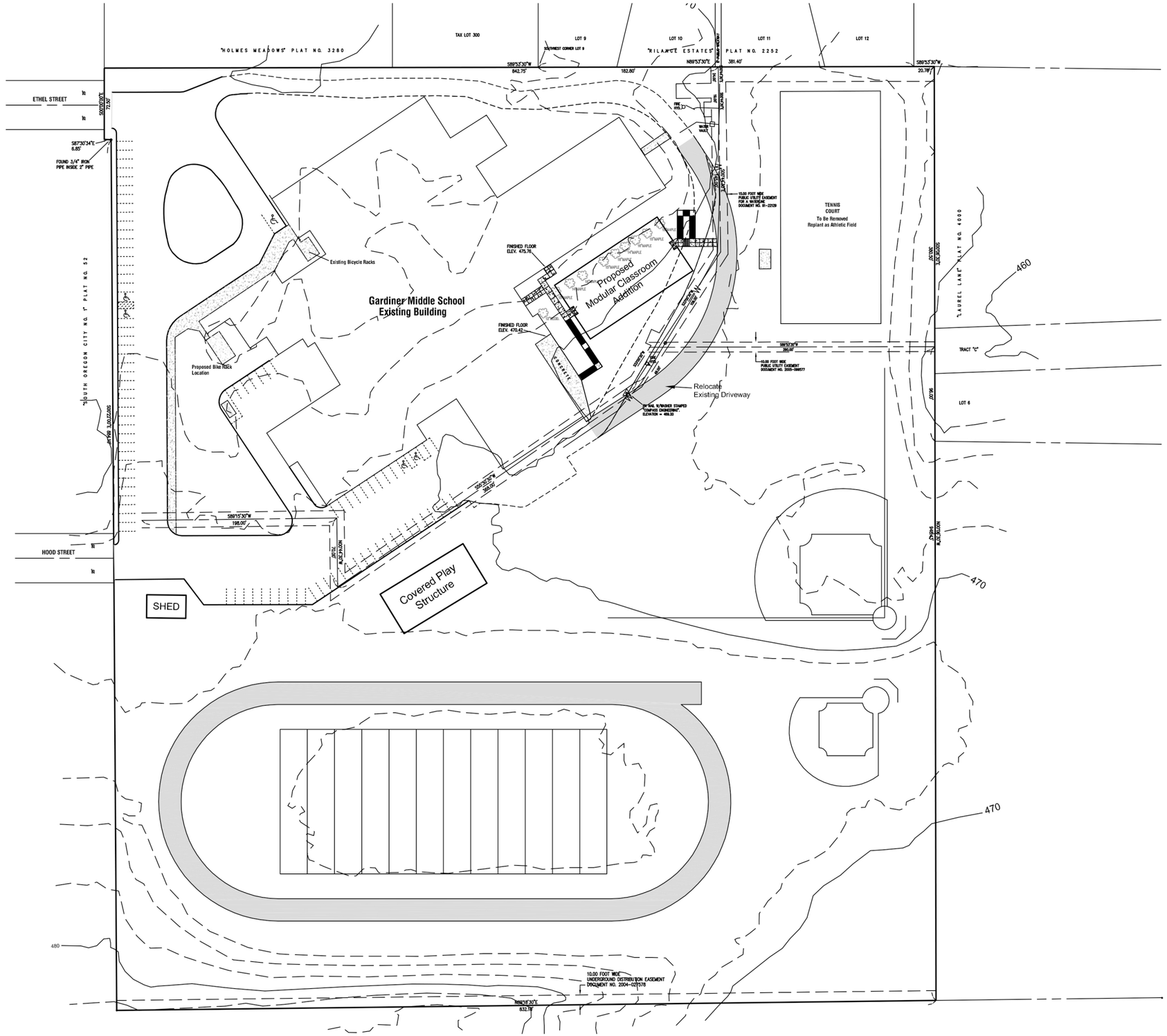
F. There are no comprehensive plan policies that require transparency standards on institutional buildings. The intent of the ordinance, to provide for visually appealing institutional buildings, will be met by other means, including variation in siding materials and paint color, and landscape screening.

Thank you for your consideration of this letter. Please let me know if you have any questions or required additional information.

Sincerely yours,



Rick Givens



DESIGNED:	REG			
DRAWN:	REG			
SCALE:	1" = 50'			
DATE:	December 2012			
FILE:	12-OCS-101	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
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APPLICANT: Oregon City Public Schools
1417 12th Street
Oregon City, OR 97045
PH: (503) 785-8421

Gardiner Middle School
Modular Classrooms Project

SHEET: 1/1

GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM EXPANSION

A PROJECT FOR:

OREGON CITY PUBLIC SCHOOLS

180 ETHEL STREET - OREGON CITY, OREGON
SITUATED IN THE SE 1/4 NE 1/4
SECTION 6, TOWNSHIP 3 SOUTH, RANGE 2 EAST OF THE WILLAMETTE
MERIDIAN, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON

CONTACT INFO:

OWNER / INVESTOR

TED THONSTAD
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OREGON CITY PUBLIC SCHOOLS
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CIVIL ENGINEER

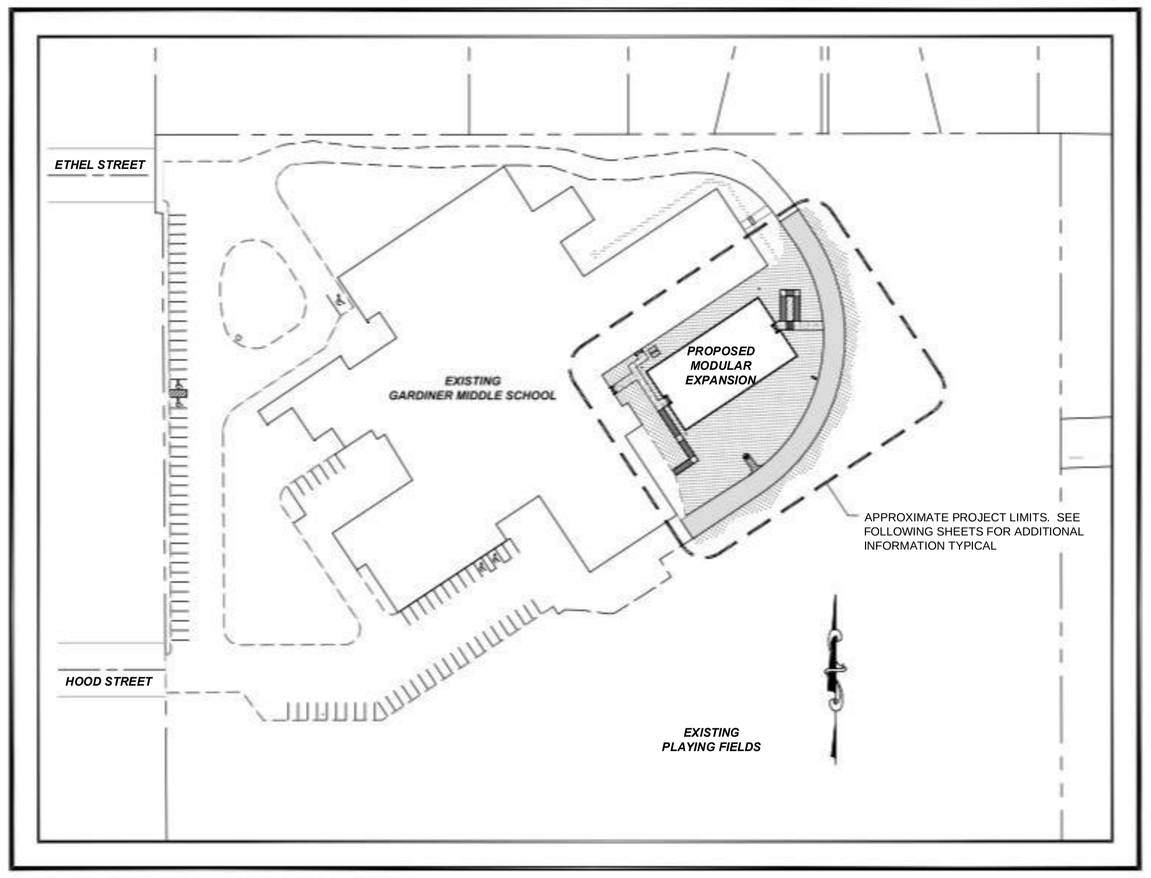
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OCPS PLANNER

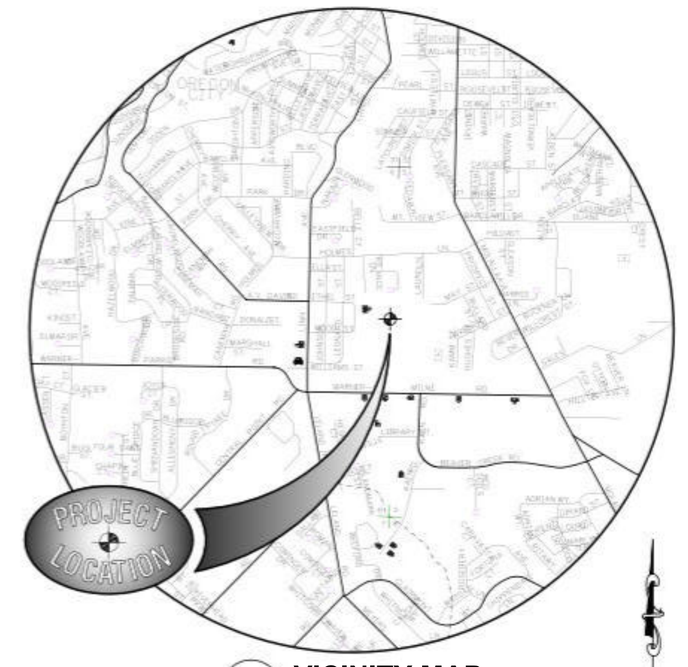
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SURVEYOR

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1 C0.0 **OVERALL SITE PLAN**
NTS



2 C0.0 **VICINITY MAP**
NTS

SITE PREPARATION NOTES:

CLEARING & GRUBBING -

1. REFER TO STRUCTURAL (FOUNDATION) PLANS FOR SPECIFIC SOIL EXCAVATION & BACKFILL REQUIREMENTS WITHIN BUILDING FOOTPRINT (BY OTHERS).
2. ALL AREAS BELOW ROADWAYS, PARKING AND WALKWAYS SHALL BE CLEARED AND GRUBBED OF ALL PAVEMENT, FOREIGN MATTER, DEBRIS, ORGANIC AND DISTURBED MATERIAL, U.N.O. STRIPPING DEPTHS ACROSS THE SITE WILL VARY DEPENDING ON LOCATION AND PAVEMENT SECTION REQUIREMENTS. ALL EXPOSED MATERIAL SHALL BE MOISTURE CONDITIONED TO WITHIN 2% OF OPTIMUM.
3. ALL CLEARED AND GRUBBED MATERIAL SHALL BE REMOVED FROM SITE. GC SHALL COORDINATE AN APPROVED DISPOSAL LOCATION.
4. ALL AREAS WITH ABANDONED UTILITY LINES, STORM DRAINS, UNDERGROUND TANKS, TREE ROOTS, ETC. WHICH PROVIDE VOID SPACE BENEATH THE SURFACE SHALL BE LOCATED AND REMOVED PRIOR TO SITE GRADING.
5. ALL HOLES, DEPRESSIONS, AND UNDISTURBED NATIVE MATERIAL SHALL BE CLEARED OF ALL LOOSE AND ORGANIC MATERIAL THEN BACKFILLED AND COMPACTED WITH APPROVED STRUCTURAL FILL.
6. AFTER CLEARING THE ABOVE MENTIONED AREAS, ALL EXPOSED SUB-GRADE SHALL BE PROOF ROLLED WITH A LOADED DUMP TRUCK, HEAVY NON-VIBRATORY ROLLER, OR VISUALLY APPROVED BY THE GEOTECHNICAL ENGINEER OR ENGINEER OF RECORD. SOILS SHALL BE REMOVED AND RE-COMPACTED OR REPLACED WITH IMPORTED APPROVED STRUCTURAL FILL IF THEY DO NOT DEMONSTRATE A FIRM, UNYIELDING CONDITION. CIVIL ENGINEER OF RECORD SHALL APPROVE SUB-GRADE SURFACE PRIOR TO STRUCTURAL FILL IMPORT EXPLAINED TO THE RIGHT.

SITE PREPARATION NOTES CON'T:

STRUCTURAL FILL PLACEMENT & COMPACTION -

7. APPROVED STRUCTURAL FILL SHALL BE PLACED BENEATH AREAS RECEIVING ASPHALT AND/OR CONCRETE PAVEMENT.
8. STRUCTURAL FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER OR CIVIL ENGINEER OF RECORD PRIOR TO IMPORTING. ALL FILL SHALL BE FREE OF ORGANIC AND EXPANSIVE CLAY MATERIAL.
9. PLACEMENT LIFTS TO BE DETERMINED BY GEOTECHNICAL ENGINEER OR CIVIL ENGINEER OF RECORD BASED ON MATERIAL PROPERTIES OF STRUCTURAL FILL CHOSEN AND TYPE OF COMPACTION EQUIPMENT USED. BASE ROCK PLACEMENT LIFTS SHALL NOT EXCEED 8". EACH LIFT SHALL BE NEARLY EQUAL IN THICKNESS AND COMPACTED TO A MINIMUM OF 95% OF ASTM D 698. FILLS SHALL BE PLACED AT OR SLIGHTLY ABOVE THEIR OPTIMUM MOISTURE CONTENT.
10. ALL BASEROCK, UTILITY TRENCH BACK FILL, ETC. SHALL CONFORM TO CURRENT OREGON APWA / ODOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (SECTION 02690 U.N.O.). CONTACT CIVIL ENGINEER OF RECORD IN THE EVENT OF A CONFLICT.
11. ALL ASPHALT CONCRETE AND PORTLAND CEMENT CONCRETE PAVEMENT AND ITS PLACEMENT SHALL CONFORM TO THE 2008 STATE OF OREGON APWA / ODOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

EROSION CONTROL NOTE:

PLAN SHEET C0.2 CONTAINS AN EROSION AND SEDIMENT CONTROL PLAN THAT MUST BE IMPLEMENTED AT THE START OF THIS PROJECT. THE INFORMATION CONTAINED WITHIN THE REFERENCED PLAN SHEET SHALL BE CONSIDERED A MINIMUM AND SHALL BE MODIFIED AS REQUIRED BY THE CONTRACTOR & INSPECTOR, TO CONTAIN ALL SEDIMENT ON SITE. SPECIAL ATTENTION SHALL BE TAKEN AT ALL EXISTING STORM DRAIN CATCH BASINS AND STORM DRAIN CHANNELS AS TO ELIMINATE ANY SEDIMENT TRANSFER INTO THE EXISTING STORM DRAIN SYSTEM.

AN ALL WEATHER ROCK SURFACE SHALL BE PROVIDED AT ALL CONSTRUCTION SITE ENTRANCES. ALL CONSTRUCTION SHALL BE MAINTAINED WITHIN THE DEVELOPMENT LIMITS OF THIS PHASE. REFER TO SHEET C0.2 FOR ADDITIONAL INFORMATION.

UTILITY STATEMENT:

EXISTING UNDERGROUND UTILITIES ILLUSTRATED IN THESE PLANS ARE APPROXIMATED BASED ON MAPS OBTAINED FROM THE CITY OF OREGON CITY PUBLIC WORKS FILES, OREGON CITY PUBLIC SCHOOLS AS-BUILT DOCUMENTS, OR HAVE BEEN LOCATED BY A UTILITY LOCATE COMPANY. LAYOUT INDICATED IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. ALL LINES WITHIN PROJECTED WORK ZONE SHALL BE FIELD VERIFIED AS REQUIRED PRIOR TO CONSTRUCTION.

RESTORATION STATEMENT:

GC SHALL RESTORE BACK TO ORIGINAL CONDITION PRIOR TO CONTRACT COMPLETION ALL DISTURBED SURFACES IMPACTED DURING CONSTRUCTION NOT IDENTIFIED IN THESE PLANS FOR REMOVAL, RECONSTRUCTION, ETC. THIS INCLUDES, BUT IS NOT LIMITED TO, CONSTRUCTION ACCESS, SIDEWALKS, CURBS, ASPHALT, LAWN AND LANDSCAPE AREAS, ETC. DISTURBED AREAS TO BE GRADED SMOOTH & ADEQUATELY SLOPED TO DRAIN. AREA SHALL BE CLEAN & FINISH GRADED BEFORE FINAL DEMOBILIZATION. COORDINATE WITH ENGINEER AT THE TIME OF PROJECT CONSTRUCTION COMPLETION.

GENERAL CIVIL NOTES:

1. ALL WORK & MATERIALS SHALL CONFORM TO THE 2008 STATE OF OREGON APWA / ODOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT OREGON UNIFORM PLUMBING CODE, & ALL APPLICABLE STATE, CITY, AND COUNTY REGULATIONS AND STANDARDS. CONTACT ENGINEER FOR DIRECTIVE IN THE EVENT OF CONFLICTING STANDARDS.
2. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE COORDINATED WITH THE GOVERNING AGENCY'S INSPECTOR AND SHALL CONFORM TO THAT AGENCY'S CURRENT ENGINEERING STANDARD SPECIFICATIONS & DETAILS.
3. THE GENERAL CONTRACTOR AND ALL THEIR AFFILIATES SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, & LOCATIONS PRIOR TO CONSTRUCTION. IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.
4. ALL CONSTRUCTION STAKING, GRADE SURVEYING, AND HORIZONTAL LAYOUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR & SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR. COORDINATE WITH ENGINEER PRIOR TO CONSTRUCTION.
5. ALL EXISTING UTILITIES IDENTIFIED IN THIS PLAN SET ARE NOT INTENDED TO BE EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ALL UTILITIES AND PROTECT AS REQUIRED DURING THE COURSE OF CONSTRUCTION. CALL THE "OREGON UTILITY NOTIFICATION CENTER" AT 1-800-332-2344 TO LOCATE EXISTING UTILITIES, 48 HOURS BEFORE DIGGING.
6. CONTRACTOR SHALL NOTIFY ALL APPLICABLE REGULATORY AGENCIES AND UTILITY COMPANIES 48 HOURS PRIOR TO BEGINNING WORK.
7. ALL EXCAVATION, TRENCH BACK FILL, PARKING LOT/ROAD SUB-GRADE, FLATWORK SUB-GRADE, COMPACTION REQUIREMENTS, ETC. SPECIFICATIONS SHALL BE AS NOTED IN THE SITE PREPARATION NOTES.
8. ALL SITE CONCRETE SHALL BE f'c = 3300 psi @ 28 DAYS, 6% ENTRAINED AIR, 4" SLUMP (U.N.O.).
9. ALL UTILITY SERVICES SHALL BE INSTALLED PER THE RESPECTIVE UTILITY CODES & STANDARDS.
10. ALL UTILITIES SHALL HAVE A MINIMUM COVER AS IDENTIFIED IN THE PLAN SET OR AS OTHERWISE SPECIFIED BY THE RESPECTIVE UTILITY COMPANY.
11. ALL SERVICES SHALL BE ADEQUATELY MARKED AS TO IDENTIFY THE SIZE, TYPE, & DEPTH OF THE SERVICE. CONTRACTOR TO PROVIDE LOCATE WIRE/TAPE AS REQUIRED BY THE APPLICABLE AGENCIES.
12. ALL SERVICES AND SLEEVES SHALL BE PLUGGED AS REQUIRED TO ADEQUATELY ENSURE THAT NO FOREIGN MATERIALS ENTER THE LINE.
13. GAS, POWER, TELEPHONE, CABLE, AND FIBER OPTIC LINES SHALL BE INSTALLED BASED ON THE PLANS AND SPECIFICATIONS PROVIDED BY THE APPLICABLE UTILITY COMPANIES. APPROXIMATE UTILITY LOCATIONS HAVE BEEN PROVIDED ON THIS PLAN SET AS A REFERENCE. CONTRACTOR SHALL COORDINATE TRENCH EXCAVATIONS, CONDUIT INSTALLATIONS, BEDDING, BACKFILLING, AND INSPECTION REQUIREMENTS WITH THE APPROPRIATE UTILITY REPRESENTATIVES.
14. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH AN AS-BUILT DRAWING OF ALL UTILITY SERVICE INSTALLATIONS INCLUDING THE SERVICE SIZE, TYPE, DEPTH OF MAIN, TYPE OF CONNECTION AT MAIN, INSTALLATION DATE, LOCATION, & SKETCH (AS APPLICABLE).
15. CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
16. ALL ON SITE DOMESTIC WATER LINES SHALL BE PVC WATER PIPE CONFORMING TO ASTM D 1785 WITH SOLVENT-CEMENTED JOINTS.
17. ALL SANITARY SEWER WASTE LINES SHOWN OUTSIDE THE BUILDING FOOTPRINT SHALL BE PVC SEWER PIPE CONFORMING TO ASTM D 3034 - SDR 35 WITH GASKET JOINTS. SEE MECHANICAL / PLUMBING PLANS FOR ALL PIPING REQUIREMENTS WITHIN 5' OF STRUCTURES.
18. SANITARY LINES SHALL BE REQUIRED TO PASS A LOW PRESSURE AIR TEST OR WATER TEST CONFORMING TO THE 2008 STATE OF OREGON APWA / ODOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND UNIFORM PLUMBING CODE SPECIFICATIONS PRIOR TO FINAL ACCEPTANCE. ALL PARTS OF THE SYSTEM SHALL BE CLEANED PRIOR TO TESTING & FINAL ACCEPTANCE. THE CONTRACTOR SHALL NOT ALLOW ANY FOREIGN MATERIAL TO ENTER THE SYSTEM. THE CONTRACTOR SHALL PROVIDE THE REQUIRED PERSONNEL AND MATERIALS TO PERFORM THE ABOVE TESTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH DOCUMENTATION OF THE TEST RESULTS FOR APPROVAL.
19. ALL SEWER MANHOLES SHALL BE HYDROSTATICALLY TESTED PER THE 2008 STATE OF OREGON APWA / ODOT STANDARD SPECIFICATIONS FOR CONSTRUCTION PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL PROVIDE THE REQUIRED PERSONNEL AND MATERIALS TO PERFORM THE ABOVE TESTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH DOCUMENTATION OF THE TEST RESULTS FOR APPROVAL.
20. STORM COLLECTION SYSTEM IS DESIGNED FOR WATER TIGHT COMPONENTS.
21. ALL STORM PIPE IDENTIFIED AS 'PVC' SHALL BE ASTM D 3034 - SDR 35. ALL STORM PIPE IDENTIFIED AS 'HDPE' SHALL BE Hancor Sure-Lok F477 -OR- Advanced Drainage Systems N-12. SEE PLAN SET FOR ADDITIONAL INFORMATION.
22. ALL STORM COLLECTION SYSTEM CONNECTIONS AND COMPONENTS SHALL CONFORM TO PIPE MANUFACTURER REQUIREMENTS. GC TO COORDINATE FINAL STORM SYSTEM LAYOUT W/ ENGINEER AND STORM SYSTEM SUPPLIER PRIOR AT TIME OF CONSTRUCTION. STORM SYSTEM COMPONENT SHOP DRAWINGS SHALL BE PROVIDED FOR ENGINEER'S REVIEW PRIOR TO CONSTRUCTION.
23. ALL CATCH BASIN AREA DRAINS SHALL BE AS IDENTIFIED ON PLAN SET. ALL STORM SYSTEM CATCH BASINS SHALL BE PROVIDED WITH A MINIMUM 24" SETTLEMENT SUMP BELOW THE LOWEST PIPE INVERT (U.N.O.) AND A POLLUTION CONTROL HOOD AND TRAP SYSTEM. SEE PLAN SET FOR ADDITIONAL INFORMATION.
24. GC SHALL PROVIDE ENGINEER WITH SHOP DRAWING SUBMITTALS ON ALL PRE-CAST MANUFACTURED ITEMS.
25. ALL UNDERGROUND PIPING, CONDUIT AND OTHER UTILITIES SHALL BE INSTALLED PER DETAIL DRAWING(S) WITHIN PLAN SET (OR AS OTHERWISE SPECIFIED BY PIPE MANUFACTURER). NOTIFY ENGINEER IN EVENT OF DISCREPANCIES.
26. PREPARATION OF ALL LANDSCAPED AREAS SHALL BE AS NOTED ON THE LANDSCAPE PLANS. THE ENGINEER SHALL INSPECT ALL LANDSCAPE PLANTER GRADES PRIOR TO RECEIVING FINAL SURFACE TREATMENT.
27. HOLD SUB-GRADE ELEVATIONS DOWN 6" WITHIN LANDSCAPE AREAS RECEIVING GROUND COVER AND/OR LAWN. REFER TO LANDSCAPE PLANS FOR ADDITIONAL INFORMATION PERTAINING TO TOP SOIL REQUIREMENTS.
28. SEE LANDSCAPE PLANS FOR IRRIGATION SLEEVE PLACEMENT LOCATIONS AND REQUIREMENTS.
29. SAND SEAL AND TACK ALL CUT ASPHALT EDGES WHEN PLACING NEW ASPHALT ADJACENT TO EXISTING ASPHALT.
30. SEE PLAN SET FOR ADDITIONAL INFORMATION (SHEET C0.1 FOR OREGON CITY ENGINEERING STANDARD NOTES).

CIVIL LEGEND:

	NEW CONCRETE
	NEW ASPHALT
	NEW LANDSCAPING
	EXISTING EASEMENT
	NEW EASEMENT
X	EXISTING FENCING
COM	NEW LOW VOLTAGE UTILITY
GAS	NEW NATURAL GAS
P	NEW POWER - BURIED
	PROPERTY LINE
SS	EXISTING SANITARY SEWER - GRAVITY
SS	NEW SANITARY SEWER - GRAVITY
	NEW STORM SEWER - PRIVATE
	NEW STORM SEWER - PRIVATE HIDDEN
475	EXISTING SURFACE CONTOUR
475	NEW SURFACE CONTOUR
W	EXISTING WATER - POTABLE
W	NEW WATER - POTABLE
surface 100.00	NEW GRADE SPOT ELEVATION
surface 100.00	EXISTING GRADE SPOT ELEVATION
2.0%	NEW GRADE SLOPE
	EXISTING TREE - DECIDUOUS
	NEW AREA DRAIN PER PLAN
	EXISTING FIRE HYDRANT
	NEW/RELOCATED FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING CLEANOUT TO GRADE
	NEW CLEANOUT TO GRADE
	NEW STORM BACKWATER VALVE

ABBREVIATIONS:

IE	INVERT ELEVATION
FF	FINISHED FLOOR
AC	ASPHALT
CONC	CONCRETE
SW	SIDEWALK
BOSW	BACK OF SIDEWALK
GRD	GROUND
TBC	TOP OF BACK OF CURB
TOW	TOP OF WALL
GP	GUTTER PLATE
PVR	PAVER
PLY	PLAYGROUND SURFACE
GRVL	GRAVEL
TOC	TIME OF CONSTRUCTION
ROW	RIGHT-OF-WAY
UPC	UNIFORM PLUMBING CODE
OSSC	OREGON STRUCTURAL SPECIALTY CODE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ODOT	OREGON DEPARTMENT OF TRANSPORTATION
REQ'D	REQUIRED
ASTM	AMERICAN STANDARD TEST METHOD
HDPE	HIGH-DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE
CMP	CORRUGATED METAL PIPE
UNO	UNLESS NOTED OTHERWISE
DEQ	DEPARTMENT OF ENVIRONMENTAL QUALITY
MIN	MINIMUM
MAX	MAXIMUM
STD	STANDARD
DWG	DRAWING
(N)	NEW
(E)	EXISTING
TYP	TYPICAL
NAVD	NORTH AMERICAN VERTICAL DATUM
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARY SEWER MANHOLE
CO	CLEANOUT RISER
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
GC	GENERAL CONTRACTOR

CIVIL SHEET INDEX:

C0.0	CIVIL COVER SHEET
C0.1	OREGON CITY STANDARD ENGINEERING NOTES
C0.2	EROSION CONTROL PLAN
C0.3	EXISTING CONDITIONS & DEMOLITION PLAN
C1.0	OVERALL GRADING & DRAINAGE PLAN
C1.1	ENLARGED GRADING PLAN
C2.0	UTILITY PLAN
C3.0	CIVIL DETAILS
C4.0	AGENCY STANDARD DETAILS

GARDINER MIDDLE SCHOOL EXISTING PARKING SUMMARY:

	EXISTING USE	*BUILDING AREA*	*PARKING RATIO*	*SPACES REQ'D*	*SPACES PRV'D*
GARDINER MIDDLE SCHOOL	MIDDLE SCHOOL	n/a	1 PER CLASSROOM 1 PER ADMIN	44	85
DISABLED SPACES	MIDDLE SCHOOL	n/a	26-50 PARKING SPACES	2	5

NO.	BY	DATE

REVISIONS

OREGON CITY PUBLIC SCHOOLS
GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM
EXPANSION

ZCS ENGINEERING
525 Main Street - Suite 002, Oregon City, OR 97045
(503) 659-2205 Fax (503) 496-0531
by MIKE RADEMACHER

PROJECT NO:	P-1765-12
DRAWN:	JDM
CHECKED:	DSS
DATE:	12-27-12

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 11, 2004
D. SCOTT SOUDERS
EXPIRES: 6-30-14

PRELIMINARY - NOT FOR CONSTRUCTION

CIVIL COVER SHEET

C0.0

SCHEMATIC DESIGN - NOT FOR CONSTRUCTION

STORM DRAIN NOTES:

1. PIPE RULES:
   a. TEN-INCH DIAMETER PIPE OR SMALLER SHALL BE PVC STORM DRAINPIPE CONFORMING TO EITHER ASTM D-3034, OR SEAMLESS PVC PIPE CONFORMING TO ASTM F794 UNLESS OTHERWISE NOTED ON THE APPROVED PLANS. CONCRETE PIPE CONFORMING TO ASTM C-14, CLASS 3 IS ALSO ACCEPTABLE. WATERTIGHT GASKETS ARE REQUIRED ON ALL PIPE SIZES.

   b. TWELVE-INCH THROUGH 48-INCH DIAMETER PIPE (FOR STORM DRAIN PIPE - BUT NOT FOR CULVERTS) MAY BE ONE OF THE FOLLOWING, UNLESS OTHERWISE NOTED ON THE APPROVED PLANS:
      - CLASS V REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76. WATER TIGHT JOINTS REQUIRED. WHEN USED IN PUBLIC RIGHT-OF-WAY THERE MUST BE ONE-FOOT MINIMUM COVER FROM ROADWAY SUBGRADE.
      - DUCTILE IRON; CLASS 50 WALL THICKNESS FOR PIPE SIZES UP TO 12 INCHES; CLASS 51 WALL THICKNESS FOR 14 INCH AND LARGER; WATER TIGHT GASKETS REQUIRED. WHEN USED IN PUBLIC RIGHT-OF-WAY THERE MUST BE TWO-FOOT MINIMUM COVER FROM ROADWAY SUBGRADE UNLESS CLASS 52 IS USED ALLOWING A ONE-FOOT MINIMUM COVER.
      - CORRUGATED HIGH-DENSITY POLYETHYLENE PIPE (HDPE) - SMOOTH INTERIOR (ADS N-12 OR EQUIVALENT, MAXIMUM 30-INCH DIAMETER CONFORMING TO AASHTO M-294) (WITH WATERTIGHT GASKETS). WHEN USED IN PUBLIC RIGHT-OF-WAY THERE MUST BE TWO-FOOT MINIMUM COVER FROM ROADWAY SUBGRADE. CONCRETE HEADWALLS/TREATMENTS ARE REQUIRED FOR ANY EXPOSED ENDS.
      - POLYVINYL CHLORIDE (PVC), SEAMLESS, SEWER PIPE (SDR 35, MEETING REQUIREMENTS OF ASTM D3034) (ASTM F-794) (AWWA C-900) (AWWA C-905). WHEN USED IN PUBLIC RIGHT-OF-WAY, THE MINIMUM COVER SHALL BE TWO-FOOT MINIMUM COVER FROM ROADWAY SUBGRADE, EXCEPT FOR C-900 AND C-905, WHICH REQUIRES ONE-FOOT MINIMUM COVER FROM ROADWAY SUBGRADE. WATER TIGHT GASKETS REQUIRED. CONCRETE HEADWALLS/TREATMENTS ARE REQUIRED FOR ANY EXPOSED ENDS.

   c. PERFORATED PIPE SHALL BE HDPE PIPE CONFORMING TO AASHTO M-294 OR PVC PIPE CONFORMING TO EITHER ASTM D3034 OR ASTM 2729, UNLESS OTHERWISE NOTED ON THE APPROVED PLANS.

   d. CULVERT PIPE SHALL BE CLASS V REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76, UNLESS OTHERWISE NOTED ON THE APPROVED PLANS. WHEN USED IN PUBLIC RIGHT-OF-WAY THERE MUST BE ONE-FOOT MINIMUM COVER FROM ROADWAY SURFACE.

2. ALL TRENCH EXCAVATION SHALL CONFORM TO A.P.W.A. DIVISION III, SECTION 301.1.01. ALL EXCESS MATERIAL FROM THE TRENCH EXCAVATION SHALL BE DISPOSED OF ON AN APPROVED SITE.

3. PIPE BEDDING AND PIPE ZONE MATERIAL SHALL CONFORM WITH GRANULAR BEDDING AND BACKFILL REQUIREMENTS OF A.P.W.A. DIVISION III, SECTION 301.2.02 AND SHALL BE 3/4"-0" CRUSHED ROCK, CLASS "B".

4. TRENCH BACKFILL SHALL BE "CLASS B" PER A.P.W.A. DIVISION III, SECTION 301.2.04B IN ALL PUBLIC RIGHT-OF-WAYS OR PAVED AREAS IN THE PROJECT. TRENCH BACKFILL MAY BE "CLASS A" PER A.P.W.A. DIVISION III, SECTION 301.2.04A FOR AREAS OUTSIDE PUBLIC RIGHT-OF-WAYS OR OUTSIDE OF PAVED AREAS.

5. TRENCH COMPACTION SHALL BE PER A.P.W.A. DIVISION III, SECTION 301.3.07.

6. MANHOLE WALLS SHALL BE PRECAST REINFORCED CONCRETE MANHOLES OF THE SIZE REQUIRED PER MANUFACTURER'S RECOMMENDATIONS FOR THE PIPE SIZES AND NUMBER OF OPENINGS.

7. BOX CULVERT SHALL BE PRECAST REINFORCED BOX CULVERT SECTIONS MEETING THE REQUIREMENTS OF ASTM C-850, UNLESS OTHERWISE NOTED ON THE APPROVED PLANS.

8. IF DRAINAGE FIELD TILE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE CITY'S INSPECTOR. THE INTENT WILL BE TO CONNECT ANY FUNCTIONING DRAIN TILE SYSTEM TO THE STORM DRAIN SYSTEM IN AN APPROPRIATE MANNER. SUCH CONNECTION MUST BE NOTED ON THE AS-BUILT DRAWINGS AND MUST BE APPROVED BY THE PROJECT ENGINEER AS WELL AS THE CITY'S INSPECTOR.

9. ALL HOUSE SERVICE STUBOUTS SHALL BE A MINIMUM OF THREE FEET (3') BEYOND EASEMENT OR RIGHT-OF-WAY LINE AND SHALL BE MARKED WITH A PRESSURE TREATED 2" X 4" (PAINTED WHITE WITH THE LABEL OF "STM") FOR FUTURE LOCATION. SERVICE STUBOUTS SHALL BE A MINIMUM OF 4-INCH DIAMETER PIPE AT MINIMUM SLOPE OF 1%. TRACER WIRE SHALL BE INSTALLED WITH SERVICE STUBOUTS.

10. ALL MANHOLE RIMS NOT IN PAVEMENT AREAS, AND NOT IN THE ROADWAY RIGHT-OF-WAY OF A PAVED ROAD, SHALL BE SET SIX INCHES (6") ABOVE FINISHED GRADE. THEY SHALL HAVE A CAST IRON MANHOLE FRAME AND COVER GROUTED TO JUST UNDER THE TOP OF THE FRAME. COVER SHALL BE BOLTED DOWN WITH A MINIMUM OF TWO STAINLESS STEEL BOLTS.

11. ALL MATERIALS INSPECTIONS AND TESTS ARE TO BE IN ACCORDANCE WITH CITY OF OREGON CITY AND/OR APWA STANDARD SPECIFICATIONS. ALL SECTIONS FAILING TO PASS THE REQUIRED TESTS AND INSPECTIONS SHALL BE LOCATED AND REPAIRED. AFTER REPAIR, THESE SECTIONS SHALL BE RETESTED AND INSPECTED UNTIL FOUND ACCEPTABLE BY THE CITY.

12. ALL PUBLIC STORM DRAIN PIPING SHALL BE VIDEO INSPECTED BY THE CONTRACTOR PER A.P.W.A. DIVISION III, SECTION 301.3.11 AND SUBMITTED TO THE CITY INSPECTOR WITH A WRITTEN REPORT. BEFORE ACCEPTANCE BY THE CITY, STORMWATER PIPE SHALL BE SHOWN CLEAR OF ANY DEBRIS, ROCKS, GRAVEL, SAND, SILT AND OTHER FOREIGN MATERIAL AS WELL AS HAVING THE FINAL COURSE OF AC PAVEMENT IN PLACE WITHIN THE PIPE'S TRIBUTARY DRAINAGE AREA.

ENGINEERED GRADING NOTES:

1. PROJECT GRADING LIMITS SHALL BE WITHIN THE PROJECT'S PROPERTY BOUNDARY AND/OR STREET RIGHT-OF-WAY, UNLESS OTHERWISE SHOWN ON PLANS. NO GRADING SHALL BE CONDUCTED IN WETLANDS OR OTHER ENVIRONMENTALLY SENSITIVE AREAS UNLESS SPECIFICALLY SHOWN ON THE APPROVED PLANS.

2. THE IDENTIFICATION OR REMOVAL OF UNSUITABLE MATERIAL SHALL BE DONE WITH CONSULTATION WITH THE PROJECT ENGINEER OR PROJECT'S GEOTECHNICAL ENGINEER.

3. REMOVE AND DISPOSE OF ALL ORGANIC AND/OR UNSUITABLE MATERIALS, INCLUDING TREES, STUMPS, ROOTS, BRUSH, AND GRASS IN SUCH A MANNER TO MEET ALL APPLICABLE REGULATIONS. ON-SITE DISPOSAL SHALL BE OF AS DETERMINED BY THE PROJECT ENGINEER OR PROJECT'S GEOTECHNICAL ENGINEER.

4. STOCKPILE EXCESS SOIL MATERIAL ON-SITE AS DIRECTED BY THE PROJECT ENGINEER, PROJECT'S GEOTECHNICAL ENGINEER, OR APPROVED PLANS (UNLESS APPROVED PLANS IDENTIFY EXCESS EXCAVATION IS TO BE REMOVED FROM THE SITE).

5. THE CONTRACTOR SHALL PROTECT ALL TREES NOT SPECIFICALLY SHOWN TO BE REMOVED ON APPROVED PLANS.

6. GRADE THE SITE TO THE ELEVATIONS SHOWN ON THE DRAWING WITH THE NECESSARY ADJUSTMENTS TO ACCOMMODATE THE FINISHES AS SPECIFIED. SHAPE FUTURE PAVED AREAS PER THE PLANS TO A SUBGRADE ELEVATION THAT WILL ACCOMMODATE FUTURE BASE ROCK AND PAVING.

7. STRAIGHT GRADES SHALL BE RUN BETWEEN FINISH GRADE AND/OR FINISH CONTOUR LINES SHOWN, UNLESS OTHERWISE NOTED. FINISH GRADES ARE TO DRAIN AS INDICATED ON THE PLANS. ROUGH GRADING SHALL BE FINISHED BY BLADING AND RAKING TO REASONABLE SMOOTH CONTOURS WITH GENTLE TRANSITIONS.

8. ALL CUT OR FILL SLOPES SHALL BE CONSTRUCTED AT NO STEEPER THAN FOUR (4) HORIZONTAL TO ONE (1) VERTICAL UNLESS OTHERWISE SHOWN ON APPROVED PLANS.

9. AREAS TO RECEIVE FILL MATERIALS SHALL BE PREPARED BY REMOVING ALL ORGANIC AND UNSUITABLE MATERIALS AND "PROOF ROLLED". BENCHING MAY BE REQUIRED. MATERIAL IN SOFT SPOTS WITHIN A PROPOSED BUILDING ENVELOPE, PAVED AREA, OR SIDEWALK AREA SHALL BE REMOVED TO THE DEPTH REQUIRED (AS DIRECTED BY THE PROJECT ENGINEER OR THE PROJECT'S GEOTECHNICAL ENGINEER) AND SHALL BE REPLACED WITH SUITABLE BACKFILL.

10. THE CONSTRUCTION OF STRUCTURAL FILLS AND/OR EXCAVATIONS CONNECTED WITH ANY PUBLIC IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE WRITTEN RECOMMENDATIONS MADE BY THE PROJECT'S GEOTECHNICAL ENGINEER IN AN APPROVED REPORT.

11. COMPACTION TESTS AND REPORTS FOR EACH LOT SHALL BE CONDUCTED BY AN APPROVED TESTING LABORATORY, TEST FREQUENCY SHALL BE PER THE PROJECT ENGINEER, OR PROJECT'S GEOTECHNICAL ENGINEER. TESTING TO COMMENCE WITH FILL ACTIVITIES AND AS A MINIMUM, ONE TEST WILL BE TAKEN FOR EVERY 500 CUBIC YARDS PLACED.

12. IF DUSTY CONDITIONS EXIST, THE PERMITTEE SHALL APPLY A FINE SPRAY OF WATER ON THE SURFACE TO CONTROL THE DUST.

13. ENGINEERED FILL IN THE BUILDING ENVELOPE SHALL BE CERTIFIED BY THE PROJECT ENGINEER. THIS CERTIFICATION SHALL BE SENT TO THE CITY BUILDING OFFICIAL UPON SUBMISSION OF THE BUILDING PERMIT IF IT HAS NOT ALREADY BEEN RECEIVED BY THE CITY BUILDING OFFICIAL.

LOT GRADING NOTES:

1. GRADING OF RESIDENTIAL LOTS SHALL BE PER THE CITY'S DEVELOPMENT STANDARDS.

2. FINAL LOT GRADING IS THE RESPONSIBILITY OF THE INDIVIDUAL PERMIT HOLDER/OWNER UNLESS OTHERWISE NOTED.

3. THE BUILDING ENVELOPES SHOWN ARE GENERIC. OTHER ENVELOPES ARE POSSIBLE PER THE CITY'S ZONING CODE.

4. THIS GRADING PLAN IS BASED ON THE CITY'S "RESIDENTIAL LOT GRADING CRITERIA", OTHER GRADING PLANS ARE POSSIBLE WHICH MEET THE CITY'S CRITERIA, AND MAY BE SUBMITTED FOR APPROVAL.

5. THE 'LOT GRADING CONTROL LINE' IS THE CRITICAL PATH TO DETERMINE THE TOP OF FOUNDATION ELEVATION BASED ON:
   a. PARKWAY SLOPE = 2%
   b. SWALE = 1% MINIMUM, 4% MAXIMUM
   c. PROTECTIVE SLOPE = MINIMUM OF 6 INCHES WITHIN FIRST 10 FEET OF BUILDING
   d. TOP OF FOUNDATION = MINIMUM OF 12 INCHES ABOVE FINISHED GROUND ELEVATION
   e. DRIVEWAY SLOPE = 14% MAXIMUM RECOMMENDED
   f. CHANGE IN DRIVEWAY GRADE WITHOUT A VERTICAL CURVE = 12% MAXIMUM FOR ANY TEN-FOOT DISTANCE

6. APPLICABLE RECOMMENDED EROSION CONTROL MEASURES FROM THE CITY'S ADOPTED PUBLIC WORKS STANDARDS FOR EROSION CONTROL ARE REQUIRED AND SHALL BE CONSTRUCTED AND MAINTAINED TO ENSURE MINIMUM EROSION AND SILTATION DURING THE COURSE OF WORK.

7. ANY CHANGE TO THIS LOT GRADING PLAN MUST BE APPROVED BY THE ENGINEER OF RECORD AND RESUBMITTED TO THE CITY ENGINEERING DIVISION FOR REVIEW AND APPROVAL.

8. NO FOUNDATION INSPECTION WILL BE SCHEDULED WITHOUT A CITY-APPROVED LOT GRADING PLAN.

9. THE TOP OF FOUNDATION ELEVATION (TFE) IS THE ELEVATION OF THE POINT ON THE TOP OF FOUNDATION WHICH IS 18 INCHES ABOVE THE HIGHEST POINT ON THE ADJOINING DRAINAGE PATH AS DEPICTED BY DRAINAGE ARROWS ON THE APPROVED RESIDENTIAL LOT GRADING PLAN. STEPDOWN OF THE FOUNDATION IS ALLOWABLE BUT THERE MUST BE A MINIMUM OF 18 INCHES VERTICALLY BETWEEN ALL POINTS OF THE TOP OF FOUNDATION AND THE ADJOINING DRAINAGE PATH.

10. DESIGNERS SHALL USE THE LOT GRADING LEGEND AS A GUIDE FOR ITEMS REQUIRED ON THE LOT GRADING PLAN.

EROSION & SEDIMENT CONTROL NOTES:

1. APPROVAL OF THIS EROSION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, DETENTION FACILITIES, UTILITIES, ETC.).

2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED, AND VEGETATION, LANDSCAPING OR APPROVED FINISHED SURFACES IS ESTABLISHED.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THE GRADING PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE CONTRACTOR, FOR THE DURATION OF THE CLEARING ACTIVITIES, SHALL MAINTAIN THE FLAGGING.

4. THE ESC FACILITIES ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO ANY CLEARING AND GRADING ACTIVITIES, AND MAINTAINED IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.

5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.

6. THE ESC FACILITIES SHALL BE INSPECTED, AS REQUIRED AND AFTER EACH STORM OCCURRENCE, BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH, OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.

8. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED, OR SUMPED, CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

9. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT. ADDITIONAL GRAVEL MAY HAVE TO BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD. IF THE GRAVEL PAD DOES NOT ADEQUATELY REMOVE DIRT AND MUD FROM VEHICLE WHEELS SUCH THAT MUD AND DIRT TRACKING IS EVIDENT OFF-SITE, ADDITIONAL MEASURES MUST BE TAKEN, SUCH AS DRY-SWEEPING AND VACUUMING THE STREET. SUCH MEASURES MAY INCLUDE HOSING OFF WHEELS BEFORE VEHICLES LEAVE THE SITE OR OTHER CONSTRUCTION TECHNIQUES/WORK OPERATIONS MODIFICATIONS.

10. WHEEL WASHING SHOULD BE DONE ON THE GRAVEL PAD AND WASH WATER SHOULD DRAIN THROUGH A SILT-TRAPPING STRUCTURE PRIOR TO LEAVING THE CONSTRUCTION SITE.

11. THE APPLICANT/CONTRACTOR IS SOLELY RESPONSIBLE FOR PROTECTION OF ALL WORK, ADJACENT PROPERTIES AND DOWNSTREAM FACILITIES FROM EROSION AND SILTATION DURING THE COURSE OF THE WORK. ANY DAMAGE RESULTING FROM SUCH EROSION AND SILTATION SHALL BE CORRECTED.

12. APPLICABLE RECOMMENDED EROSION CONTROL MEASURES FROM CHAPTER 3 OF CLACKAMAS COUNTY'S EROSION/SEDIMENTATION CONTROL PLANS TECHNICAL GUIDANCE HANDBOOK, DATED AUGUST 1994, SHALL BE REQUIRED. IN PARTICULAR, TABLE 3-2 EROSION CONTROL MATRIX, COMMERCIAL, SUBDIVISION AND LARGE SITE CONSTRUCTION COVERING BASE MEASURES, WET WEATHER MEASURES, AND POST CONSTRUCTION.

13. AFTER NOVEMBER 1, ALL BARE SOIL SHALL BE RE-SEEDED, COVERED WITH AN APPROPRIATE EROSION CONTROL BLANKET, AND FERTILIZED. WHERE RAPID GERMINATION IS REQUIRED USE THE ANNUAL RYEGRASS BLEND AS RECOMMENDED IN THE "TECHNICAL GUIDANCE HANDBOOK".

14. ANY IN-STREAM WORK SHALL BE SCHEDULED IN STRICT ACCORDANCE WITH SPECIFIC LOCAL REQUIREMENTS OF THE DIVISION OF STATE LANDS, AND OREGON DEPARTMENT OF FISH AND WILDLIFE.

15. THE APPLICANT/CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEEDED AREAS UNTIL VEGETATION UPON THEM IS ESTABLISHED. ANY ADDITIONAL SEEDING NECESSARY TO ESTABLISH THE VEGETATION SHALL BE DONE BY THE APPLICANT/CONTRACTOR.

16. EROSION CONTROL MEASURES ARE A TEMPORARY MEASURE ONLY. THEY SHALL BE INSTALLED, REPAIRED, MODIFIED, OR REPLACED AT THE DIRECTION OF THE CITY INSPECTOR.

17. ANY OBSERVATION OF VISIBLE OR MEASURABLE EROSION, OR AN OBSERVATION OF MORE THAN A TEN-PERCENT INCREASE IN DOWNSTREAM CHANNEL TURBIDITIES, WILL RESULT IN AN ENFORCEMENT ACTION BY THE CITY.

18. IN CASE OF EMERGENCY:
    THE EMERGENCY CONTACT PERSON IS: ZACH STOKES, PE
    THE 24-HOUR CONTACT TELEPHONE NUMBER IS: 503-659-2205
    THE 24-HOUR CONTACT ADDRESS IS: 524 MAIN STREET, SUITE 2, OREGON CITY, OR 97045

19. SITE STEWARD RESPONSIBLE FOR EROSION CONTROL AT THE PROJECT SITE THROUGHOUT PROJECT DURATION (THAT IS SITE CLEARING AND GRUBBING THROUGH PERMANENT VEGETATION ESTABLISHMENT).
    NAME: ZACH STOKES
    ADDRESS: 524 MAIN STREET, SUITE 2, OREGON CITY, OR 97045
    TELEPHONE NUMBER: 503-659-2205
    FAX NUMBER: 503-659-2433
    E-MAIL ADDRESS: ZACHS@ZCSENGINEERING.COM

20. IN THE EVENT OF A TRANSFER IN PROJECT OWNERSHIP (IN PART OR WHOLE) PRIOR TO PERMANENT VEGETATION ESTABLISHMENT, THE CITY EROSION CONTROL OFFICER WILL BE NOTIFIED IN WRITING OF THE NEW SITE STEWARD RESPONSIBLE FOR EROSION CONTROL. IN PARTIAL TRANSFERS, (SUCH AS LOT SALES), THE WRITTEN NOTIFICATION SHALL BE ACCOMPANIED BY A GRAPHICAL EXHIBIT SHOWING THE AREA TRANSFERRED AND THE ADDRESS, PHONE, FAX, AND/OR E-MAIL ADDRESS OF THE SITE STEWARD.

SEDIMENT FENCE NOTES:

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.

2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS, WHERE FEASIBLE. THEN FENCE POSTS SHALL BE SPACED A MAXIMUM OF SIX FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 30 INCHES.

3. A TRENCH SHALL BE EXCAVATED, ROUGHLY FOUR-INCHES WIDE BY EIGHT-INCHES DEEP, UPSLOPE AND ADJACENT TO THE WOOD POST TO ALLOW THE FILTER FABRIC TO BE BURIED.

4. ATTACH FILTER FABRIC TO UPSTREAM SIDE OF POST. TURN ENDS OF SEDIMENT FENCE UPHILL TO ASSURE SOIL IS TRAPPED.

5. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST ONE INCH LONG, TIE WIRE OR HOG RINGS. THE FABRIC SHALL NOT BE STAPLED TO EXISTING TREES. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF FOUR INCHES AND SHALL EXTEND TO BETWEEN 24 INCHES AND 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

6. STANDARD STRENGTH FILTER FABRIC SHALL NOT HAVE A TRIBUTARY DRAINAGE AREA OF MORE THAN ¼ ACRE PER 100 LINEAR FEET.

7. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF THE ABOVE STANDARD NOTE FOR STANDARD STRENGTH FILTER FABRIC APPLYING.

8. SEDIMENT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

9. SEDIMENT FENCES SHALL BE INSPECTED BY APPLICANT/CONTRACTOR IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

10. AT NO TIME SHALL MORE THAN ONE FOOT (1') DEPTH OF SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND A SEDIMENT FENCE OR STRAW BALE SEDIMENT BARRIER. SEDIMENT SHOULD BE REMOVED OR REGRADED INTO SLOPES AND THE SEDIMENT BARRIERS REPAIRED AND RE-ESTABLISHED AS NEEDED.

11. STRAW BALES SHALL BE STANDARD 40 TO 60-POUND RECTANGULAR BALES OF CEREAL GRAIN OR SEED STRAW.

NO.	REVISIONS	BY	DATE

OREGON CITY PUBLIC SCHOOLS

GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM
EXPANSION

ZCS ENGINEERING
ZBINDEN • CARTER • SOUDERS
525 Main Street - Suite 002, Oregon City, OR 97045
www.zcsengineering.com

PROJECT NO:	P-1765-12
DRAWN:	JDM
CHECKED:	DSS
DATE:	12-27-12

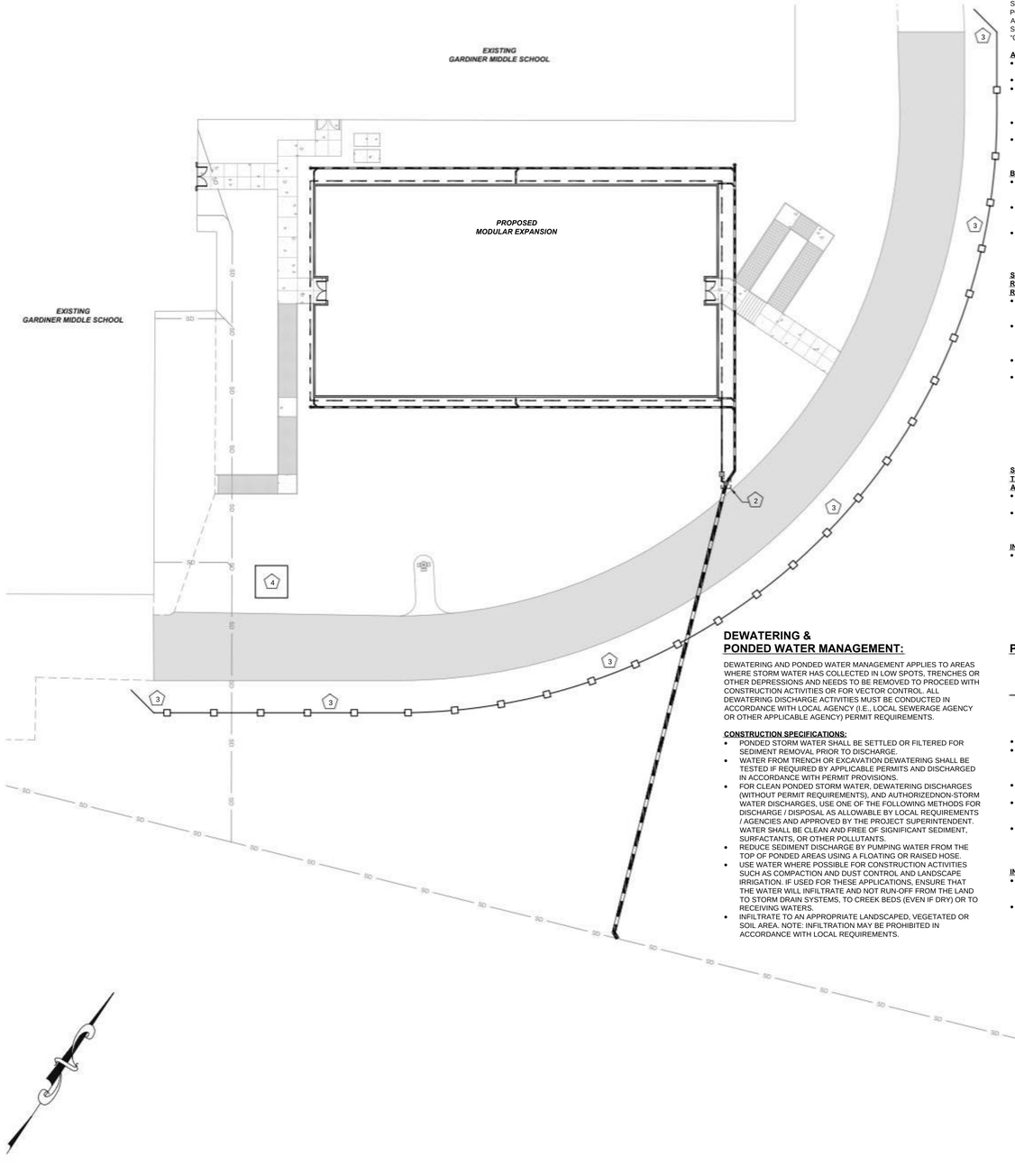
REGISTERED PROFESSIONAL ENGINEER
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OREGON
JULY 11, 2004
ZACHARY C. STOKES
EXPIRES: 6-30-14

PRELIMINARY - NOT FOR CONSTRUCTION

OREGON CITY
STANDARD NOTES

C0.1

SCHEMATIC DESIGN - NOT FOR CONSTRUCTION



STOCKPILE MANAGEMENT:

STOCKPILE MANAGEMENT PROCEDURES AND PRACTICES ARE DESIGNED TO REDUCE OR ELIMINATE AIR AND STORM WATER POLLUTION FROM STOCKPILES OF SOIL, SAND, AND PAVING MATERIALS SUCH AS PORTLAND CEMENT CONCRETE (PCC) RUBBLE, ASPHALT CONCRETE (AC), ASPHALT CONCRETE RUBBLE, AGGREGATE BASE, AGGREGATE SUB-BASE OR PRE-MIXED AGGREGATE, ASPHALT BINDER (SO CALLED "COLD MIX" ASPHALT) AND PRESSURE TREATED WOOD.

ALL STOCKPILES:

- IF FEASIBLE, LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM INLETS, DRAINAGE COURSES, OR WATER BODIES.
- KEEP STOCKPILES ORGANIZED AND SURROUNDING AREAS CLEAN.
- PROTECT STORM DRAIN INLETS, DRAINAGE COURSES, AND RECEIVING WATERS FROM STOCKPILES, USING DRAIN INLET PROTECTION AND PERIMETER SEDIMENT CONTROLS AS APPROPRIATE.
- IMPLEMENT DUST CONTROL PRACTICES AS APPROPRIATE TO PREVENT WIND EROSION OF STOCKPILED MATERIAL.
- TEMPORARY STOCKPILES NOT REMOVED OR USED BY THE END OF ONE WORKDAY MUST BE MANAGED IN ACCORDANCE WITH THIS BMP AND IN ALL CASES PROTECTED PRIOR TO RAINFALL.

BAGGED MATERIALS:

- BAGGED MATERIALS SHALL BE PLACED ON PALLETS AT ALL TIMES AND UNDER COVER (PLASTIC SHEETING, INDOORS, ETC.) PRIOR TO THE ONSET OF SIGNIFICANT RAIN (>0.10 INCHES).
- STOCKPILES/STORAGE OF PRESSURE TREATED WOOD WITH COPPER, CHROMIUM, AND ARSENIC OR AMMONIACAL COPPER, ZINC, AND ARSENATE:
- "STOCKPILES" OF TREATED WOOD SHALL BE COVERED WITH PLASTIC OR COMPARABLE MATERIAL PRIOR TO THE ONSET OF SIGNIFICANT RAIN (>0.25 INCHES).

STOCKPILES OF SOIL, PORTLAND CEMENT, SAND, MULCH, CONCRETE RUBBLE, ASPHALT CONCRETE, ASPHALT CONCRETE RUBBLE, AGGREGATE BASE, OR AGGREGATE SUB-BASE:

- PROTECT STOCKPILES WITH A PERIMETER SEDIMENT BARRIER SUCH AS BERMS, SEDIMENT FENCES, FIBER ROLLS, SAND/GRAVEL BAGS, OR STRAW BALE BARRIERS YEAR ROUND.
- STOCKPILES SHOULD ADDITIONALLY BE COVERED OR STABILIZED AS NECESSARY DURING SIGNIFICANT FORECASTED STORM EVENTS (> 0.25 INCHES), PROLONGED PERIODS OF RAIN, AND TO PROTECT FROM WIND EROSION.
- SOIL STOCKPILES MAY BE RETURNED TO THE EXCAVATION IF RAIN IS FORECAST.
- TOPSOIL STOCKPILES SHOULD BE LOW N HEIGHT (IDEALLY <1 METER) AND FLAT AND BE USED WITHIN 6 MONTHS TO PROMOTE HEALTHY SOIL ORGANISMS AND MICROBES. STOCKPILES NOT USED WITHIN 6 MONTHS SHOULD BE RESEEDED WITH A SPECIES THAT IS MYCORRHIZAL DEPENDENT TO AVOID THE DEVELOPMENT OF ANAEROBIC CONDITIONS IN THE STOCKPILE. IN ADDITION, TOPSOIL STOCKPILES CAN BE TURNED PERIODICALLY TO KEEP ORGANISMS ALIVE FOR LARGER STOCKPILES AND DURING EXTREMELY HOT WEATHER.

STOCKPILES OF "COLD MIX" OR OTHER POLLUTANTS EASILY TRANSPORTED IN STORM WATER (CEMENT, LIME, AND OTHER CAUSTIC AMENDMENTS):

- STOCKPILES SHALL BE PLACED ON PLASTIC OR COMPARABLE MATERIAL AT ALL TIMES.
- STOCKPILES SHALL BE COVERED WITH PLASTIC OR COMPARABLE MATERIAL PRIOR TO THE ONSET OF SIGNIFICANT RAIN (>0.10 INCHES).

INSPECTION AND MAINTENANCE:

- INSPECT STOCKPILES REGULARLY AND REPAIR AND/OR REPLACE COVERS, AND PERIMETER CONTROLS AS NEEDED.

DEWATERING & PONDED WATER MANAGEMENT:

DEWATERING AND PONDED WATER MANAGEMENT APPLIES TO AREAS WHERE STORM WATER HAS COLLECTED IN LOW SPOTS, TRENCHES OR OTHER DEPRESSIONS AND NEEDS TO BE REMOVED TO PROCEED WITH CONSTRUCTION ACTIVITIES OR FOR VECTOR CONTROL. ALL DEWATERING DISCHARGE ACTIVITIES MUST BE CONDUCTED IN ACCORDANCE WITH LOCAL AGENCY (I.E., LOCAL SEWERAGE AGENCY OR OTHER APPLICABLE AGENCY) PERMIT REQUIREMENTS.

CONSTRUCTION SPECIFICATIONS:

- PONDED STORM WATER SHALL BE SETTLED OR FILTERED FOR SEDIMENT REMOVAL PRIOR TO DISCHARGE.
- WATER FROM TRENCH OR EXCAVATION DEWATERING SHALL BE TESTED IF REQUIRED BY APPLICABLE PERMITS AND DISCHARGED IN ACCORDANCE WITH PERMIT PROVISIONS.
- FOR CLEAN PONDED STORM WATER, DEWATERING DISCHARGES (WITHOUT PERMIT REQUIREMENTS), AND AUTHORIZEDNON-STORM WATER DISCHARGES, USE ONE OF THE FOLLOWING METHODS FOR DISCHARGE / DISPOSAL AS ALLOWABLE BY LOCAL REQUIREMENTS / AGENCIES AND APPROVED BY THE PROJECT SUPERINTENDENT. WATER SHALL BE CLEAN AND FREE OF SIGNIFICANT SEDIMENT, SURFACTANTS, OR OTHER POLLUTANTS.
- REDUCE SEDIMENT DISCHARGE BY PUMPING WATER FROM THE TOP OF PONDED AREAS USING A FLOATING OR RAISED HOSE.
- USE WATER WHERE POSSIBLE FOR CONSTRUCTION ACTIVITIES SUCH AS COMPACTION AND DUST CONTROL AND LANDSCAPE IRRIGATION. IF USED FOR THESE APPLICATIONS, ENSURE THAT THE WATER WILL INFILTRATE AND NOT RUN-OFF FROM THE LAND TO STORM DRAIN SYSTEMS, TO CREEK BEDS (EVEN IF DRY) OR TO RECEIVING WATERS.
- INFILTRATE TO AN APPROPRIATE LANDSCAPED, VEGETATED OR SOIL AREA. NOTE: INFILTRATION MAY BE PROHIBITED IN ACCORDANCE WITH LOCAL REQUIREMENTS.

PAGE SPECIFIC LEGEND:

- CHECK DAM PER RD 1005
- TYPE 3 AREA INLET PROTECTION PER RD1010
- SEDIMENT FENCE PER RD1040
- CONCRETE WASH PER PLAN

- DISCHARGE TO AN ON-SITE TEMPORARY SEDIMENT POND.
- DISCHARGE TO THE STORM DRAIN SYSTEM. WATER FROM DEWATERING MUST NOT CONTAIN SIGNIFICANT SEDIMENTS OR OTHER POLLUTANTS AND DISCHARGE MUST BE IN ACCORDANCE WITH LOCAL PERMITS.
- ALTERNATIVELY, A VACUUM TRUCK MAY BE USED TO REMOVE THE WATER AND HAUL IT TO AN AUTHORIZED DISCHARGE LOCATION.
- IF A PERMIT IS REQUIRED, PROVIDE TEMPORARY ONSITE STORAGE (BAKER TANKS, ETC.) OF WATER REMOVED FROM TRENCHES, EXCAVATIONS, ETC., UNTIL A PERMIT TO DISCHARGE IS OBTAINED.
- IF A PERMIT IS OBTAINED FOR DISCHARGE TO A STORM DRAIN OR SANITARY SEWER SYSTEM, CONDUCT ALL DEWATERING DISCHARGE ACTIVITIES IN ACCORDANCE WITH PERMIT REQUIREMENTS.

INSPECTION AND MAINTENANCE:

- INSPECT PUMPS, HOSES AND ALL EQUIPMENT BEFORE USE. MONITOR DEWATERING OPERATIONS TO ENSURE IT DOES NOT CAUSE OFFSITE DISCHARGE OR EROSION.
- INSPECT ROUTINELY, WHEN APPLICABLE ACTIVITIES ARE UNDER WAY.

CONCRETE MANAGEMENT:

CONCRETE TRUCKS AND TRANSFER CHUTES SHALL BE WASHED-OUT ON-SITE UTILIZING A CONCRETE WASHOUT TO COLLECT ALL WASH WATER AND CONCRETE WASTE. THE WASHOUT AREA WILL BE LOCATED AWAY FROM STORM DRAINS, OPEN DITCHES OR WATER BODIES. SIGNS WILL BE POSTED THROUGHOUT THE JOBSITE, DIRECTING CREWS AND CONCRETE TRUCKS TO CONCRETE WASHOUTS. UPON COMPLETION OF THE CONCRETE WORK, THE CONTRACTOR SHALL BREAK UP, REMOVE, AND HAUL AWAY OR REUSE ON SITE SOLID CONCRETE THAT HAS ACCUMULATED IN THE WASHOUT.

CONSTRUCTION SPECIFICATIONS:
MATERIAL USE:

- INSTALL STORM DRAIN PROTECTION AT ANY DOWN-GRADIENT INLETS THAT MAY BE IMPACTED BY THE ACTIVITY. SEE THE BMP ON "STORM DRAIN INLET PROTECTION."
- DO NOT PLACE CONCRETE DURING RAIN (PRECIPITATION THAT IS SUFFICIENT TO CAUSE LOCAL RUNOFF) OR WITHIN 18 HOURS OF FORECASTED RAIN.
- PLACE STOPPERS ON CONCRETE TRUCK CHUTES DURING TRAVEL ONSITE TO MANAGE POTENTIAL DRIBBLING OF CONCRETE MATERIAL.
- MINIMIZE AMOUNT OF CURING COMPOUND AND FORM OIL USED AND DO NOT OVERSPRAY ONTO A NON-TARGET SURFACE.
- SANDBLASTING: USE SHROUDS WHERE NECESSARY TO CONTAIN WASTE FROM SANDBLASTING. CONDUCT WORK IN ACCORDANCE WITH APPLICABLE AIR QUALITY STANDARDS. COLLECTED DEBRIS FOR PROPER DISPOSAL ASAP AND PRIOR TO RAIN EVENTS.
- MINIMIZE THE AMOUNT OF WATER USED DURING CORING/DRILLING OR SAW CUTTING. DURING WET CORING OR SAW CUTTING, USE A SHOVEL OR WET VACUUM TO LIFT THE COOLING WATER / SLURRY FROM THE PAVEMENT. ADDITIONALLY, IF WET VACUUMING IS NOT ADEQUATE TO CAPTURE WASTEWATER FROM THE ACTIVITY, SAND BAG BARRIERS OR OTHER CONTAINMENT SHALL BE USED.
- IF CONCRETE RESIDUE REMAINS AFTER DRYING, THE AREA SHALL BE SWEPT UP AND RESIDUE REMOVED TO AVOID CONTACT WITH STORM WATER OR ENTERING A STORM DRAIN OR WATER BODY VIA THE WIND.
- THE SWEEPINGS SHALL BE COLLECTED AND RETURNED TO THE AGGREGATE STOCKPILE OR DISPOSED IN THE TRASH AND NOT WASHED INTO THE STREET OR STORM DRAIN.
- WASHING OF FRESH CONCRETE SHALL BE AVOIDED, UNLESS RUNOFF CAN BE DRAINED TO A BERMED OR LEVEL AREA, AWAY FROM STORM DRAIN INLETS AND CHANNELS.
- ACID WASHING OF CONCRETE SHALL BE MINIMIZED. WHERE REQUIRED, ACID WASH SHALL BE DIRECTED INTO A COLLECTION AREA LINED WITH VISQUEEN. RESIDUALS SHALL BE COLLECTED AND PROPERLY DISPOSED OF AS HAZARDOUS WASTE.
- HANDLING OF WET CONCRETE, SUCH AS MOVING A PUMPER CHUTE OR TRANSPORTING MATERIAL IN A WHEELBARROW FROM THE DELIVERY TRUCK, MUST BE PERFORMED IN A CONTROLLED MANNER TO PREVENT DRIPS AND SPILLS OUTSIDE THE TARGET POUR AREA. MINIMIZE WATER USE.
- CONCRETE DRIPS, SPILLS, OVER POURS, AND EQUIPMENT RINSE WATER LANDING ON RAIN-EXPOSED OUTSIDE OF ANY BMP DEVICE MUST BE COLLECTED AND HAVE THE SURFACE CLEANED AND WASTE DISPOSED OF PROPERLY PRIOR TO THE END OF THE WORKDAY OR BEFORE THE NEXT RAIN EVENT. CONCRETE-LADEN EQUIPMENT IMPLEMENTS (E.G., CRANE BUCKETS) MUST BE STORED ON TOP OF HEAVY MIL PLASTIC UNTIL DRY. USED FORMS THAT ARE NOT IMMEDIATELY PLACED INTO A HAUL TRUCK WHEN REMOVED FROM FOUNDATIONS MUST ALSO BE TEMPORARILY STAGED OVER PLASTIC SHEETING OR AN EQUIVALENT UNTIL RINSED, WIPED, OR DRIED OR UNTIL HAULED OFFSITE.

WASTE MANAGEMENT:

- **DO NOT DISCHARGE CONCRETE RESIDUE OR PARTICULATE MATTER INTO A STORM DRAIN INLET OR WATERCOURSE**.
- EXCESS CONCRETE SHALL NOT BE DUMPED ON-SITE. THE FOLLOWING OPTIONS SHALL BE USED FOR CONCRETE TRUCK CHUTE AND/OR PUMP AND HOSE WASHOUT:

  CONCRETE WASHOUTS: WASHOUT STATIONS CAN BE A PLASTIC LINED TEMPORARY PIT OR BERMED AREA DESIGNED WITH SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LIQUID AND WASTE CONCRETE MATERIALS PLUS ENOUGH CAPACITY FOR RAINWATER. THE DESIGNATED AREA SHALL BE LOCATED AWAY FROM STORM DRAIN INLETS, OR WATERCOURSES. NEW WASHOUTS SHALL BE CONSTRUCTED AS NEEDED TO PROVIDE SUFFICIENT WASHOUT CAPACITY ON-SITE. WASTES OTHER THAN CONCRETE (I.E., TRASH, PAINT WASTES ETC.) SHALL NOT BE DISPOSED OF IN THE WASHOUT.

- **WASHOUT IN TRENCH:** MANUALLY RINSE THE CONCRETE TRUCK CHUTE INTO THE TRENCH ITSELF.
- **BUCKET WASHOUT:** MANUALLY RINSE THE CHUTE INTO A WHEELBARROW, PLASTIC BUCKET OR PAN, AND THEN EMPTY THE BUCKET INTO THE CONCRETE TRUCK BARREL OR ON TOP OF THE PLACED CONCRETE.

INSPECTION AND MAINTENANCE:

- RESPONSIBLE PERSONNEL SHALL ENSURE THAT ALL CONCRETE TRUCK DRIVERS ARE INSTRUCTED ABOUT PROJECT PRACTICES WHEN THE TRUCKS ARRIVE ON SITE.
- CLEAN OUT DESIGNATED WASHOUT AREAS AS NEEDED OR AT A MINIMUM WHEN THE WASHOUT IS 75 PERCENT FULL TO MAINTAIN SUFFICIENT CAPACITY THROUGHOUT THE PROJECT DURATION.
- ANY DESIGNATED ONSITE WASHOUT AREAS SHALL BE CLEANED OUT AND ALL DEBRIS REMOVED UPON PROJECT COMPLETION. DISPOSE OF CONCRETE WASTE ACCORDING TO THE BMP ON "SOLID WASTE MANAGEMENT."
- INSPECT ROUTINELY, WHEN APPLICABLE ACTIVITIES ARE UNDERWAY TO ENSURE THAT CONCRETE WASHOUT DOES NOT OVERFLOW AND THAT FREEBOARD IS ADEQUATE TO CONTAIN CONCRETE AND RAIN.

DUST CONTROL NOTES:

THE GENERAL CONTRACTOR SHALL PROVIDE EXTRA MEASURES FOR DUST CONTROL. DUST CONTROL MEASURES MUST BE IMPLEMENTED TO PREVENT THE SOIL AND ATTACHED POLLUTANTS FROM LEAVING THE SITE. EXTRA MEASURES SHALL BE TAKEN WHERE EXPOSED SOIL IS LIKELY TO BE TRANSPORTED INTO OPEN BODIES OF WATER. ACCEPTABLE DUST CONTROL MEASURES ARE AS FOLLOWS:

- WATERING
- VEGETATION
- SPRAY-ON ADHESIVES

IF VEGETATION IS THE METHOD TO BE USED:

THE GENERAL CONTRACTOR SHALL NOT CLEAR AND GRUB AREA'S NOT DIRECTLY AFFECTED BY THE CURRENT CONSTRUCTION. LEAVE ALL EXISTING VEGETATION IN PLACE AS TO PREVENT EROSION OF THE EXISTING SOIL BY WIND.

IF SPRAY-ON ADHESIVE IS THE METHOD TO BE USED:

TYPE OF EMULSION	WATER DILUTION	NOZZLE TYPE	APPLY Gal/Acre
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1,200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN-IN-WATER EMULSION	4:1	FINE SPRAY	300

KEYED NOTES:

1. INSTALL CHECK DAM PER RD1005.
2. INSTALL INLET PROTECTION PER RD1010.
3. INSTALL SEDIMENT FENCE APPROXIMATELY AS SHOWN PER RD1040.
4. CONSTRUCT CONCRETE TRUCK WASH PIT AT APPROXIMATE LOCATIONS SHOWN. ADJUST CONCRETE WASH PIT LOCATION, NUMBER, ETC. AS NECESSARY MAINTAINING REQUIREMENTS BELOW. PIT SHALL BE A MIN. 10' x 10' x 18" LINED WITH APPROVED PLASTIC LINER. GC SHALL COORDINATE WITH ENGINEER AS REQ'D. REFER TO CONCRETE MANAGEMENT NOTED ON SHEET C010 FOR ADDITIONAL INFORMATION.

**** THE ABOVE REQUIREMENTS SHALL BE CONSIDERED A MINIMUM. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL MEASURES AS REQUIRED TO FACILITATE CONSTRUCTION. ALL COSTS FOR EROSION CONTROL MEASURES SHALL BE BORN BY THE CONTRACTOR.**

****THIS PLAN HAS BEEN PREPARED TO ADDRESS THE OVERALL PRIMARY EROSION CONTROL MEASURES THAT MUST BE IMPLEMENTED FOR CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST SPECIFIC EROSION CONTROL MEASURES TO ACCOMMODATE FOR PHASED CONSTRUCTION. ANY MODIFICATIONS TO THIS PLAN SHALL BE REVIEWED AND APPROVED BY THE AGENCIES HAVING JURISDICTION AND THE PROJECT ENGINEER PRIOR TO COMMENCEMENT OF WORK.**

FINAL EROSION CONTROL SITE PREPARATION:

ALL DISTURBED SOIL AREAS, INCLUDING R.O.W., SHALL BE TREATED AND SEEDED PER THE FOLLOWING NOTES. SEED COMPOSITION SHALL CONSIST OF A NATIVE GRASS BLEND MATCHING SURROUNDING AREA. GRASS SEED MIXTURE TO BE SUBMITTED FOR REVIEW PRIOR TO APPLICATION.

1. ALL FINAL GRADE PREPARATION AND PLANTING/SEEDING SHALL BE COORDINATED WITH THE PROJECT LANDSCAPER AND ENGINEER AT TIME OF CONSTRUCTION.
2. BRING ALL PLANTERBED/SEEDBED AREAS TO FINAL GRADE, REMOVE ALL ROCKS AND DEBRIS, AND SMOOTH SURFACE UNDULATIONS LARGER THAN 2 INCHES.
3. DIVERT CONCENTRATED FLOWS AWAY FROM THE PLANTER/SEEDED AREAS.
4. FOR OPTIMUM PLANTING/SEEDING CONDITIONS PRESERVE TOPSOIL AND STOCKPILE MATERIAL UNTIL FINAL GRADES ARE ESTABLISHED. SPREAD TOP SOIL OVER NEW GRADES. SEE PROJECT LANDSCAPER FOR ADDITIONAL INFORMATION RELATED TO TOPSOIL REQUIREMENTS.
5. ROUGHEN THE SOIL BY HARROWING,TRACKING, GROOVING OR FURROWING.
6. THE SEEDBED SHOULD BE FIRM BUT NOT COMPACT. THE TOP 4.0-6.0 INCHES OF SOIL SHOULD BE LOOSE, MOIST AND FREE OF LARGE CLODS AND STONES. VERIFY TOPSOIL REQ'MTS WITH LANDSCAPER AT TIME OF CONSTRUCTION.
7. HARROWING, TRACKING OR FURROWING SHOULD BE DONE HORIZONTALLY ACROSS THE FACE OF THE SLOPE, SO RIDGES ARE ALONG THE SLOPE CONTOUR.
8. APPLY SEED AT THE RATES SPECIFIED BY SEED SUPPLIER USING CALIBRATED SEED SPREADERS, CYCLONE SEEDERS, MECHANICAL DRILLS, OR HYDROSEEDER SO THAT SEED IS APPLIED UNIFORMLY ON THE SITE. SEE SEEDING REQ'MTS FOR ADDITIONAL INFORMATION TYP.
9. BROADCAST SEED SHOULD BE INCORPORATED INTO THE SOIL BY RAKING OR CHAIN DRAGGING AND THEN LIGHTLY COMPACTED TO PROVIDE GOOD SEED-SOIL CONTACT. SEE SEEDING REQ'MTS FOR ADDITIONAL INFORMATION TYP.
10. TO PREVENT SEED FROM BEING WASHED AWAY, CONFIRM INSTALLATION OF ALL REQUIRED SURFACE WATER CONTROL MEASURES.
11. DOUBLE THE RATE OF SEED APPLICATION WHEN SEED IS APPLIED IN A SINGLE APPLICATION. SEE SEEDING REQ'MTS FOR ADDITIONAL INFORMATION TYP.

SPECIAL EROSION CONTROL NOTE:

G.C. SHALL IMPLEMENT AN EROSION CONTROL PLAN AS REQUIRED TO CONTAIN ALL SEDIMENT ON-SITE AND REMOVE ANY SEDIMENT THAT ENTERS THE Right-of-Way DURING THE COURSE OF CONSTRUCTION. SPECIAL ATTENTION SHALL BE TAKEN AT ALL EXISTING STORM DRAIN CATCH BASINS AND STORM DRAIN CHANNELS AS TO ELIMINATE ANY SEDIMENT TRANSFER INTO THE EXISTING STORM DRAIN SYSTEM. AN ALL WEATHER ROCK SURFACE SHALL BE PROVIDED AT ALL CONSTRUCTION SITE ENTRANCES. ALL CONSTRUCTION SHALL BE MAINTAINED WITHIN THE DEVELOPMENT LIMITS OF THIS PHASE.

G.C. SHALL SUBMIT EROSION CONTROL PLAN REVISIONS TO THE ENGINEER FOR APPROVAL IN THE EVENT CONSTRUCTION PHASING REQUIRES ALTERATION FROM THIS PLAN. ANY PLAN REVISIONS SHALL BE APPROVED BY THE DESIGN ENGINEER. ALL EROSION CONTROL SYSTEMS SHALL BE DESIGNED, INSTALLED AND MAINTAINED DURING THE COURSE OF CONSTRUCTION PER 'ODOT/APWA' STANDARDS.

IN ADDITION TO THE NOTES REFERENCED ON THIS PLAN SET, ALL WORK AND MATERIALS SHALL CONFORM TO CURRENT CLACKAMAS COUNTY STANDARDS, 2008 OREGON/APWA AND OREGON DEQ STANDARD SPECIFICATIONS.



20 0 10 20 40

(FEET)

1 INCH = 20 FT

1 C0.2 **EROSION CONTROL PLAN**

1" = 20'

NO.	REVISIONS	BY	DATE

OREGON CITY PUBLIC SCHOOLS

GARDINER MIDDLE SCHOOL MODULAR CLASSROOM EXPANSION

ZBJ
ZBJNDEN • CARTER • SOUDERS
ENGINEERING
SCE Main Street - NW, Suite 200, Oregon City, OR 97045
(503) 657-0188 (503) 656-4102

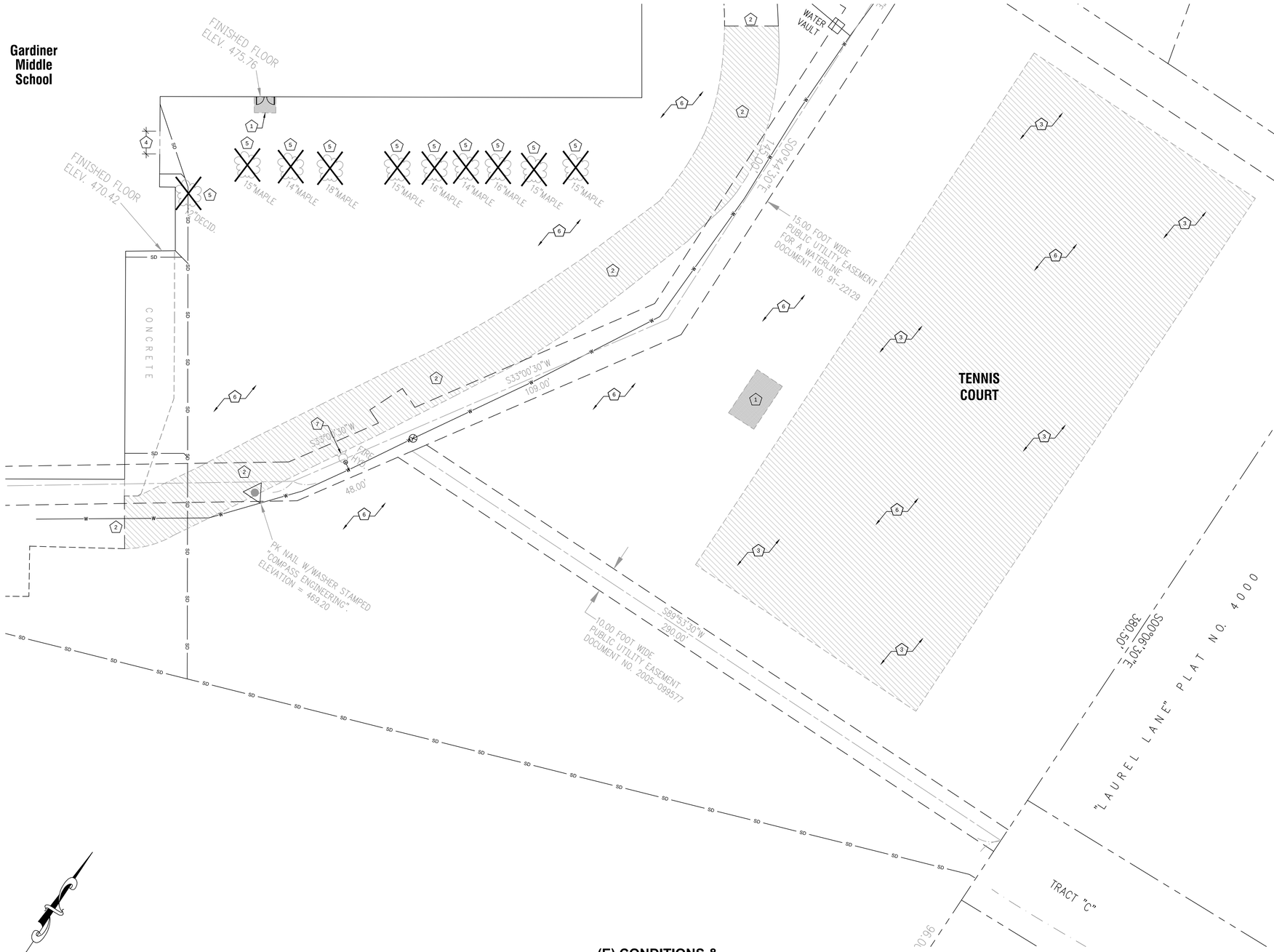
PROJECT NO:	P-1765-12
DRAWN:	JDM
CHECKED:	DSS
DATE:	12-27-12

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 7, 2006
SCOTT SOUDERS
PRELIMINARY-NOT FOR CONSTRUCTION
EXPIRES: 6-30-14

EROSION CONTROL PLAN

C0.2

SCHEMATIC DESIGN - NOT FOR CONSTRUCTION



20 0 10 20 40

(FEET)

1 INCH = 20 FT

(E) CONDITIONS & DEMOLITION PLAN

1 / C0.3

1" = 20'

PAGE SPECIFIC LEGEND:

- CONCRETE TO BE REMOVED/RECYCLED
- ASPHALT TO BE REMOVED/RECYCLED
- SS — EXISTING UTILITY TO REMAIN
- EXISTING UTILITY TO BE REMOVED
- SS — EXISTING UTILITY TO BE ABANDONED IN PLACE
- EXISTING TREE TO REMAIN - DECIDUOUS
- EXISTING TREE TO BE REMOVED - DECIDUOUS

DEMOLITION NOTES:

1. EXISTING CONCRETE PAVING TO BE REMOVED AND RECYCLED. FIELD VERIFY LIMITS AND ADJUST AS REQ'D. PROVIDE SMOOTH VERTICAL SAWCUT AT BUILDING INTERFACE AS APPLICABLE.
2. EXISTING ASPHALT TO BE REMOVED AND RECYCLED. FIELD VERIFY LIMITS AND ADJUST AS REQ'D. PROVIDE SMOOTH VERTICAL SAWCUT AT LOCATIONS SHOWN. COORDINATE WITH ENGINEER AT T.O.C. AS REQ'D.
3. EXISTING ASPHALT TENNIS COURT AND ASSOCIATED FENCING, NETS, ETC. TO BE REMOVED. RECYCLE ASPHALT WITH KEYED NOTE 1 ABOVE AND DISPOSE OF REMAINING MATERIAL IN AN APPROVED OFFSITE LOCATION.
4. EXISTING STRUCTURE TO BE REMOVED/RECYCLED APPROXIMATELY AS SHOWN (CENTER WINDOW PACKAGE). COORDINATE WITH OWNER AND ARCHITECT AT T.O.C. AS REQ'D. STRUCTURAL REMODEL REQ'MTS BY OTHERS TYP.
5. EXISTING TREE AND ROOT SYSTEM TO BE REMOVED. BACKFILL VOIDS PER SITE PREPARATION NOTES AND BUILDING STRUCTURAL FOUNDATION REQ'MTS. COORDINATE WITH ENGINEERS AT T.O.C. AS REQ'D.
6. REFER TO LANDSCAPE PLANS (BY OTHERS) FOR SUB-SURFACE ROCK/TOPSOIL REMOVAL REQ'MTS WITHIN LARGE AREAS OF ASPHALT AND CONCRETE DEMOLITION.
7. PRIOR TO THE COMMENCEMENT OF ANY NEW BUILDING CONSTRUCTION, ROTATE THE EXISTING FIRE HYDRANT AS REQ'D TOWARDS NEW FIRE ACCESS LANE. SEE SHEET C2.0 FOR ADDITIONAL INFORMATION.

NO.	REVISIONS	BY	DATE

OREGON CITY PUBLIC SCHOOLS

GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM
EXPANSION

ZBINDEN • CARTER • SOUDERS
ENGINEERING
335 Main Street, Suite 002, Oregon City, OR 97045
(503) 656-4500 www.zcsengr.com

PROJECT NO:	P-1765-12
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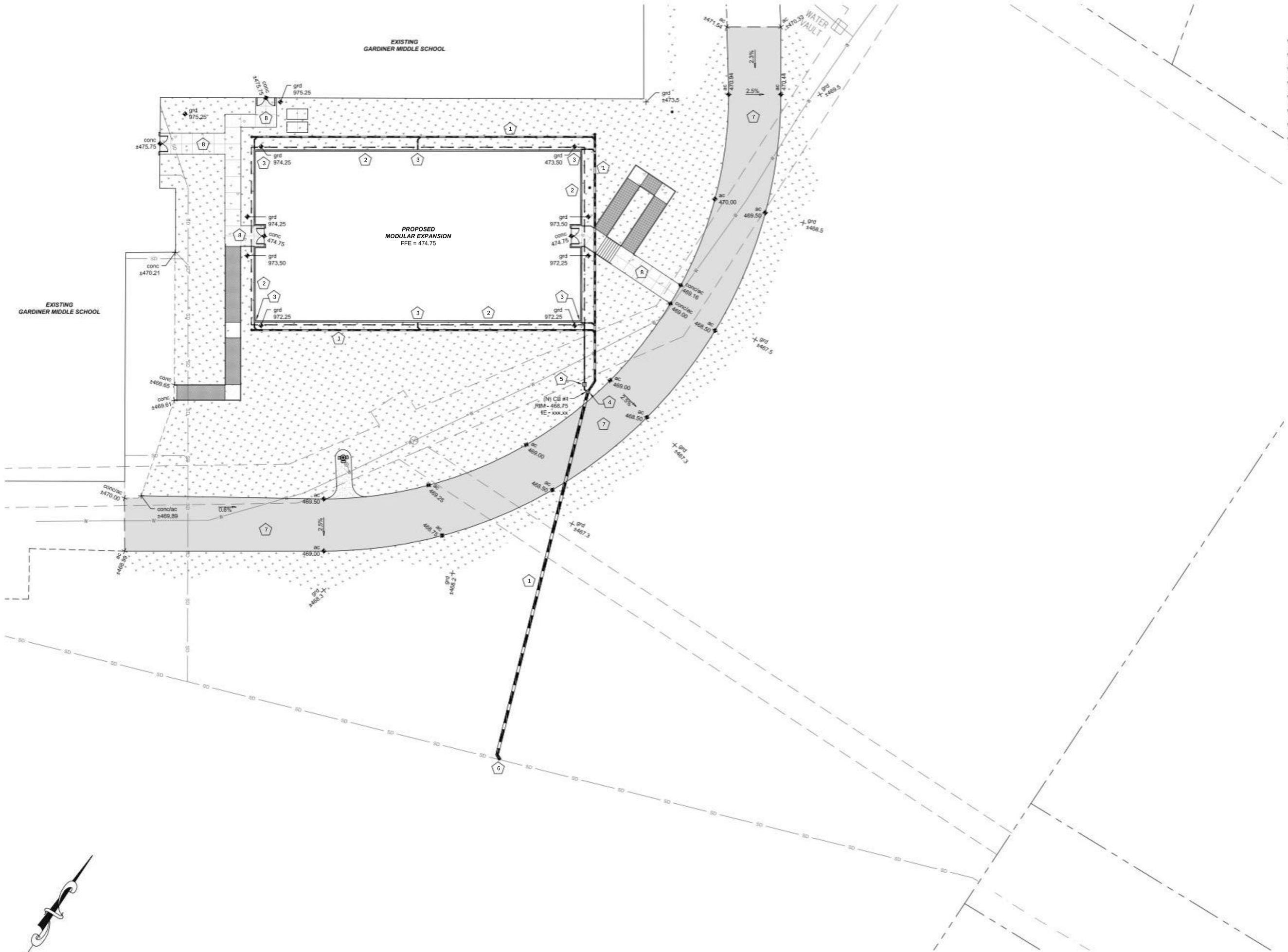
REGISTERED PROFESSIONAL ENGINEER 56 OREGON JULY 11, 2004 SCOTT SOUDERS EXPIRES: 6-30-14

-PRELIMINARY- NOT FOR CONSTRUCTION

EXISTING CONDITIONS & DEMOLITION PLAN

C0.3

SCHEMATIC DESIGN - NOT FOR CONSTRUCTION



KEYED NOTES:

1. NEW STORM LINE TYP.
2. NEW PERFORATED FOUNDATION DRAIN LINE TYP.
3. NEW BUILDING DOWNSPOUT CONNECTION TYP.
4. NEW LANDSCAPE AREA DRAIN.
5. NEW FOUNDATION BACKWATER VALVE.
6. CONNECTION TO EXISTING STORM LINE.
7. NEW RELOCATED ASPHALT FIRE ACCESS LANE.
8. NEW CONCRETE SIDEWALK / RAMP CONFIGURATION.

1 C1.0 **OVERALL GRADING & DRAINAGE PLAN**
1" = 20'

20 0 10 20 40
(FEET)
1 INCH = 20 FT

NO.	BY	DATE	REVISIONS

OREGON CITY PUBLIC SCHOOLS

GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM
EXPANSION

ZBINDEN • CARTER • SOUDERS
ENGINEERING
325 Main Street – Suite 002, Oregon City, OR 97045
(503) 557-5578 fax (503) 557-5579

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DATE:	12-27-12

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 7, 2004
SCOTT SOUDERS
EXPIRES: 6-30-14

PRELIMINARY - NOT FOR CONSTRUCTION

OVERALL GRADING & DRAINAGE PLAN

C1.0

SCHEMATIC DESIGN - NOT FOR CONSTRUCTION

SCHEMATIC DESIGN - NOT FOR CONSTRUCTION

OREGON CITY PUBLIC SCHOOLS

GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM
EXPANSION

NO.	REVISIONS	BY	DATE

ZBINDEN • CARTER • SOUDERS ENGINEERING INC.
525 Main Street • Suite 002 • Oregon City, OR 97045
Main (503) 557-5515 • Fax (503) 557-5514

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EXPIRES: 6-30-14

"PRELIMINARY - NOT FOR CONSTRUCTION"

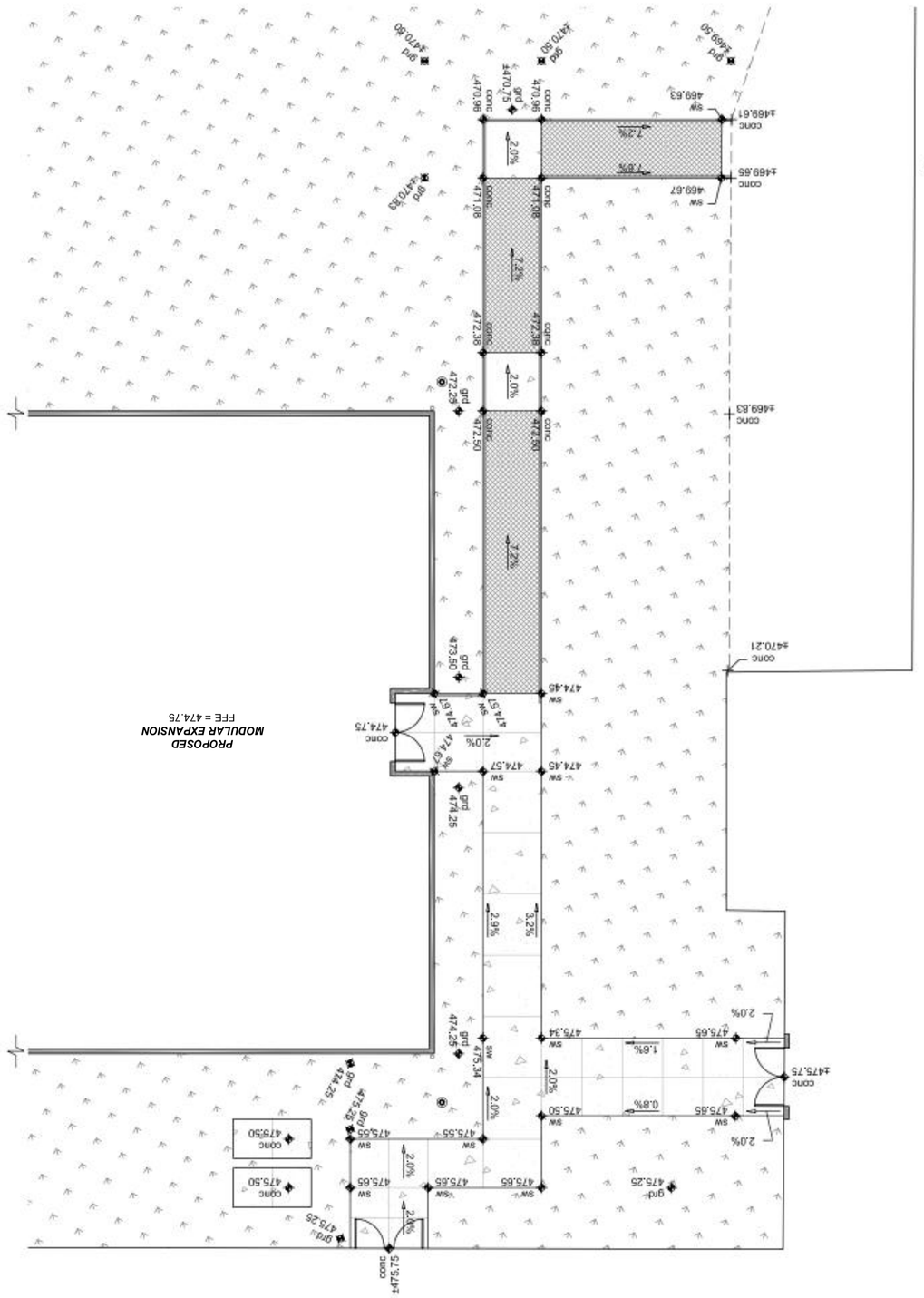
ENLARGED GRADING PLAN

C1.1

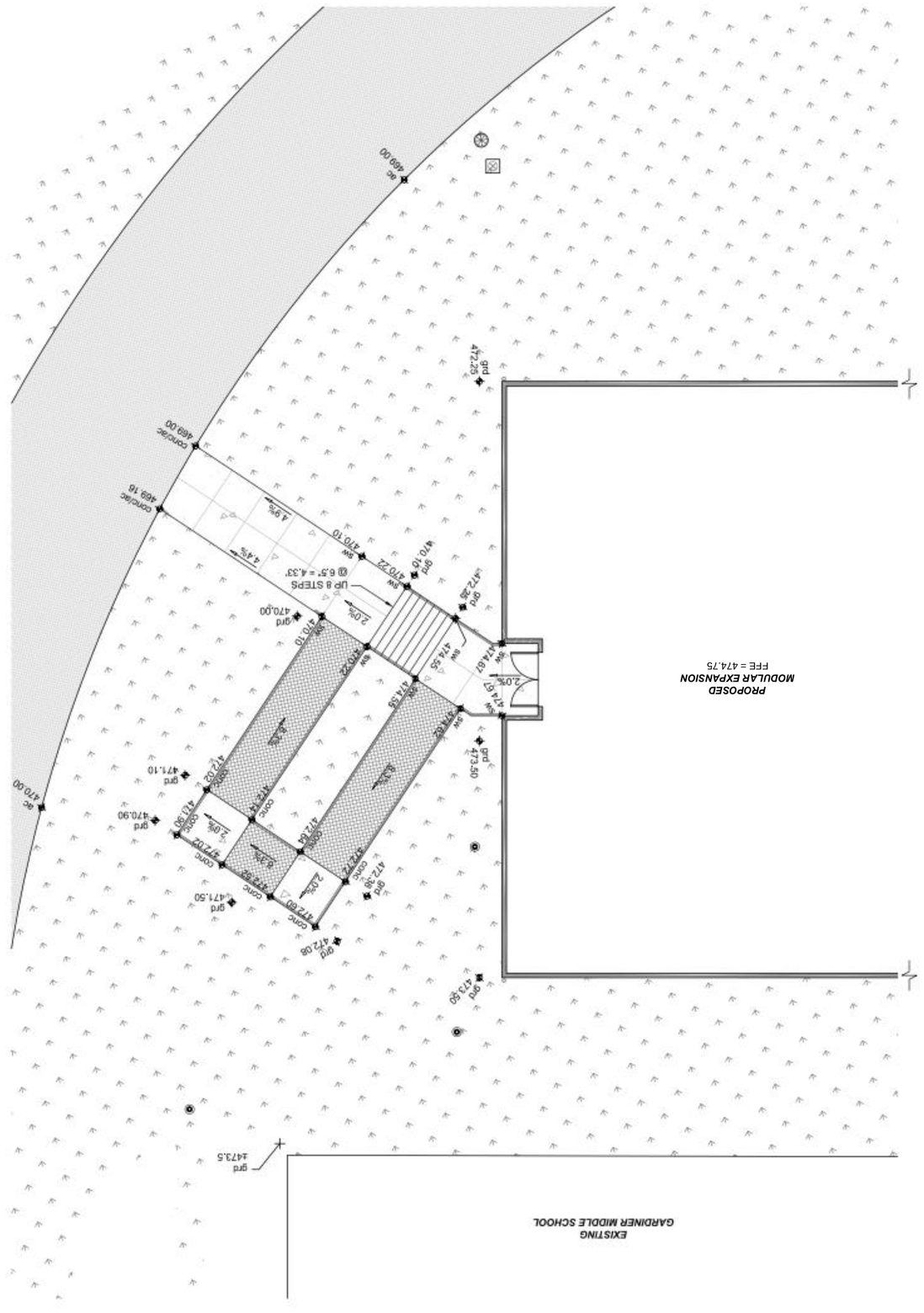
KEYED NOTES:

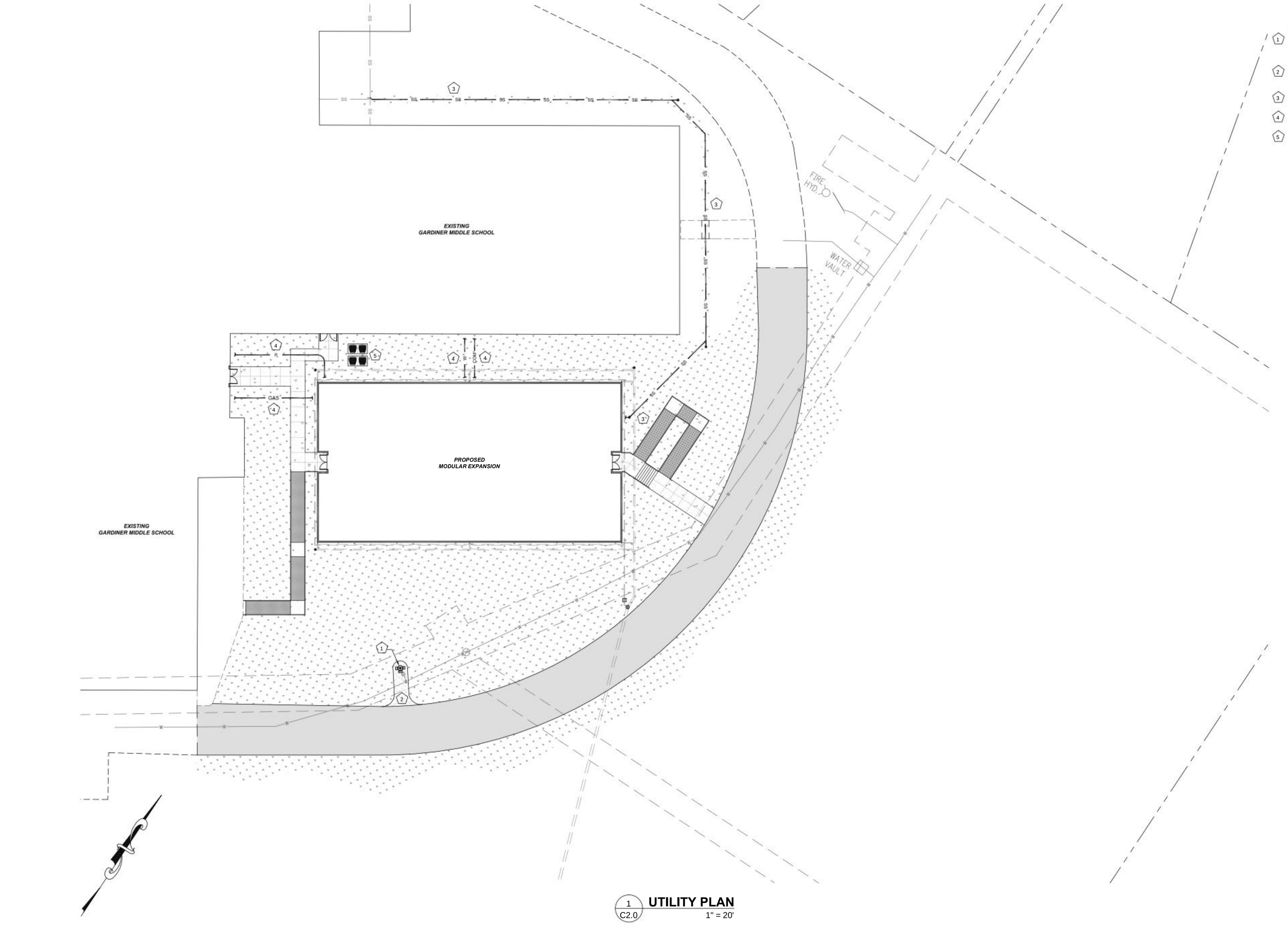
1 ---

1 ENLARGED GRADING PLAN
C1.1 — 1" = 10'



2 ENLARGED GRADING PLAN
C1.1 — 1" = 10'


PROPOSED MODULAR EXPANSION
FFE = 474.75
EXISTING GARDINER MIDDLE SCHOOL
474.75
474.23
473.50
473.10
472.38
472.10
471.50
471.10
470.90
470.00
469.60
469.16
469.00
4.8%
4.4%
4.2%
4.0%
2.0%
2.0%
2



1 C2.0 **UTILITY PLAN**
1" = 20'

KEYED NOTES:

1. ROTATE EXISTING FIRE HYDRANT TOWARDS NEW FIRE ACCESS LANE APPROXIMATELY AS SHOWN. COORDINATE ALL WORK WITH OREGON CITY WATER DEPARTMENT AT THE TIME OF CONSTRUCTION.
2. PROVIDE 6' WIDE 3/4" MINUS GRAVEL PATH FROM FIRE ACCESS LANE TO HYDRANT. COMPACT GRAVEL TO 95% OF ASTM D 698.
3. NEW 4"Ø GRAVITY SANITARY SEWER TO CONNECT TO EXISTING.
4. NEW WATER, DATA-COMMUNICATIONS, GAS, AND POWER TO BE SERVICE FROM THE EXISTING BUILDING.
5. APPROXIMATE LOCATION OF NEW HVAC UNITS BY OTHERS.

NO.	BY	REVISIONS	DATE

OREGON CITY PUBLIC SCHOOLS

GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM
EXPANSION

ZBINDEN • CARTER • SOUDERS
ENGINEERING
325 Main Street - Suite 602, Oregon City, OR 97045
(503) 656-4884

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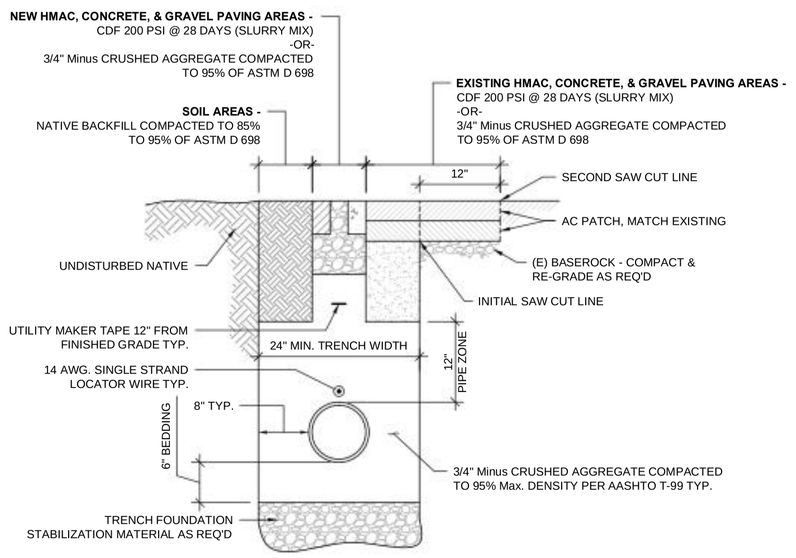
REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 17, 2004
DAVID S. SOUDERS
EXPIRES: 6-30-14

PRELIMINARY - NOT FOR CONSTRUCTION

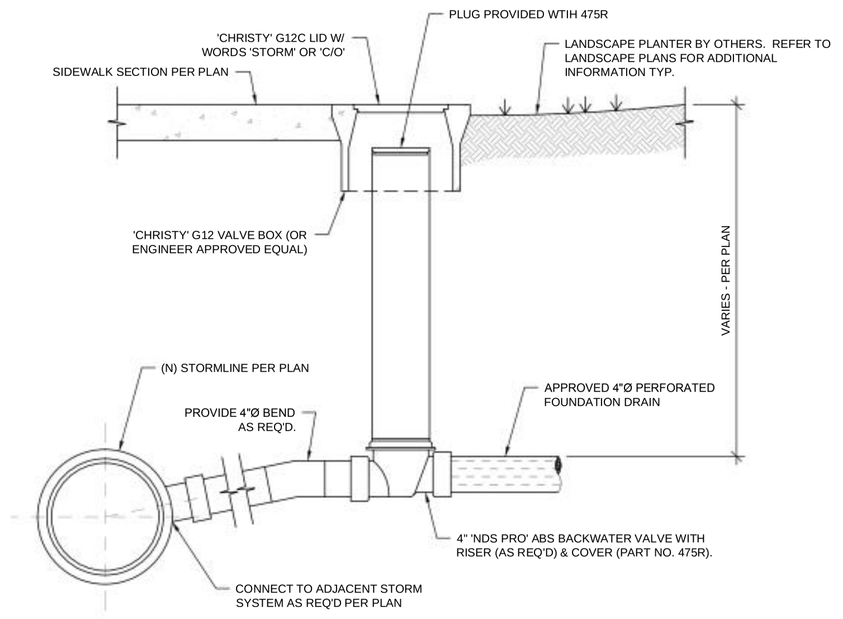
UTILITY PLAN

C2.0

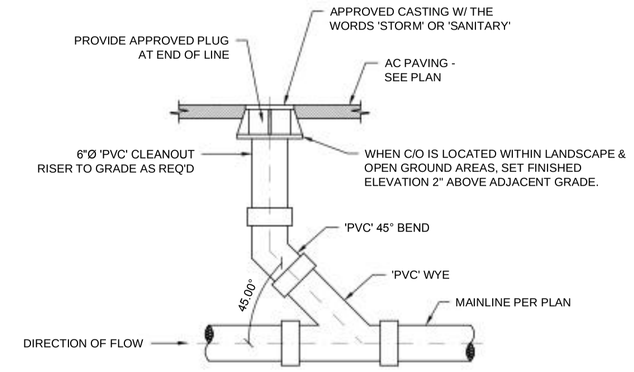
SCHEMATIC DESIGN - NOT FOR CONSTRUCTION



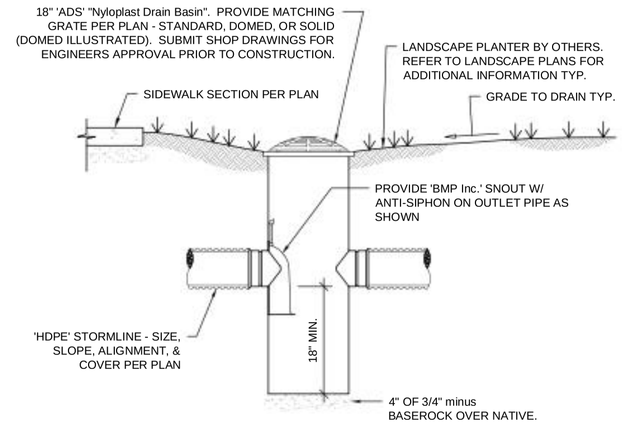
1 C3.0 **TYPICAL PRIVATE WET UTILITY TRENCH SECTION**
3/4" = 1'



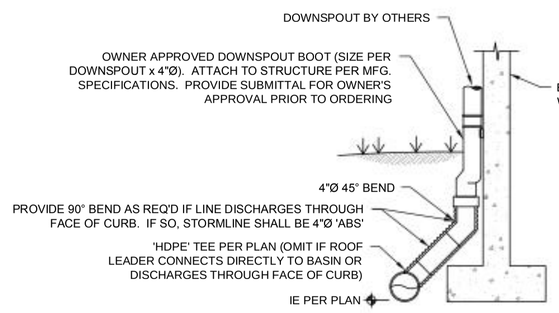
2 C3.0 **FOUNDATION DRAIN TERMINATION DETAIL**
NTS



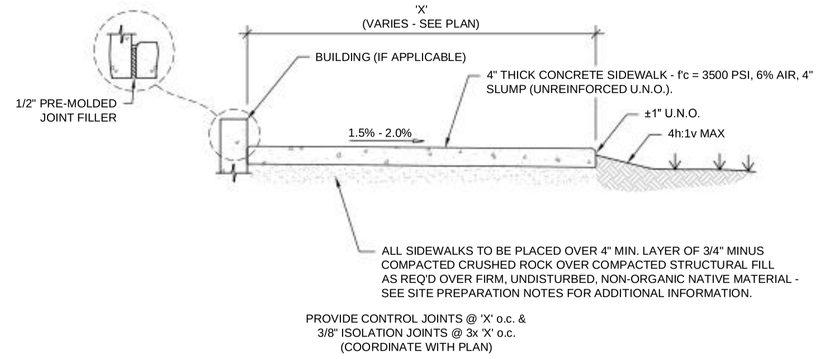
3 C3.0 **TYPICAL PRIVATE CLEANOUT TO GRADE**
NTS



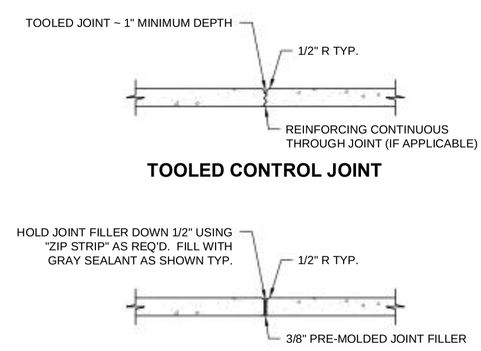
4 C3.0 **LANDSCAPE AREA DRAIN**
1/2" = 1'



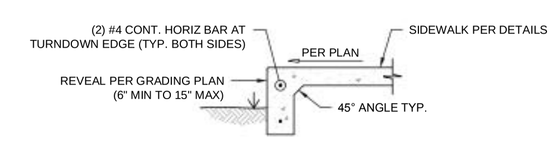
5 C3.0 **DOWNSPOUT CONNECTION**
NTS



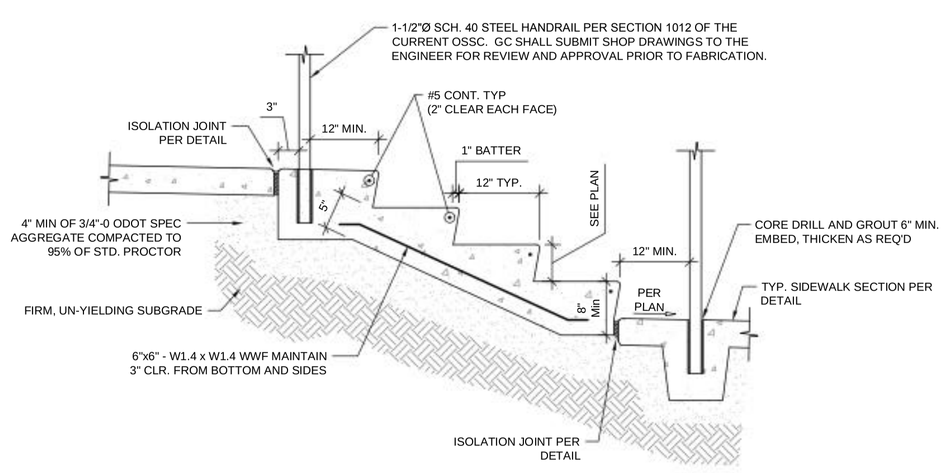
6 C3.0 **SIDEWALK SECTION WITH LANDSCAPE**
1/2" = 1'



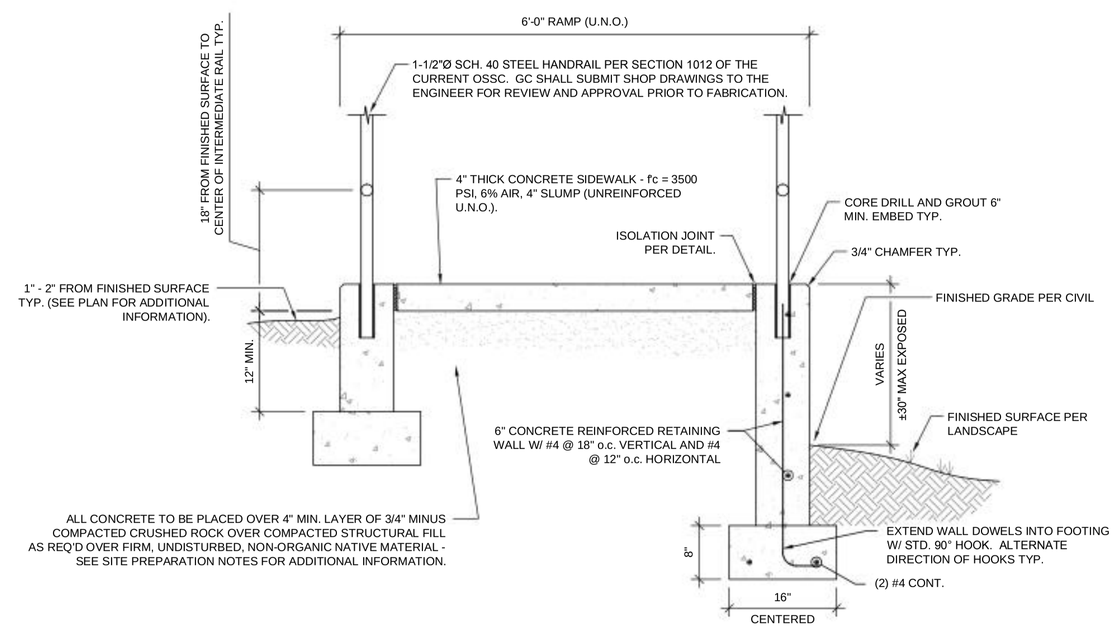
7 C3.0 **SIDEWALK JOINTING DETAILS**
NTS



8 C3.0 **SIDEWALK TURNDOWN EDGE**
NTS



9 C3.0 **TYPICAL STAIR DETAIL**
3/4" = 1'



10 C3.0 **RAMP SECTION**
3/4" = 1'

SPECIAL NOTES:

1. CONCRETE TO BE f'c = 4,000 psi (NO TESTING REQ'D)
2. ALL CONCRETE TO HAVE 6% (±1%) AIR ENTRAINMENT.
3. ALL CONCRETE SHALL BE CURED PER ACI 318-02 STANDARDS.
4. ALL REBAR SHALL BE ASTM A615 GRADE 60.
5. ALL TIE WIRE SHALL BE Min. #16 ANNEALED STEEL.
6. ALL REINFORCING STEEL SHALL BE TIED PER ACI SPECIFICATIONS.
7. ALL CONCRETE SHALL BE PLACED OVER 4" MINIMUM LAYER OF APPROVED 3/4" minus ODOT SPEC CRUSHED ROCK COMPACTED TO 95% ASTM D698 OVER APPROVED COMPACTED STRUCTURAL FILL AS REQUIRED FOR GRADE OVER FIRM, UNDISTURBED, NON-ORGANIC NATIVE MATERIAL. THE EXISTING SITE SHALL BE CLEARED AND GRUBBED OF ALL ORGANIC AND/OR EXPANSIVE MATERIAL PRIOR TO STRUCTURAL FILL IMPORT.
8. WALLS TO BE AT MINIMUM 80% DESIGN STRENGTH AND 7 DAYS CURE PRIOR TO ANY BACKFILL PLACEMENT.
9. ALL BACKFILL SHALL BE NON-ORGANIC, NON-EXPANSIVE GRANULAR MATERIAL COMPACTED TO 95% PROCTOR.
10. PROVIDE VERTICAL CONTROL JOINTS AT HORIZONTAL SPACING EQUAL TO 1x -to- 1.5x WALL HEIGHT. CONTROL JOINTS SHALL BE EQUALLY SPACED ALONG LENGTH OF WALL. CONSTRUCT USING 3/4" CHAMFER STRIPS FASTENED TO EXPOSED FACE WALL FORMS.
11. NO HORIZONTAL CONSTRUCTION JOINTS PERMITTED.

NO.	BY	DATE	REVISIONS

OREGON CITY PUBLIC SCHOOLS
GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM EXPANSION

ZBINDEN • CARTER • SOUDERS
ENGINEERING
525 Main Street • Suite 6922 • Oregon City, OR 97045
(503) 650-0057 • www.zcsengr.com

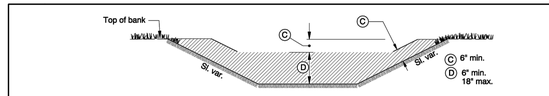
PROJECT NO:	P-1765-12
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REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 17, 2004
SCOTT SOUDERS
-PRELIMINARY- NOT FOR CONSTRUCTION
EXPIRES: 6-30-14

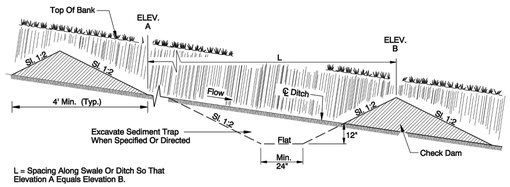
CIVIL DETAILS

C3.0

SCHEMATIC DESIGN - NOT FOR CONSTRUCTION



DITCH X-SECTION
AT CHECK DAM



L = Spacing Along Swale Or Ditch So That
Elevation A Equals Elevation B.

DITCH PROFILE SECTION
WITH CHECK DAMS

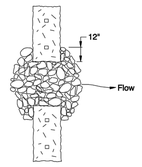
Note:
When bid item is "Check Dams" the following materials may be used, as appropriate to meet the functional requirements of the control.
Type 1. aggregate
Type 2. straw bales with aggregate weir
Type 3. biofilter bags
Type 4. sand bags
Type 5. prefab. check dam system

CHECK DAM
Approximate Spacing

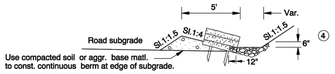
Ditch Grade	D = Dimension		
	6"	12"	18"
6%	* *	15' O.C.	25' O.C.
5%	* *	20'	30'
4%	* *	25'	40'
3%	15'	30	50'
2%	25'	50'	80'

* * Not Allowed

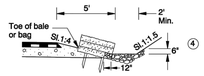
Notes:
1. Type 2 only - - - - Entrench bales and aggr. a min. of 4" into the soil. Toe of last bale is highest water control point.
2. Type 2 only - - - - Place bales so wire/twine binding matl. is not in contact with the soil.
3. Type 2 or 3 - - - - Drive 2 stakes min. per bale or bag flush with top and into undisturbed ground a min. of 4". Stakes may be omitted if placed over paved surfaces.
4. Type 2, 3or 4 - - - - Const. top of aggr. a min. of 6" lower than the toe of last bale or bag.
5. Type 2 or 4 - - - - Tightly abut or overlap ends of bales or bags at each joint.
6. Type 3 - - - - Overlap bags 6" min. at each joint.



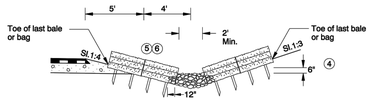
TOP VIEW
TYPE 2, 3 & 4



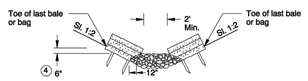
SUBGRADE SECTION



STEEP BACKSLOPE SECTION



VARIABLE BACKSLOPE SECTION - 1:3 TO 1:6



FLAT BOTTOM DITCH SECTION CHECK DAM
TYPE 2, 3 & 4

CALC. BOOK NO. | BASELINE REPORT DATE

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NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

CHECK DAMS

2008

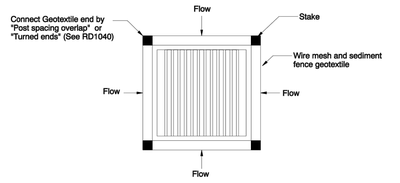
DATE	REVISION DESCRIPTION

RD1005

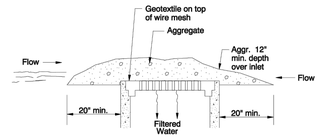
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Effective Date: December 1, 2012 - May 31, 2013 RD1005

rd1010.dgn 12-31-08



PLAN



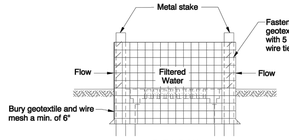
GEOTEXTILE/WIREMESH/AGGREGATE

TYPE 2

INLET PROTECTION

Site Conditions Where Types Are Appropriate	TYPE					
	1	2	3	4	5	6
Area Drain, Soil	Y	Y	Y	Y	Y	Y
Area Drain, Pavement	N	Y	Y	Y	Y	N
Ditch Inlet, Soil	Y	N	Y	Y	N	Y
Ditch Inlet, Pavement	N	N	Y	Y	N	N
Grate Inlet Along Curb, Soil	N	Y	Y	Y	Y	Y
Grate Inlet Along Curb, Pavement	N	Y	Y	Y	Y	N
Curb Opening Inlet, Soil	N	N	N	Y	Y	Y
Curb Opening Inlet, Pavement	N	N	N	Y	Y	N

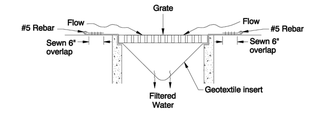
For Inlet Protection Types 4 and 5
see RD1015 and RD1020.



ELEVATION

SEDIMENT FENCE

TYPE 1



PREFABRICATED FILTER INSERT

TYPE 3

Note:
Type 1 Sediment Fence
Type 2 Geotextile/wire mesh/aggregate
Type 3 Prefabricated filter insert
Type 4 Biofilter bags
Type 5 Masonry/aggregate
Type 6 Sod

CALC. BOOK NO. | BASELINE REPORT DATE

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OREGON STANDARD DRAWINGS

INLET PROTECTION
(TYPE 1, 2 & 3)

2008

DATE	REVISION DESCRIPTION

RD1010

Effective Date: December 1, 2012 - May 31, 2013 RD1010

rd1040.dgn 12-31-08

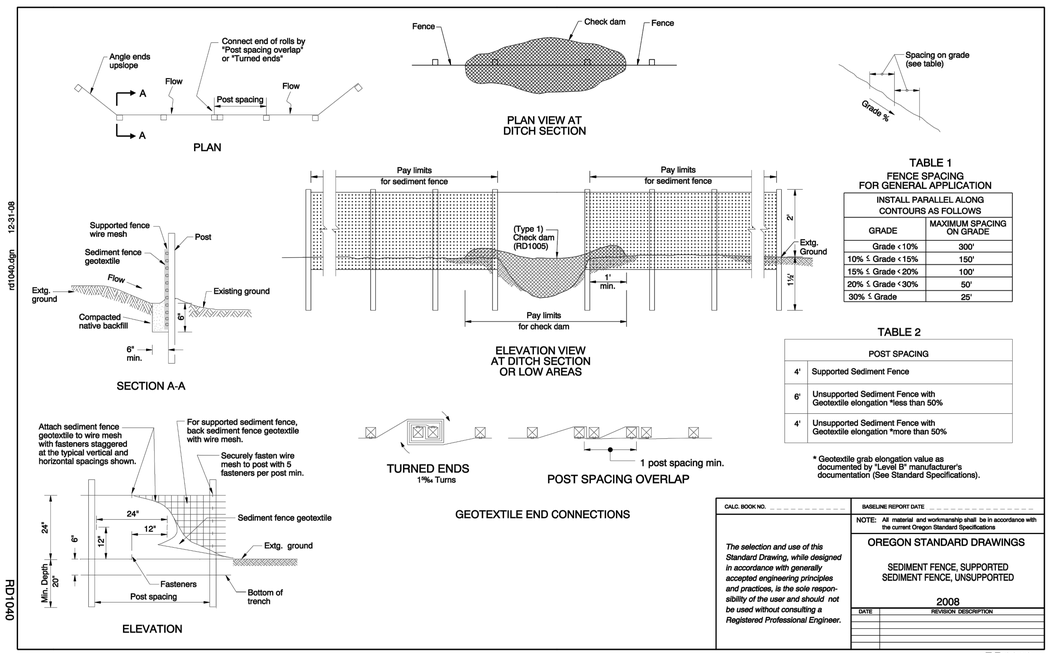


TABLE 1
FENCE SPACING
FOR GENERAL APPLICATION

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'

TABLE 2

POST SPACING	
4'	Supported Sediment Fence
6'	Unsupported Sediment Fence with Geotextile elongation *less than 50%
4'	Unsupported Sediment Fence with Geotextile elongation *more than 50%

* Geotextile grab elongation value as documented by "Level B" manufacturer's documentation (See Standard Specifications).

CALC. BOOK NO. | BASELINE REPORT DATE

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OREGON STANDARD DRAWINGS

SEDIMENT FENCE, SUPPORTED
SEDIMENT FENCE, UNSUPPORTED

2008

DATE	REVISION DESCRIPTION

RD1040

Effective Date: December 1, 2012 - May 31, 2013 RD1040

NO.	DATE	BY	REVISIONS

OREGON CITY PUBLIC SCHOOLS
GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM
EXPANSION

ZBINDEN • CARTER • SOUDERS
ENGINEERING
525 Main Street • Suite 002, Oregon City, OR 97045
(503) 850-0290 www.zcsengr.com

PROJECT NO: P-1765-12
DRAWN: JDM
CHECKED: DSS
DATE: 12-27-12

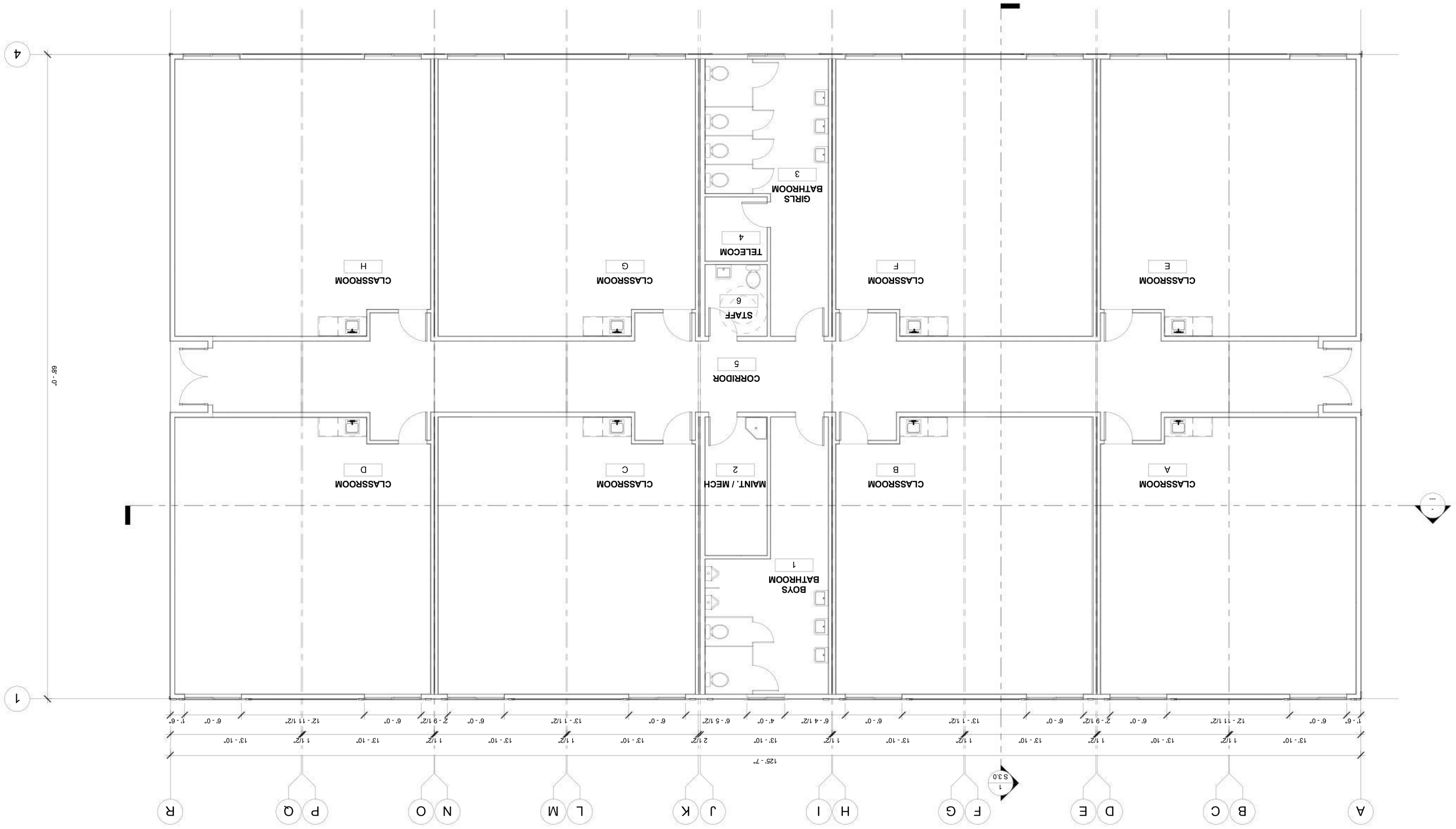
REGISTERED PROFESSIONAL ENGINEER
56
OREGON
JULY 11, 2004
SCOTT SOUDERS
EXPIRES: 6-30-14

PRELIMINARY - NOT FOR CONSTRUCTION

AGENCY STANDARD DETAILS

C4.0

SCHEMATIC DESIGN - NOT FOR CONSTRUCTION



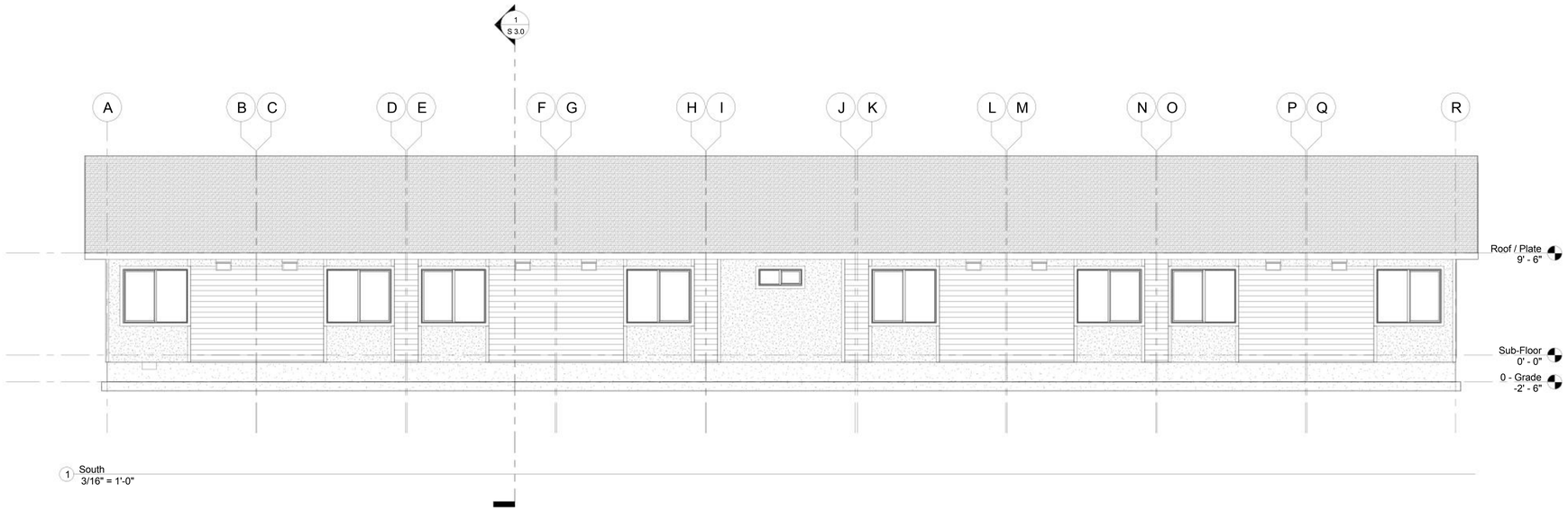
1 FLOOR PLAN
3/16" = 1'-0"

REV.	DESCRIPTION	DATE	BY

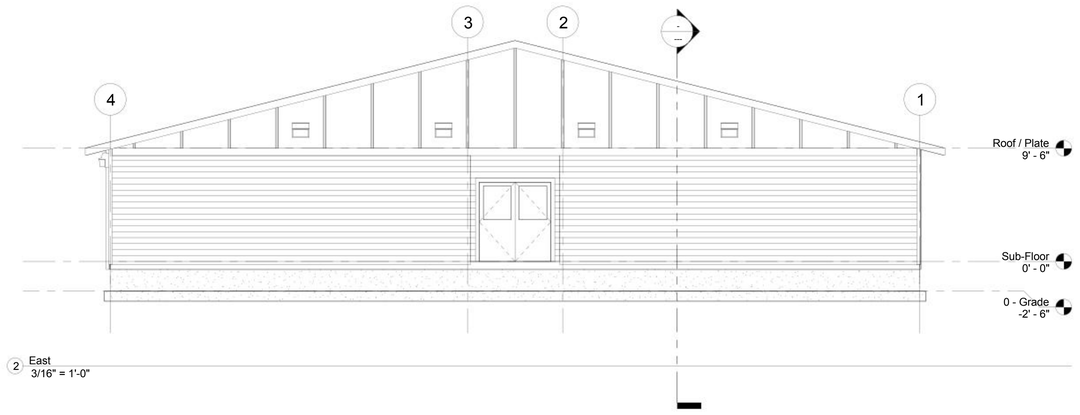
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JEWETT, OR 97054 WWW.MBSUNLIMITED.COM
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SHEET	FLOOR PLAN	JOB#	GARDNER
PROJ.	GARDNER MIDDLE SCHOOL MODULAR CLASSROOMS	SHEET #	A 1.0
ADDRESS	SITE ADDRESS HERE	DRW	SG
		DATE	---



1 South
3/16" = 1'-0"



2 East
3/16" = 1'-0"

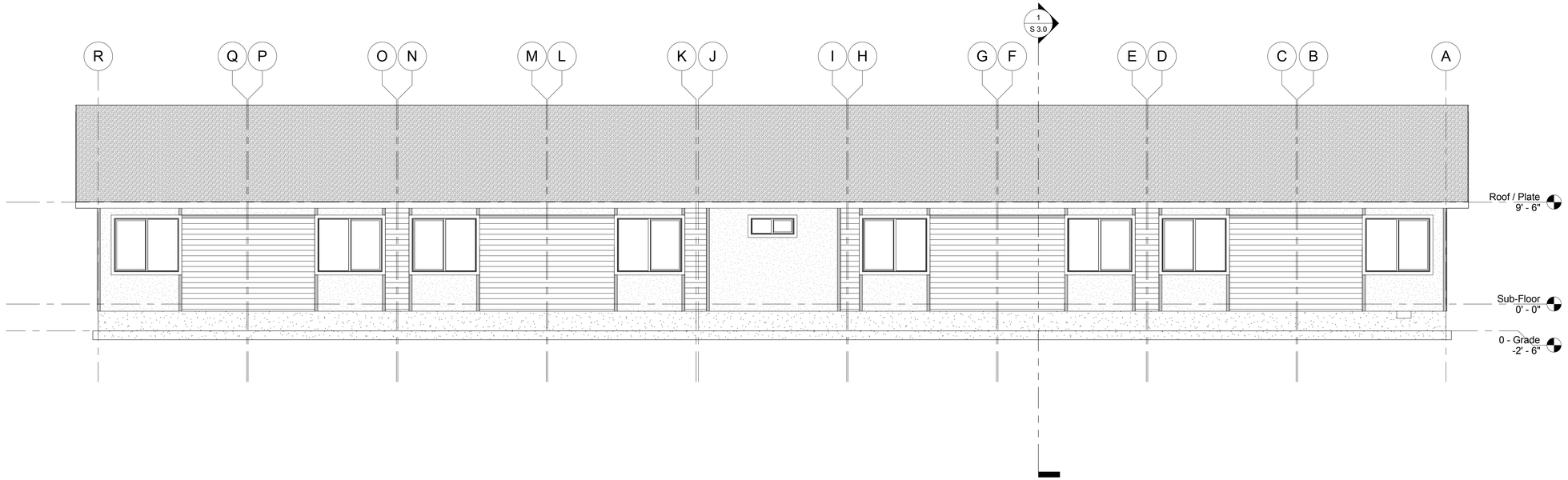
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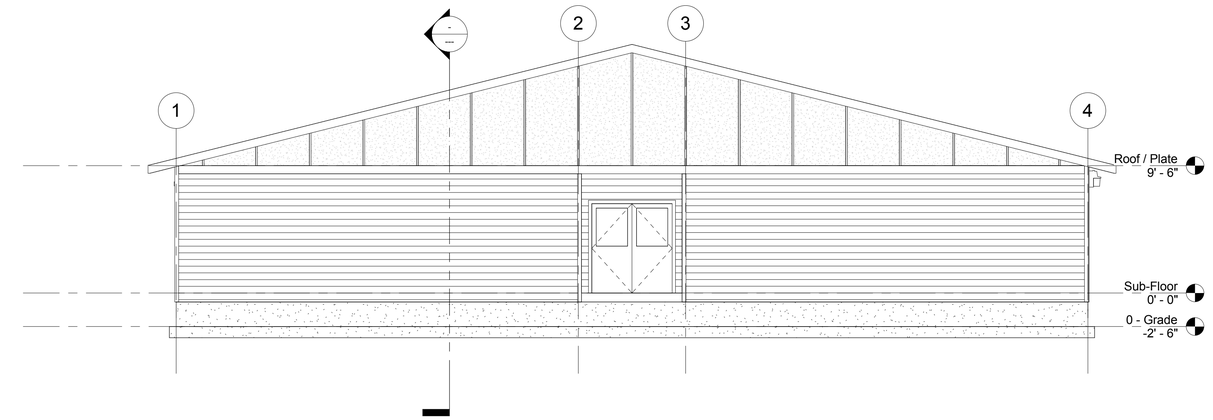
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P.O. BOX 110, 3400 PORTER ROAD, ALBANY,LE, OR 97321
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SHEET	ELEVATION VIEWS	JOB#	GARDNER
PROJ.	GARDNER MIDDLE SCHOOL MODULAR CLASSROOMS	SHEET #	A 2.0
ADDRESS	SITE ADDRESS HERE	DRW	Author
		DATE	---

REGISTERED PROFESSIONAL ENGINEER
OREGON
EXPIRES: 12/31/13



1 North
3/16" = 1'-0"



2 West
3/16" = 1'-0"

REV.	DESCRIPTION	DATE	BY

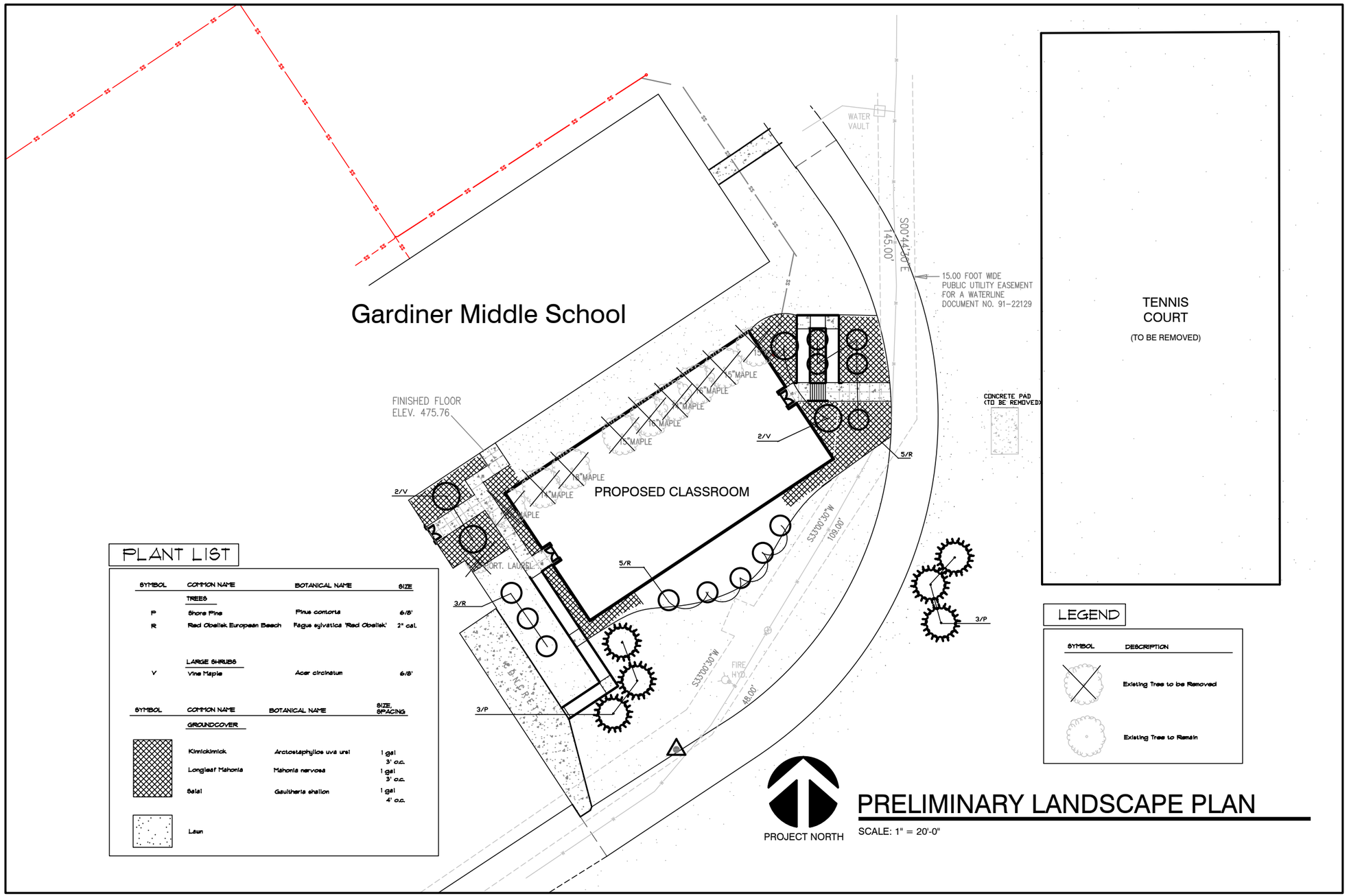
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REGISTERED PROFESSIONAL ENGINEER
STATE OF WASHINGTON
21543
KENNETH A. RASTEGAR

REGISTERED PROFESSIONAL ENGINEER
13-13
OREGON
KENNETH A. RASTEGAR
EXPIRES: 12/31/13

SHEET	ELEVATION VIEWS (N and W)	JOB#	GARDINER
PROJ.	GARDINER MIDDLE SCHOOL MODULAR CLASSROOMS	SHEET #	A 2.1
ADDRESS	SITE ADDRESS HERE	DRW	Author
		DATE	---



PLANT LIST

SYMBOL	COMMON NAME	BOTANICAL NAME	SIZE
	TREES		
P	Shore Pine	Pinus contorta	6/8'
R	Red Obelisk European Beech	Fagus sylvatica 'Red Obelisk'	2" cal.
	LARGE SHRUBS		
V	Vine Maple	Acer circinatum	6/8'

SYMBOL	COMMON NAME	BOTANICAL NAME	SIZE, SPACING
	GROUNDCOVER		
	Kinnickinnick	Arctostaphylos uva ursi	1 gal 3' o.c.
	Longleaf Mahonia	Mahonia nervosa	1 gal 3' o.c.
	Salal	Gaultheria shallon	1 gal 4' o.c.
	Lawn		

LEGEND

SYMBOL	DESCRIPTION
	Existing Tree to be Removed
	Existing Tree to Remain

PRELIMINARY LANDSCAPE PLAN

SCALE: 1" = 20'-0"

REGISTERED LANDSCAPE ARCHITECT
DAVID ANDERSON
OREGON
232

PROJECT:
GARDINER MIDDLE SCHOOL
OREGON CITY, OREGON

ANDERSON ASSOCIATES
LANDSCAPE ARCHITECTURE
PLANNING
3130 SW Ridge Drive
Portland, Oregon 97219
Ph. 503-245-3168
andersonassociatesla@comcast.net

PROJECT NO.:

DRAWN: DA

CHECKED:

SHEET TITLE: PRELIMINARY LANDSCAPE PLAN

DATE: 12/27/12

REVISIONS:

NOTICE:

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SHEET: L1.1
OF: 1

Gardiner Middle School

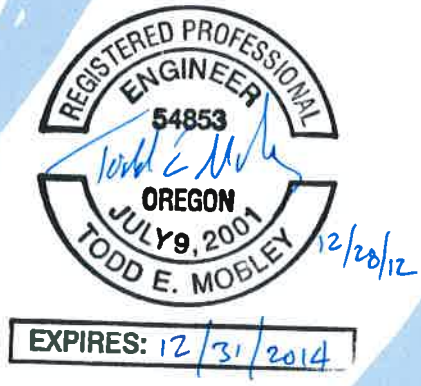
Traffic Impact Study & Parking Analysis

Oregon City, Oregon

DATE:
December 28, 2012

PREPARED FOR:
Oregon City Public Schools

PREPARED BY:
William Farley, EI
Brian Davis
Todd Mobley, PE, PTOE



LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

Table of Contents

Executive Summary 3

Traffic Impact Study 4
- Introduction 4
- Location Description 4
- Traffic Counts 5
- Student Enrollment & Trip Generation 9
- Trip Distribution 9
- Background Traffic 13
- Capacity Analysis 18

Safety Analysis 20

Parking Study 22
- Pick-up and drop-off activity 24

Conclusions 25

Appendix 26

Executive Summary

- Oregon City School District is proposing an expansion of Gardiner Middle School. The proposed improvements include construction of a modular unit and related improvements to accommodate 250 additional students in addition to the approximately 625 students currently attending the school.

- Trip generation estimates show that the school currently generates approximately 293 vehicular trips during the morning peak period and 168 during the afternoon peak. Following the expansion, the school is expected to generate 420 total trips during the morning peak and 241 during the afternoon peak. The trip generation model employed was verified by on-site observations and traffic counts.

- The four study intersections of Linn Avenue at Ethel Street, Linn Avenue at Hood Street, Linn Avenue at Holmes Lane, and Leonard Street at Holmes Lane currently operate acceptably per Oregon City performance standards, and all are projected to continue to operate acceptably upon completion of the campus improvements.

- The crash rates for the study intersections were calculated to be 0.07 crashes per million entering vehicles (MEV) for Linn Avenue at Hood Street, 0.27 crashes/MEV for Linn Avenue at Holmes Lane, and 0.69 crashes/MEV for Linn Avenue at Ethel Street. Crash rates less than 1.0 crashes/MEV are not typically indicative of significant safety hazards, and no safety deficiencies were noted. Accordingly, no mitigation is recommended.

- A parking demand study found that the current parking demand at the school during the peak parking period is 60 spaces. Following the proposed expansion, the peak parking demand will be approximately 82 spaces. The current parking supply of 89 spaces is sufficient to accommodate current and future vehicular parking demand. Bike parking supply is currently approximately 12 spaces, with observed demand to be 8 bicycles. Additional bike parking is recommended to accommodate future demand, particularly during warmer months.

- In order to ensure smooth traffic flow around pick-up and drop-off activities following the expansion, it is recommended that the front circular driveway be opened to vehicles for pick-up and drop-offs with dedicated space provided to buses, and staff should be encouraged to park in the southern lot rather than the western lot.

- The transportation system in the vicinity of the school is capable of supporting the proposed expansion, and no mitigations are needed or recommended.

Traffic Impact Study

Introduction

As part of a planned school consolidation, the Oregon City School District is proposing the placement of a modular building on the Gardiner Middle School campus, located at 180 Ethel Street, for the purpose of providing eight additional classrooms. The additional classrooms are expected to accommodate the additional 250 students from the school redistricting for the 2013-2014 school year.

This report looks at the traffic impacts on the roadways and nearby intersections that are a result of the increased student enrollment at Gardiner Middle School. The purpose of this report is to provide a thorough analysis that addresses the operations of the study intersections as well as the school campus to ensure safe and efficient performance.

All supporting data and calculations are included in the appendix to this report.

Location Description

The City of Oregon City has identified the following intersections for analysis of projected traffic impacts during the weekday morning and afternoon peak hours:

- Ethel Street at Linn Avenue
- Hood Street at Linn Avenue
- Linn Avenue at Holmes Lane
- Leonard Street at Holmes Lane

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 and no on-street parking is available.

Holmes Lane is under the jurisdiction of Oregon City and is classified as a Minor Arterial east of Linn Avenue and as a Neighborhood Collector to the west. It is generally a two-lane roadway with a statutory residential speed limit of 25 mph. Curbs and sidewalks are present on the south side of the street. No on-street parking is available and no bike lanes are denoted.

Ethel Street is under the jurisdiction of Oregon City and is classified as a Collector. West of Linn Avenue, Ethel Street becomes AV Davis Road. It is generally a two-lane roadway with a statutory residential speed limit of 25 mph. To the west along AV Davis Road, curbs and sidewalks are installed

on both sides of the facility. To the east along Ethel Street, no curbs or sidewalks are present. On-street parking is available on both sides of the street and no bike lanes are present.

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.

Leonard 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. 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.

The intersection of Linn Avenue and Holmes Lane is a four-legged intersection that is controlled by STOP signs on each approach. Each approach consists of a shared lane for all turning movements. A ladder-striped cross-walk is in place on the east and south legs of the intersection.

The intersection of Holmes Lane and Leonard Street is a four-legged intersection that is controlled by a STOP sign on Leonard Street approach. The fourth leg of the intersection is formed by a driveway serving a residential property to the north and also operates under stop control. Each leg of the intersection consists of a shared lane for all turning movements.

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 shared lane for all turning movements. A ladder-striped cross-walk is present on the north, east, and west leg of the intersection.

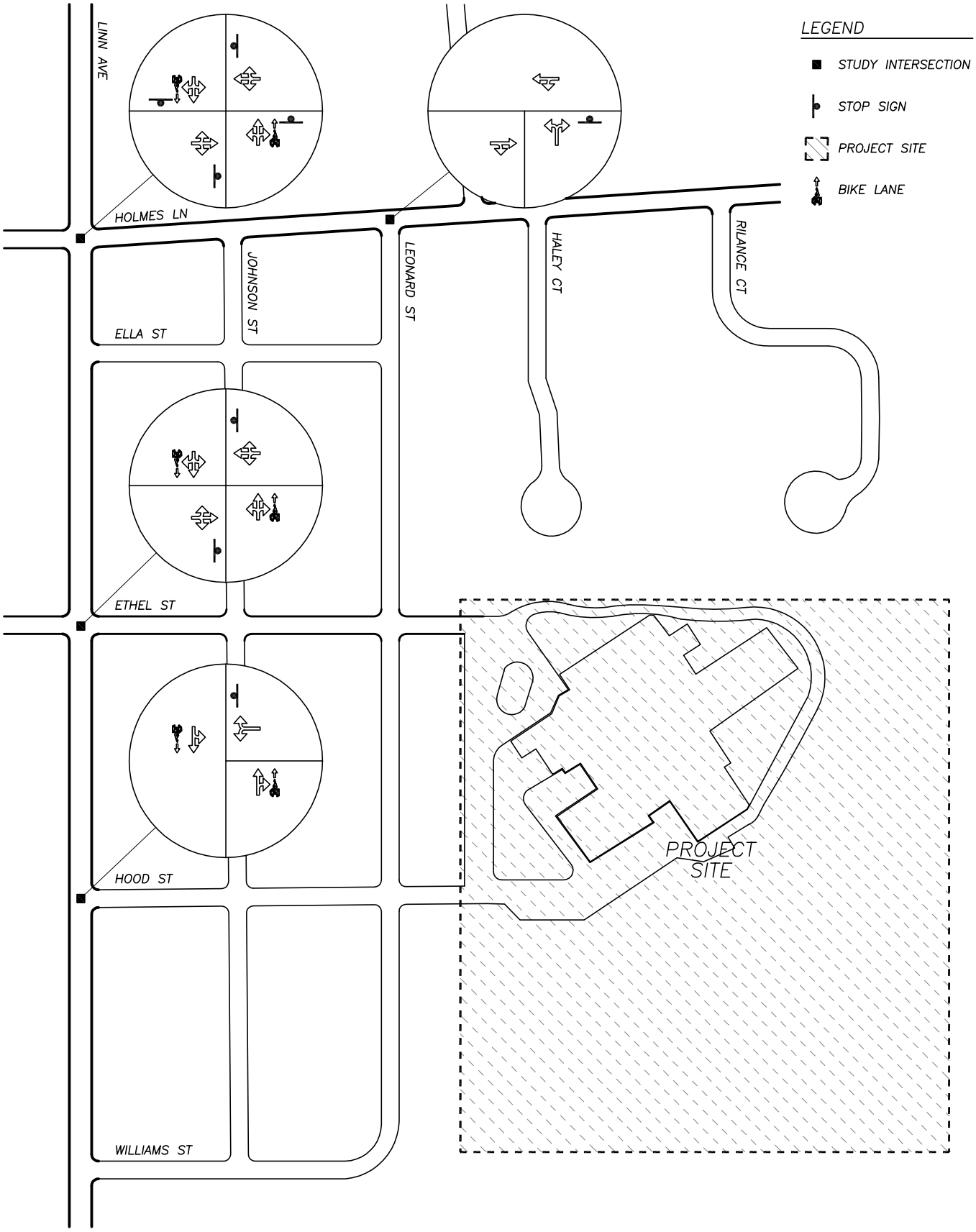
The intersection of Linn Avenue and Hood Street is a three-legged intersection controlled by a STOP sign on the Hood Street approach. Each approach at the intersection consists of a shared lane for all turning movements.

A vicinity map showing the project site, the study area intersections, and the existing traffic control devices is shown in Figure 1 on page six.

Traffic Counts

Traffic counts were conducted at all study area intersections on December 18th of 2012 from 7:00 AM to 9:00 AM and from 2:30 PM to 4:30 PM. These count periods corresponded with the start of the school day as well as the dismissal of students. Data was used from the system-wide peak of 7:40 AM to 8:40 AM for the morning peak hour and 3:20 PM to 4:20 PM for the afternoon peak hour.

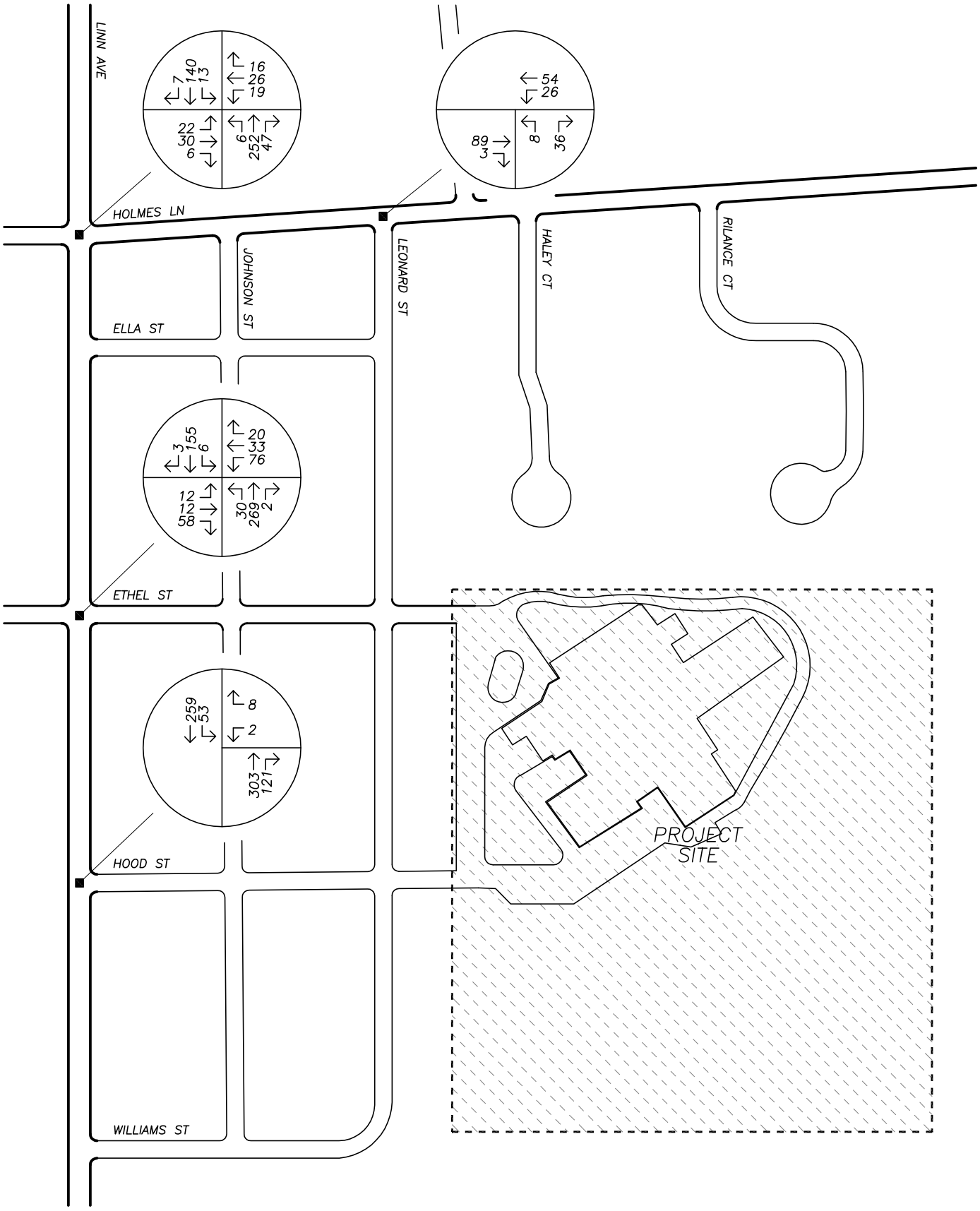
Figure 2 and Figure 3 on page seven and eight show the existing traffic volumes for the morning and afternoon peak periods at each of the study area intersections.



VICINITY MAP

no scale

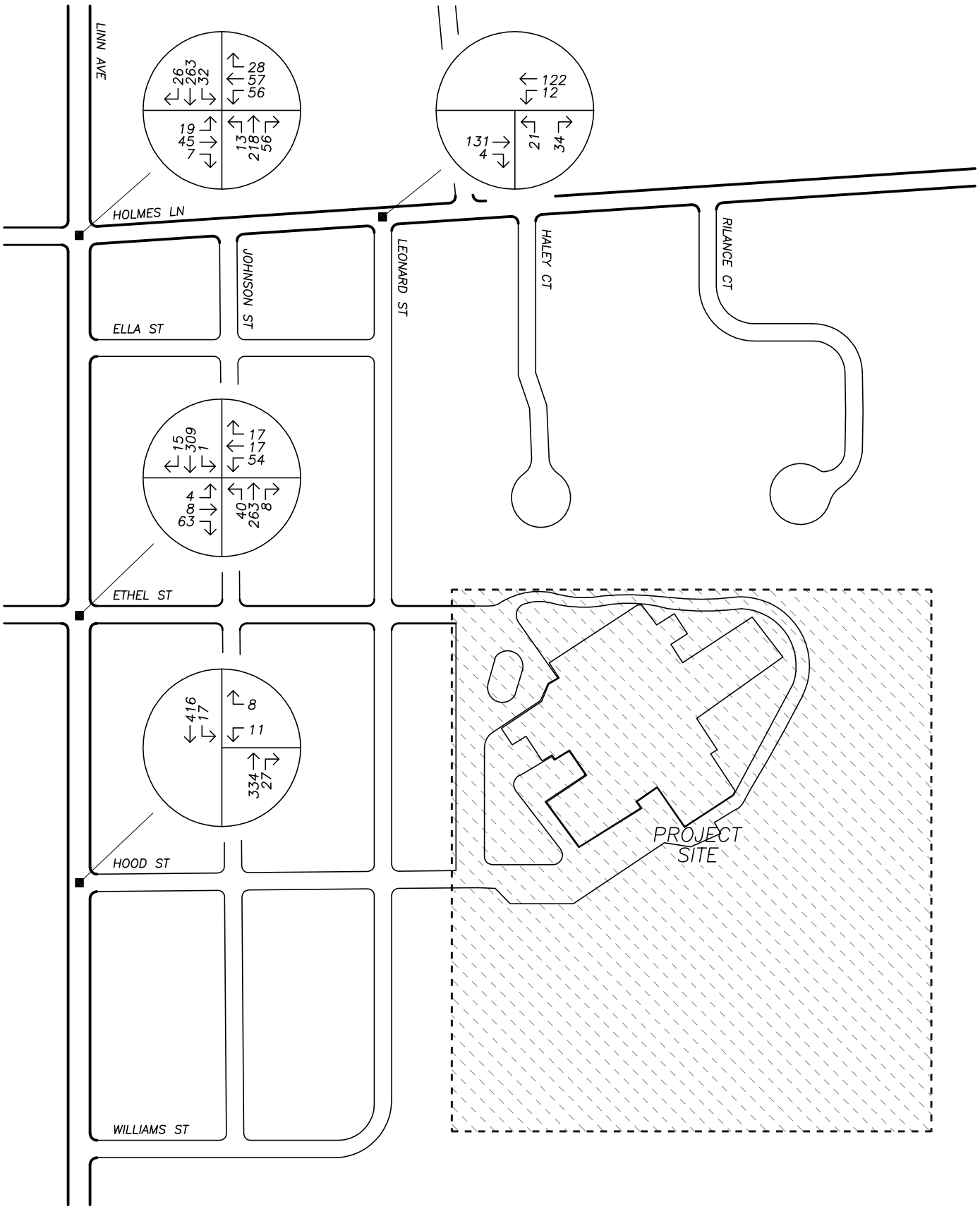
FIGURE 1



TRAFFIC VOLUMES
Existing Conditions
AM Peak Hour

no scale

FIGURE 2



TRAFFIC VOLUMES
Existing Conditions
PM Peak Hour

no scale

FIGURE 3

Trip Generation & Student Enrollment

For schools, trip generation is typically calculated based on the number of students, as this variable most-closely drives the amount of traffic generated. The most commonly used values for trips per student are found in *Trip Generation*[1]. The data utilized are for the "Middle School/Jr. High School" land use.

Currently, Gardiner Middle School has an expected 2013-2014 enrollment of 543 students. With the redistricting of the schools in Oregon City, the enrollment of the middle school is expected to increase by 234 more students giving a total enrollment of 777 students. To estimate the additional trips utilizing the middle school, Land Use Code 522, Middle School/Junior High School, was used. The trip rate for the school is based on the number of students enrolled at the campus and was calculated for both 543 students and 777 students.

A summary of the trip generation calculations based on the given student enrollment is shown in Table 1. Detailed trip generation calculations are included in the appendix to this report.

Table 1: Trip generation summary

	Morning Peak Hour			Afternoon Peak Hour		
	Entering trips	Exiting trips	Total trips	Entering trips	Exiting trips	Total trips
Total trips (777 students)	231	189	420	108	133	241
Current trips (543 students)	161	132	293	76	92	168
Added trips (234 students)	**70**	**57**	**127**	**32**	**41**	**73**

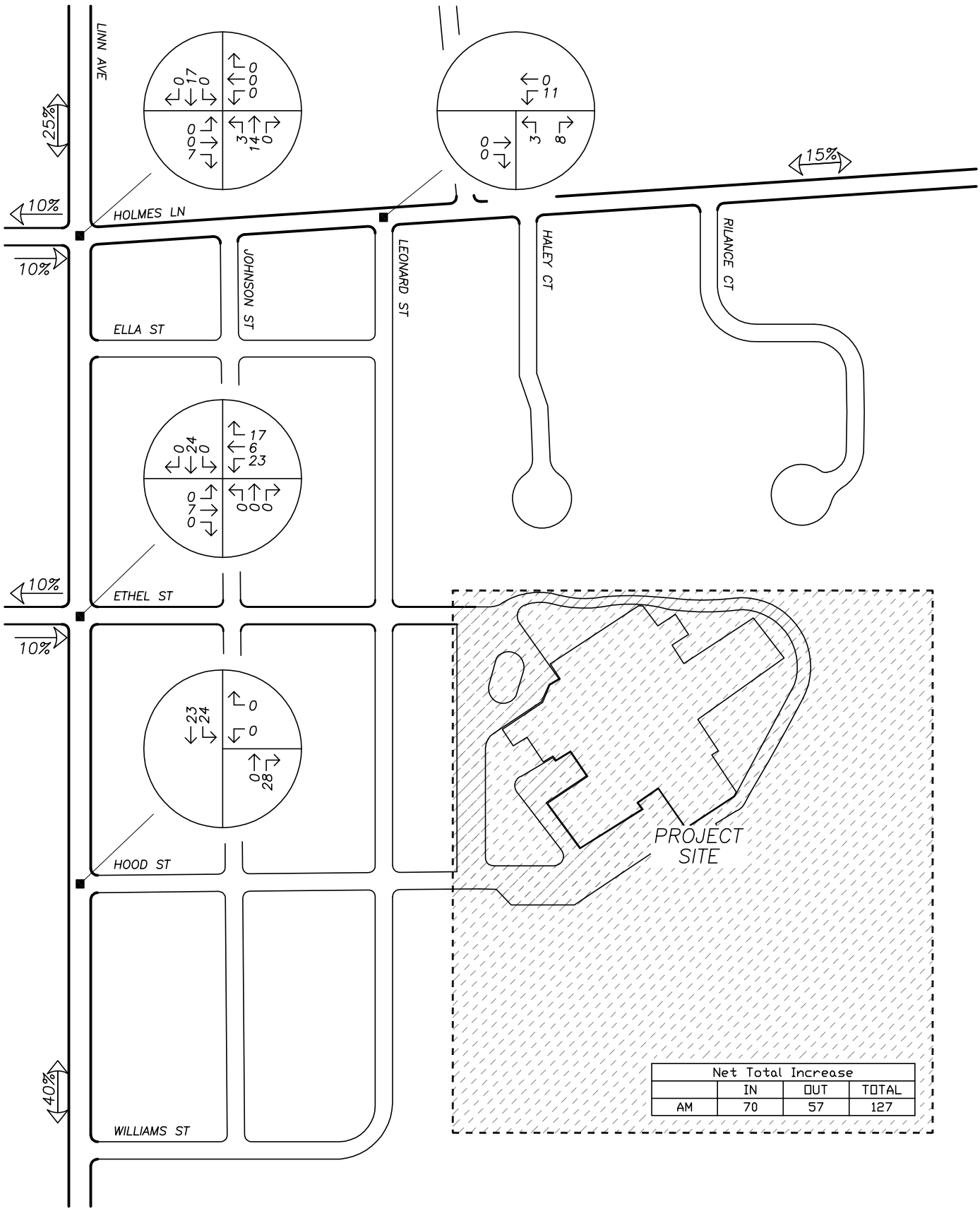
Trip Distribution

The school is located in a residential area where the campus is only accessible by utilizing local streets. The major roads that connect to the local streets around the site are Holmes Lane and Linn Avenue. Majority of the traffic utilizing the school is assumed to originate and terminate south of the subject property in the more residential areas of Oregon City. This traffic would likely use Linn Avenue to access Hood Street (which enters the campus). Significant amounts of traffic are also as-

[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual, 9th Edition,* 2012. Data cited for this study corresponds to land use code #520, Middle School/Jr. High School.

sumed to travel along Holmes Lane from Molalla Avenue to the east as well as along Linn Avenue from the residential area to the north.

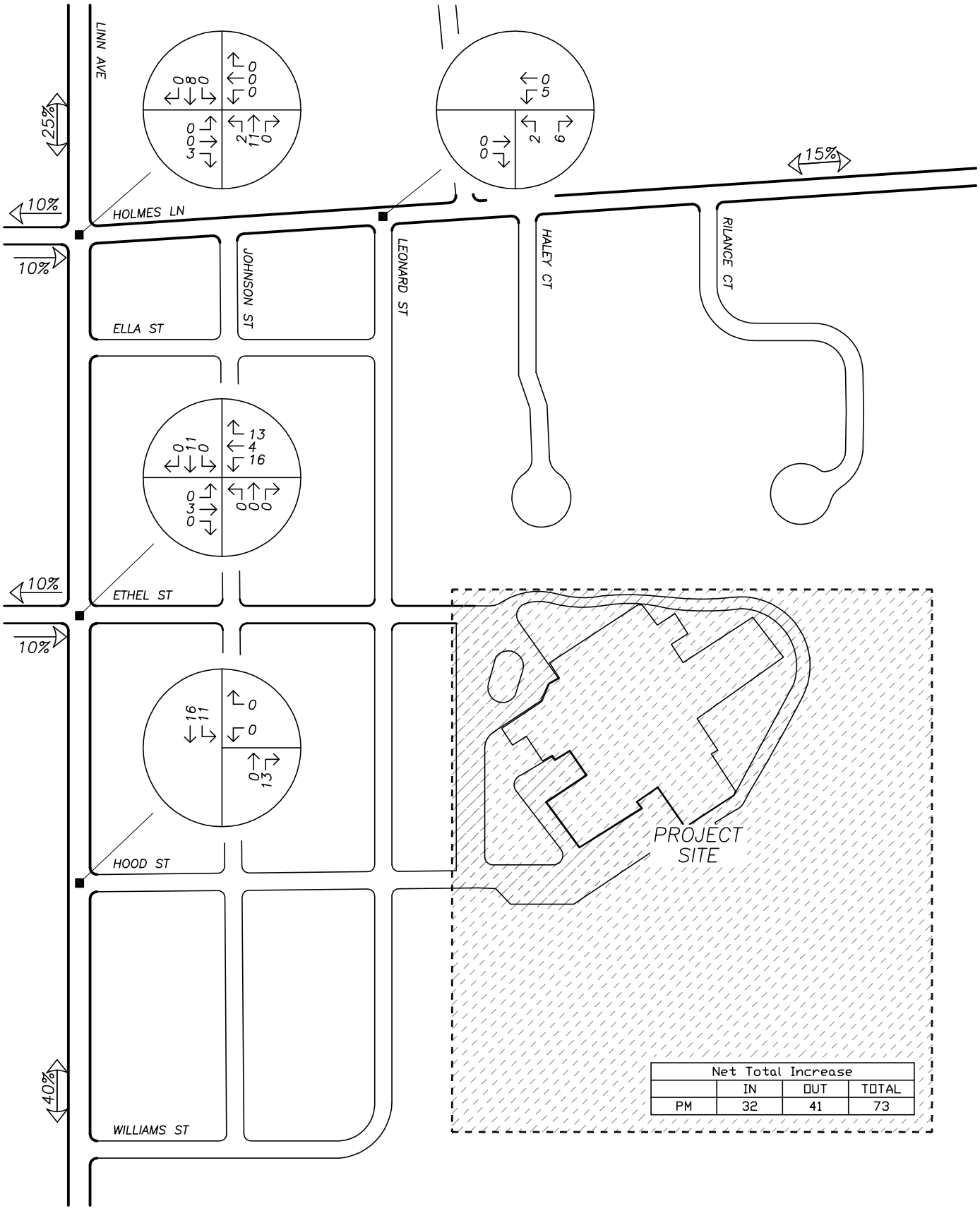
The trip assignment for the development in the AM peak and PM peak hours is shown in Figures 4 and 5 on page 11 and 12, respectively.



SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
AM Peak Hour

no scale

FIGURE 4



SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
PM Peak Hour

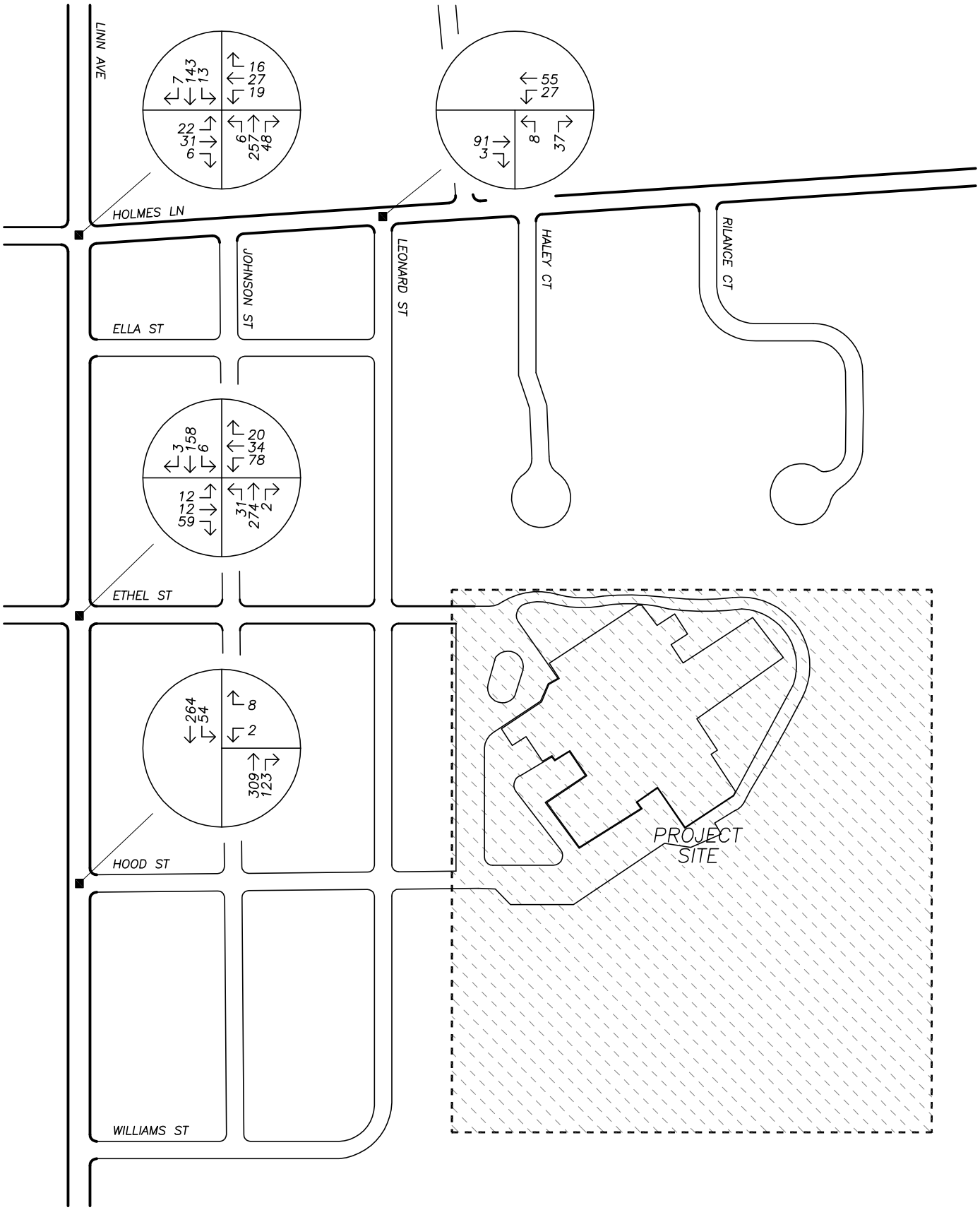
no scale

FIGURE 5

Background Traffic

To provide analysis of the impact of the increased enrollment on the existing transportation facilities at the time of opening, an estimation of future traffic volumes is required. In order to calculate the future traffic volumes, a growth rate must be applied to existing traffic volumes.

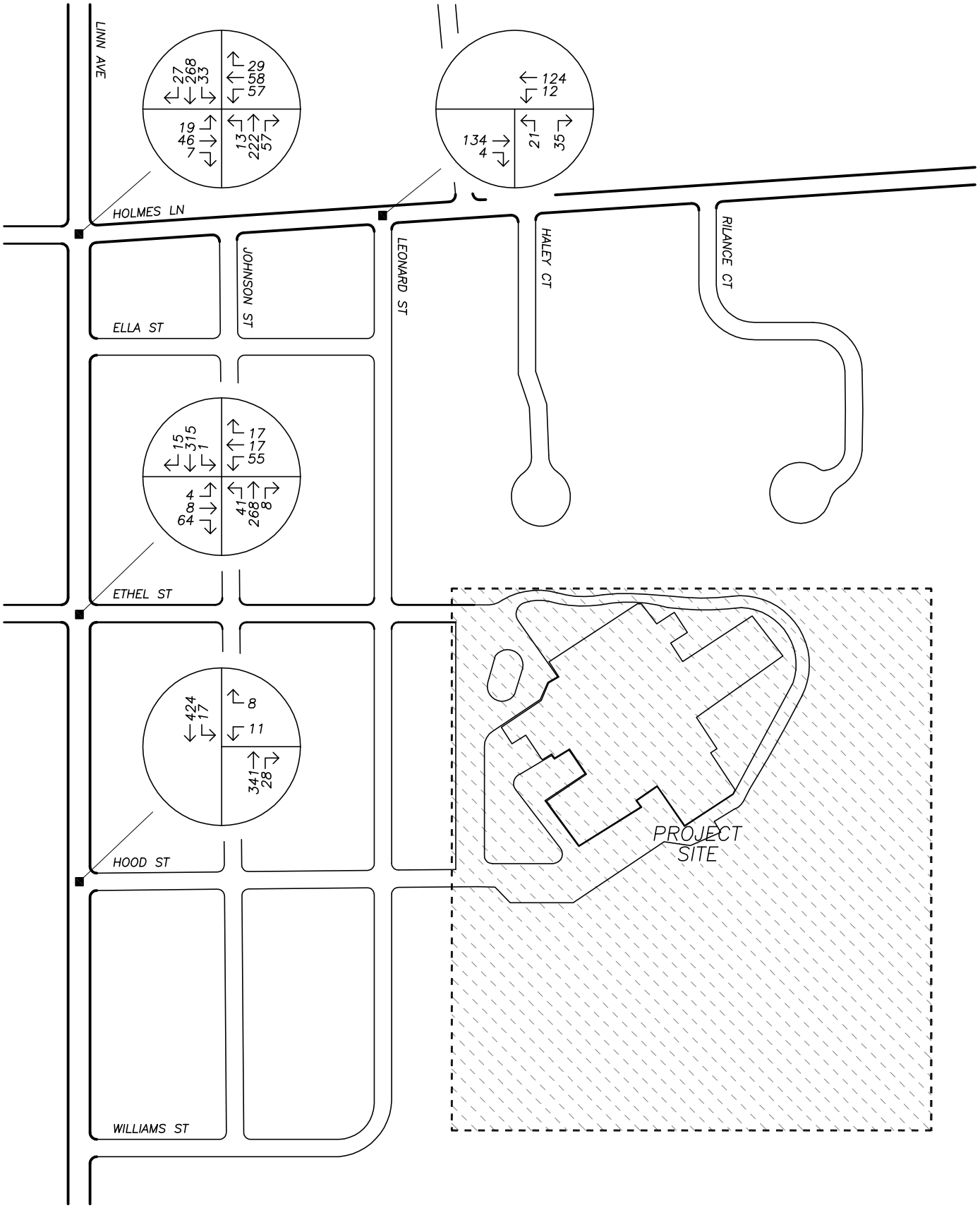
A growth rate of 2% for the area was assumed for a conservative analysis. Since the redistricting of the Oregon City School District is to be completed by the beginning of the next school year (2013-2014) and the additional building is not going to take very long to construct, the growth rate was only applied over the period of a year. The resulting background volumes are shown in Figure 6 on page 14 for the morning peak hour and Figure 7 on page 15 for the afternoon peak hour. Figure 8 on page 16 and Figure 9 on page 17 show the background traffic with the addition of site trips from the increased enrollment of the school.



TRAFFIC VOLUMES
Year 2014 Background Conditions
AM Peak Hour

no scale

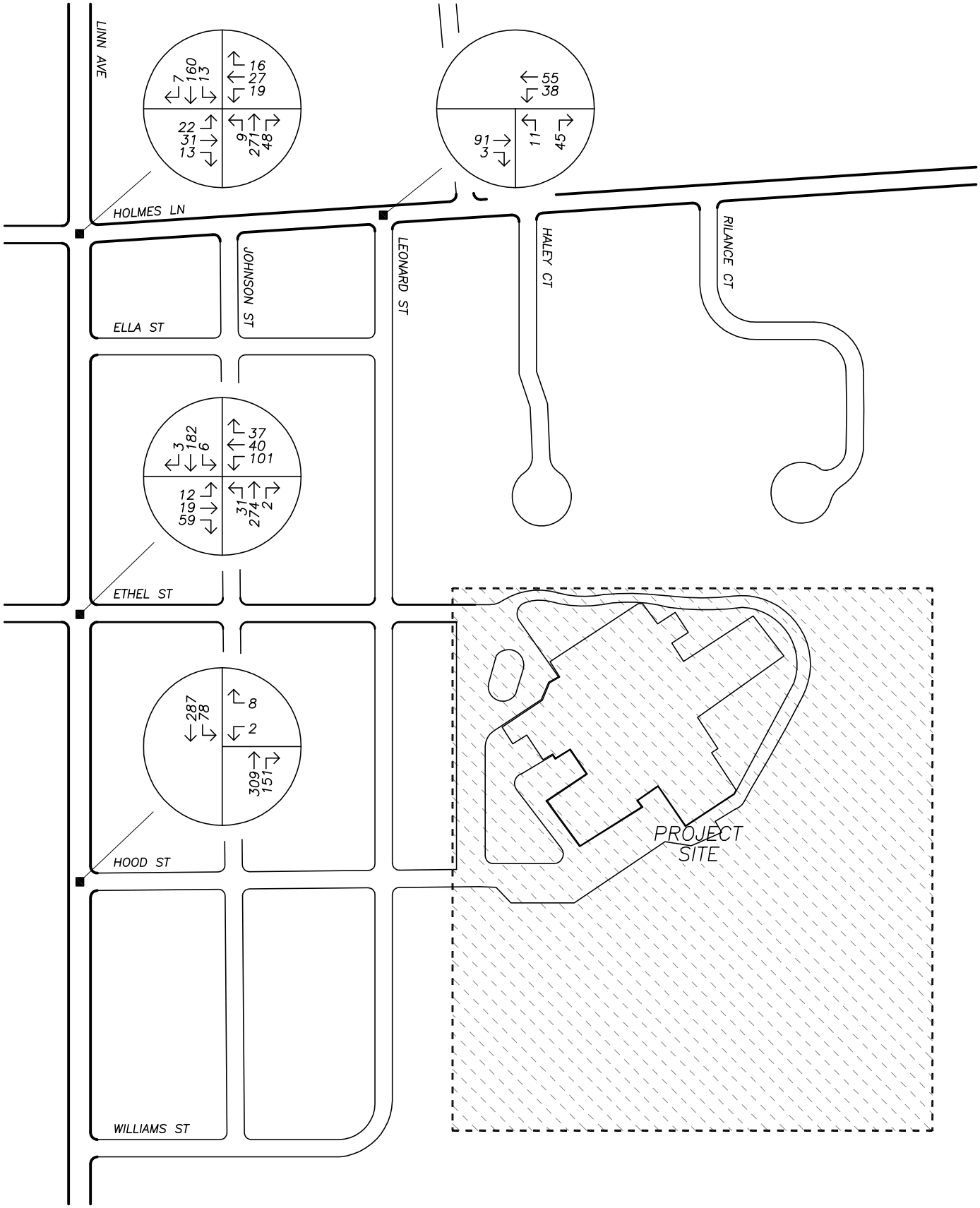
FIGURE 6



TRAFFIC VOLUMES
Year 2014 Background Conditions
PM Peak Hour

no scale

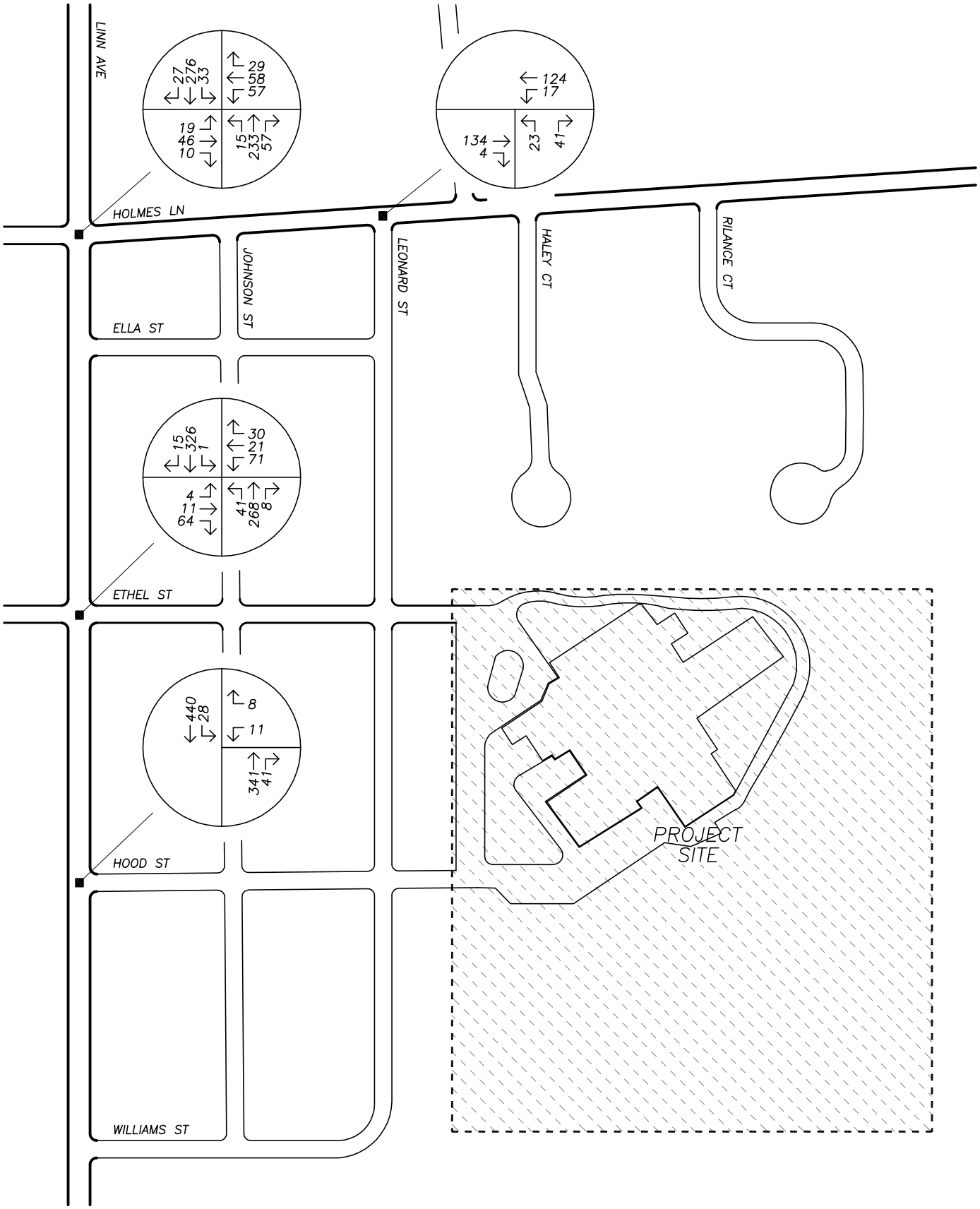
FIGURE 7



TRAFFIC VOLUMES
Year 2014 Background plus Site Conditions
AM Peak Hour

no scale

FIGURE 8



TRAFFIC VOLUMES
Year 2014 Background plus Site Conditions
PM Peak Hour

no scale

FIGURE 9

Capacity Analysis

To determine the level of service at the study intersections, a capacity analysis was conducted. The level of service of an intersection can range from A, which indicates very little or no delay experienced by vehicles, to F, which indicates a high degree of congestion and delay. According to Oregon City's Transportation System Plan updated in September of 2011, a level of service of D or better is acceptable for signalized and unsignalized intersections.

The study area intersections were analyzed using the unsignalized intersection analysis methods in the *Highway Capacity Manual*[2]. published by the Transportation Research Board. The analysis was made for the morning and afternoon peak hours for existing conditions, background traffic conditions, and background plus site trips from the campus with increased enrollment.

Currently, Linn Avenue at Holmes Lane operates at a level of service B in the morning peak hour and afternoon peak hour. Next year, the intersection is expected to continue to operate at the same level of service at both peak periods regardless of the increased enrollment.

Holmes Lane at Leonard Street currently operates at level of service A in the morning peak hour and level of service B in the afternoon peak hour. In the next school year, the intersection is expected to continue operating at the same level of service at both peak periods. With the additional traffic resulting from the increased enrollment, the intersection is expected to operate at level of service B in both the morning and afternoon peak hours.

Presently, Linn Avenue at Ethel Street operates at level of service B in both the morning and afternoon peak hour. The intersection is predicted to operate at level of service C during both peak hours in the next school year regardless of the increased enrollment.

Linn Avenue at Hood Street currently operates at level of service B in the morning and afternoon peak hours. The intersection is expected to continue operating at this level of service next year if the enrollment of the school remains the same. With the increased enrollment, the intersection is estimated to operate at level of service B in the morning peak hour and level of service C in the afternoon peak hour.

The results of the capacity analysis, along with the levels of service, delay, and v/c ratios are shown in the Table 2. Detailed calculations, as well as tables showing the relationships between delay and level of service are included in the appendix to this report.

[2] Transportation Research Board (TRB), *Highway Capacity Manual*, 5th Edition, 2010.

Table 2: Intersection capacity and level-of-service summary

CAPACITY ANALYSIS SUMMARY
Existing Intersection Configurations

	Morning Peak Hour			***Afternoon Peak Hour***		
	LOS	Delay (s)	v / c	LOS	Delay (s)	v / c
Linn Ave & Holmes Ln						
Existing	B	11	0.43	B	13	0.51
Background	B	11	0.44	B	14	0.53
Background + Site	B	12	0.47	B	14	0.55
Holmes Ln & Leonard St						
Existing	A	10	0.09	B	11	0.11
Background	A	10	0.09	B	11	0.11
Background + Site	B	10	0.12	B	11	0.13
Linn Ave & Ethel St						
Existing	B	15	0.31	B	15	0.21
Background	C	15	0.32	C	15	0.22
Background + Site	C	18	0.46	C	16	0.30
Linn Ave & Hood St						
Existing	B	13	0.07	B	15	0.05
Background	B	13	0.07	B	15	0.05
Background + Site	B	14	0.10	C	15	0.06

Safety Analysis

Using data obtained from ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (2007-2011) 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.

The intersection of Linn Avenue at Holmes Lane had 4 reported crashes during the analysis period giving a rate of 0.27 crashes per million entering vehicles (MEV). Two crashes were rear-end collisions and two were angle-type crashes. All four crashes resulted in a severity level of *Injury-C*, which indicates that these injuries were minor. Neither this pattern nor the details of the individual crashes are indicative of any apparent safety issues with the intersection.

The intersection of Linn Avenue at AV Davis Road/Ethel Street had a total of 10 reported crashes during the analysis period giving a rate of 0.69 crashes per MEV. Eight of these crashes were angle or turning-type crashes, one crash was a rear-end collision, and one crash involved a pedestrian in the crosswalk. Three crashes were of severity *Property Damage Only (PDO)*, six were of severity *Injury-C*, and one crash resulted in a fatality.

The fatal crash that occurred at Linn Avenue at AV Davis Road/Ethel Street was documented as involving alcohol and excessive speed. The offending vehicle, transporting two passengers, was traveling west to east along AV Davis Road. The vehicle ran the STOP sign at the intersection and collided with a northbound vehicle transporting one passenger. The impact of the crash resulted in the northbound vehicle hitting a power/telephone pole, killing the passenger of the vehicle. The offending vehicle overturned and ejected the driver. The driver of the offending vehicle and one of his passengers were documented as *Injury-A*, indicating severe and life-threatening injuries, while the third passenger and driver of other vehicle were of severity *Injury-B*.

Considering that the fatal crash was alcohol related, the infrastructure and intersection design did not attribute to the cause of the incident. This crash as well as the other crashes did not show a trend that was indicative of any apparent safety issues with the intersection.

The intersection of Linn Avenue at Hood Street had one reported crash during the analysis period giving a rate of 0.07 crashes per MEV. The crash was a rear-end type crash and resulted in property damage only.

Crash rates greater than 1.0 crashes/MEV are generally indicative of a need for further investigation and possible mitigation. Since the study intersections each have crash rates well below this threshold, there are no apparent safety deficiencies at these intersections, and on-site observations and available data suggest that the study intersections will continue to operate safely in the future.

Detailed information about crashes and crash reports for the study intersections are included in the appendix to this report.

The existing transportation system is capable of safely supporting the proposed use in addition to the existing uses in the site vicinity.

Parking Analysis

Gardiner Middle School has three parking areas with space for approximately 89 vehicles on the property of the school. The lot located on the west side of the building, has a capacity for 41 vehicles including two ADA parking spaces. The lot located on the south side of the building has capacity for 42 vehicles, including three ADA parking spaces. Additionally, a small lot located in the center part of the campus has capacity for six vehicles.

Detailed field observations were made to determine the peak demand for parking on the school's property. Table 3 shows the supply of parking as well as the current and estimated future parking demand at the school. The current peak parking demand was found to occur just prior to the school's dismissal at 3:30 PM, which is the most common time for peak parking demand in the vicinity of a school. The current parking demand is used to calculate a parking rate specific to the school, and this parking demand rate is used to calculate the estimated demand following expansion based on the additional enrollment of 234 students. Note that the calculated peak parking demand of 0.10 vehicles per student is in good agreement with the average peak parking demand of 0.09 vehicles per student given in *Parking Generation*[3].

Table 3: Parking supply and demand for afternoon peak

Parking Area	Supply	Existing Demand	% Full	Projected Demand	% Full
West Lot	41	39	95%	39	95%
South Lot	42	15	36%	35	83%
Center Lot	6	6	100%	6	100%
Total (autos)	**89**	**60**	**67%**	**80**	**92%**
Bike Parking	12	8	67%	12	100%

As shown in Table 3, the school currently has higher parking supply than demand, with 60 of the 89 available spaces utilized during the peak parking demand period. It is estimated that the peak parking demand following the improvements to the campus will be 80 spaces. The current parking lot can therefore accommodate the projected peak parking demand. Additionally, several small changes in the pick-up and drop-off circulation patterns are likely to decrease the peak parking demand by better utilizing the school's available frontage; this is described in more detail in the following section.

[3] Institute of Transportation Engineers (ITE), *Parking Generation, 4th Edition,* 2010. Data cited for this study corresponds to land use code #520, Middle School/Jr. High School.

In addition to vehicular parking, the school provides covered parking with space to accommodate approximately 12 bikes. The straight racks provided are often difficult to utilize, however, and several bikes were observed chained to posts and railings rather than the bike racks themselves. The total peak bike parking was observed to be 8 bicycles. Following the proposed expansion, it is estimated that demand for bike parking will be 12 bicycles based on these observations, however since observations were made in December, bike parking demand is likely to be higher in warmer, drier months.

Presently, Gardiner Middle School provides ample vehicular parking for all uses and will continue to do so following the proposed expansion. It is recommended that the school improve and expand its covered bike parking to accommodate future demand for bike parking following the expansion.

Pick-up & Drop-off Activity

Pick-ups and drop-off activity at Gardiner Middle School was observed on Tuesday December 18, 2012 take place primarily on the segment of Ethel Street on the west side of the school's campus. Most activity occurred along the school's frontage on the east side of Ethel Street, immediately to the south of the small loop drive in front of the school; this consists of approximately 200 feet of frontage that was observed to accommodate a maximum of 9-10 vehicles. In some cases, primarily during the afternoon pick-up period, some vehicles used available parking in the school's lots while waiting for dismissal; these parked cars were counted toward the peak parking demand described above. Small queues were observed extending beyond the school's property during the busiest periods during both morning and afternoon peaks. The queues extended approximately to the intersection of Hood and Leonard Streets, and extended beyond the school's property for a total of three to five minutes during each peak period.

In addition to the vehicular pick-ups and drop-offs, the school accommodates several yellow buses. The majority of the buses utilizes the south parking lot for pick-ups and drop-offs and circulates around the school's property via a driveway that encircles the school. Three other short buses use the loop drive in front of the school to conduct pick-ups and drop-offs.

In order to accommodate the additional activity resulting from the increased enrollment, several small adjustments are recommended to better utilize available space and ensure smooth and safe traffic flow. First, it is recommended that staff be encouraged 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.

Second, the loop drive provides ideal frontage for pick-ups and drop-offs, however vehicles are prohibited from using this frontage to ensure that the three short buses can be accommodated although the buses require only a small portion of this frontage. The school could open the loop drive to pick-ups and drop-offs so long as space for the buses was clearly off limits to these vehicles via pavement markings and signs. This would provide additional space for the increased pick-up and drop-off activity and reduce the likelihood that queues would extend beyond school property.

Conclusions

The proposed improvements to Gardiner Middle School will accommodate 234 additional students. Trip generation estimates show that this will result in approximately 127 new vehicular trips during the morning peak period and 73 during the afternoon peak.

The study intersections of Linn Avenue at Ethel Street, Linn Avenue at Hood Street, Linn Avenue at Holmes Lane, and Leonard Street at Holmes Lane currently operate acceptably per Oregon City standards and are projected to continue to operate acceptably upon completion of the campus improvements. The intersections operate safely, with a crash rates below 1.0 crashes/MEV and no apparent safety deficiencies.

A parking demand study found that vehicular parking supply currently exceeds demand at the school, and this will continue to be the case following the expansion. The covered bike parking area should be expanded to support and encourage bicycling to school as the campus is improved.

The existing transportation system in the vicinity of the school is capable of safely supporting the proposed expansion in addition to the existing uses in the site vicinity, and no mitigations are required or recommended.

Appendix

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.

1e

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

Speed Zone Order

Date	April 16, 2007	Order No	J7917

Jurisdiction(s)	
Oregon City	

Whereas, the Oregon Department of Transportation, has been requested to perform an investigation pursuant to the provisions of ORS 810.180, has caused an engineering and traffic investigation to be made for the section(s) of state highway, county highway, city highway, or highway under the jurisdiction of a federal agency described below (highway means public way); and

Whereas, the State Traffic Engineer has been authorized to act on behalf of the Oregon Transportation Commission; and

Whereas, the data, facts, and information obtained in connection with said engineering and traffic investigation are on file in the office of the Traffic Management Section of the Oregon Department of Transportation in Salem, Oregon; and

Whereas, based upon said engineering and traffic investigation, the Traffic Engineer has found that the speed designated in ORS 811.105 or ORS 811.111 is greater than is reasonable under the conditions found to exist upon the section(s) of highway for which a lesser speed is herein designated or that the speed designated in said statute is less than is reasonable under the conditions found to exist upon the section(s) of highway for which a greater speed is herein designated; and

Whereas, the provisions of ORS 810.180 respecting notice and hearing have been complied with:

It is **Therefore Ordered** that the designated speed for the following section(s) of highway be as follows:

Name **Linn Avenue**

LOCATION OF TERMINI

From	To	Designated Speed (Miles Per Hour)
Jackson Street	Warner Milne Road/Warner Parrott Road	35

School speed zones may be posted within the limits of this order as determined to be appropriate by the Road Authority, based on an engineering investigation as per the provisions of ORS 811.111, Subsection 1(e) and ORS 810.200.

Be it further ordered that the roadway authority or authorities responsible for the above section(s) of highway install appropriate signs giving notice of the designated speed(s) therefore as per ORS 810.180, Subsection 5(e).

Be it further ordered that signs installed pursuant to this order comply with the provisions of ORS 810.210 and 810.220.

Be it further ordered that any previous order made by the Department with respect to the designated speed for the above section(s) of highway which is in conflict with the provisions of this order is hereby rescinded.

Be it further ordered that the Traffic Engineer of the Oregon Department of Transportation is hereby delegated the authority to sign this order for and on behalf of the Department.

Ed Fischer, State Traffic Engineer

TRIP GENERATION CALCULATIONS

Land Use: Middle School/Junior High School
Land Use Code: 522
Variable: Students
Variable Value: 543

AM PEAK HOUR

Trip Rate: 0.54

	Enter	Exit	Total
Directional Distribution	55%	45%	
Trip Ends	**161**	**132**	**293**

PM PEAK HOUR

Trip Rate: 0.16

	Enter	Exit	Total
Directional Distribution	49%	51%	
Trip Ends	**43**	**44**	**87**

WEEKDAY

Trip Rate: 1.62

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**440**	**440**	**880**

PM PEAK HOUR OF GENERATOR

Trip Rate: 0.31

	Enter	Exit	Total
Directional Distribution	45%	55%	
Trip Ends	**76**	**92**	**168**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Middle School/Junior High School
Land Use Code: 522
Variable: Students
Variable Value: 777

AM PEAK HOUR

Trip Rate: 0.54

	Enter	Exit	Total
Directional Distribution	55%	45%	
Trip Ends	**231**	**189**	**420**

PM PEAK HOUR

Trip Rate: 0.16

	Enter	Exit	Total
Directional Distribution	49%	51%	
Trip Ends	**61**	**63**	**124**

WEEKDAY

Trip Rate: 1.62

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**629**	**629**	**1,258**

PM PEAK HOUR OF GENERATOR

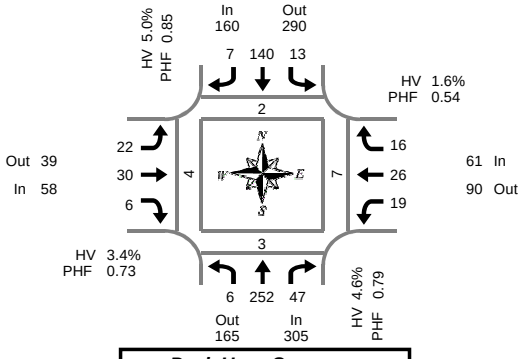
Trip Rate: 0.31

	Enter	Exit	Total
Directional Distribution	45%	55%	
Trip Ends	**108**	**133**	**241**

Source: TRIP GENERATION, Ninth Edition

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:40 AM to 8:40 AM

Linn Ave & Holmes Ln

Tuesday, December 18, 2012
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	21	3	0	1	5	1	0	0	1	0	0	0	1	1	0	34	0	0	0	0
7:05 AM	0	22	1	0	1	7	0	0	2	2	1	0	1	5	2	0	44	0	0	0	0
7:10 AM	0	31	0	0	1	10	0	0	1	3	0	0	0	2	0	0	48	0	0	0	0
7:15 AM	0	26	1	0	3	13	1	0	1	4	0	0	1	0	3	0	53	0	0	0	0
7:20 AM	0	26	2	0	4	7	0	0	2	4	0	0	1	1	2	0	49	0	0	0	0
7:25 AM	0	15	3	0	1	7	0	0	3	2	0	0	2	1	3	1	37	0	0	0	0
7:30 AM	0	33	4	0	2	9	0	0	5	2	0	0	1	2	2	0	60	0	1	0	1
7:35 AM	1	21	1	0	1	4	1	1	2	2	0	0	0	2	1	0	36	0	0	0	0
7:40 AM	0	28	0	0	2	15	0	0	4	0	0	0	0	2	1	0	52	0	0	0	0
7:45 AM	1	39	4	0	1	11	1	0	2	1	0	0	0	1	0	0	61	0	0	0	0
7:50 AM	0	23	1	0	1	16	0	0	0	4	0	0	1	2	1	0	49	0	0	0	4
7:55 AM	0	23	4	0	3	14	0	0	2	2	0	0	1	1	0	0	50	0	0	0	0
8:00 AM	0	13	5	0	1	6	1	0	4	2	0	0	2	2	2	0	38	0	0	0	0
8:05 AM	0	15	4	0	0	7	0	0	3	2	1	1	1	2	1	0	36	0	0	0	0
8:10 AM	1	16	4	0	1	11	0	0	2	5	0	0	2	2	1	0	45	0	0	0	0
8:15 AM	1	16	7	0	3	13	1	0	1	3	3	0	0	1	2	0	51	0	0	6	0
8:20 AM	1	16	5	0	0	9	0	0	0	1	0	0	4	0	1	0	37	0	0	0	0
8:25 AM	1	19	9	0	0	12	1	0	2	5	0	0	4	5	4	0	62	0	3	1	0
8:30 AM	1	18	1	0	0	13	2	0	2	3	1	1	2	6	2	0	51	0	0	0	0
8:35 AM	0	26	3	0	1	13	1	0	0	2	1	0	2	2	1	0	52	2	0	0	0
8:40 AM	0	23	1	0	0	8	0	0	1	1	0	0	2	3	2	0	41	0	0	0	0
8:45 AM	0	20	3	0	2	9	0	0	1	0	0	0	1	1	1	0	38	0	1	0	0
8:50 AM	0	24	4	0	1	10	0	0	3	4	0	0	1	0	1	0	48	0	0	0	0
8:55 AM	0	13	1	0	2	10	0	0	0	2	1	0	1	1	0	0	31	0	0	0	0
Total Survey	7	527	71	0	32	239	10	1	43	57	8	2	30	45	34	1	1,103	2	5	7	5

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	74	4	0	3	22	1	0	3	6	1	0	1	8	3	0	126	0	0	0	0
7:15 AM	0	67	6	0	8	27	1	0	6	10	0	0	4	2	8	1	139	0	0	0	0
7:30 AM	1	82	5	0	5	28	1	1	11	4	0	0	1	6	4	0	148	0	1	0	1
7:45 AM	1	85	9	0	5	41	1	0	4	7	0	0	2	4	1	0	160	0	0	0	4
8:00 AM	1	44	13	0	2	24	1	0	9	9	1	1	5	6	4	0	119	0	0	0	0
8:15 AM	3	51	21	0	3	34	2	0	3	9	3	0	8	6	7	0	150	0	3	7	0
8:30 AM	1	67	5	0	1	34	3	0	3	6	2	1	6	11	5	0	144	2	0	0	0
8:45 AM	0	57	8	0	5	29	0	0	4	6	1	0	3	2	2	0	117	0	1	0	0
Total Survey	7	527	71	0	32	239	10	1	43	57	8	2	30	45	34	1	1,103	2	5	7	5

Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes 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	305	165	470	0	160	290	450	0	58	39	97	2	61	90	151	0	584	2	3	7	4
%HV	4.6%				5.0%				3.4%				1.6%				4.3%				
PHF	0.79				0.85				0.73				0.54				0.88				

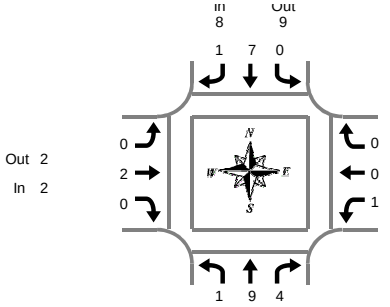
By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	6	252	47	305	13	140	7	160	22	30	6	58	19	26	16	61	584
%HV	16.7%	3.6%	8.5%	4.6%	0.0%	5.0%	14.3%	5.0%	0.0%	6.7%	0.0%	3.4%	5.3%	0.0%	0.0%	1.6%	4.3%
PHF	0.50	0.70	0.56	0.79	0.65	0.83	0.44	0.85	0.61	0.75	0.38	0.73	0.48	0.50	0.57	0.54	0.88

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	2	308	24	0	21	118	4	1	24	27	1	0	8	20	16	1	573	0	1	0	5
7:15 AM	3	278	33	0	20	120	4	1	30	30	1	1	12	18	17	1	566	0	1	0	5
7:30 AM	6	262	48	0	15	127	5	1	27	29	4	1	16	22	16	0	577	0	4	7	5
7:45 AM	6	247	48	0	11	133	7	0	19	31	6	2	21	27	17	0	573	2	3	7	4
8:00 AM	5	219	47	0	11	121	6	0	19	30	7	2	22	25	18	0	530	2	4	7	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:40 AM to 8:40 AM

Linn Ave & Holmes Ln

Tuesday, December 18, 2012
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:05 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:10 AM	0	4	0	4	0	1	0	1	0	0	0	0	0	0	0	0	5
7:15 AM	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	3
7:20 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
7:25 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
7:35 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:40 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:50 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:55 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	2	0	2	0	1	0	1	0	1	0	1	1	0	0	1	5
8:05 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:10 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:20 AM	0	1	2	3	0	1	0	1	0	1	0	1	0	0	0	0	5
8:25 AM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
8:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:35 AM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
8:40 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
8:50 AM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
8:55 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Survey	1	19	5	25	1	14	2	17	0	4	0	4	1	0	1	2	48

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	5	0	5	0	1	1	2	0	0	0	0	0	0	0	0	7
7:15 AM	0	1	0	1	1	1	0	2	0	2	0	2	0	0	1	1	6
7:30 AM	0	3	0	3	0	2	0	2	0	0	0	0	0	0	0	0	5
7:45 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
8:00 AM	1	2	1	4	0	1	0	1	0	1	0	1	1	0	0	1	7
8:15 AM	0	2	3	5	0	4	0	4	0	1	0	1	0	0	0	0	10
8:30 AM	0	2	0	2	0	1	1	2	0	0	0	0	0	0	0	0	4
8:45 AM	0	2	1	3	0	3	0	3	0	0	0	0	0	0	0	0	6
Total Survey	1	19	5	25	1	14	2	17	0	4	0	4	1	0	1	2	48

Heavy Vehicle Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Linn Ave			Southbound Linn Ave			Eastbound Holmes Ln			Westbound Holmes Ln			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	14	8	22	8	9	17	2	2	4	1	6	7	25
PHF	0.70			0.40			0.50			0.25			0.63

By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	9	4	14	0	7	1	8	0	2	0	2	1	0	0	1	25
PHF	0.25	0.56	0.33	0.70	0.00	0.44	0.25	0.40	0.00	0.50	0.00	0.50	0.25	0.00	0.00	0.25	0.63

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

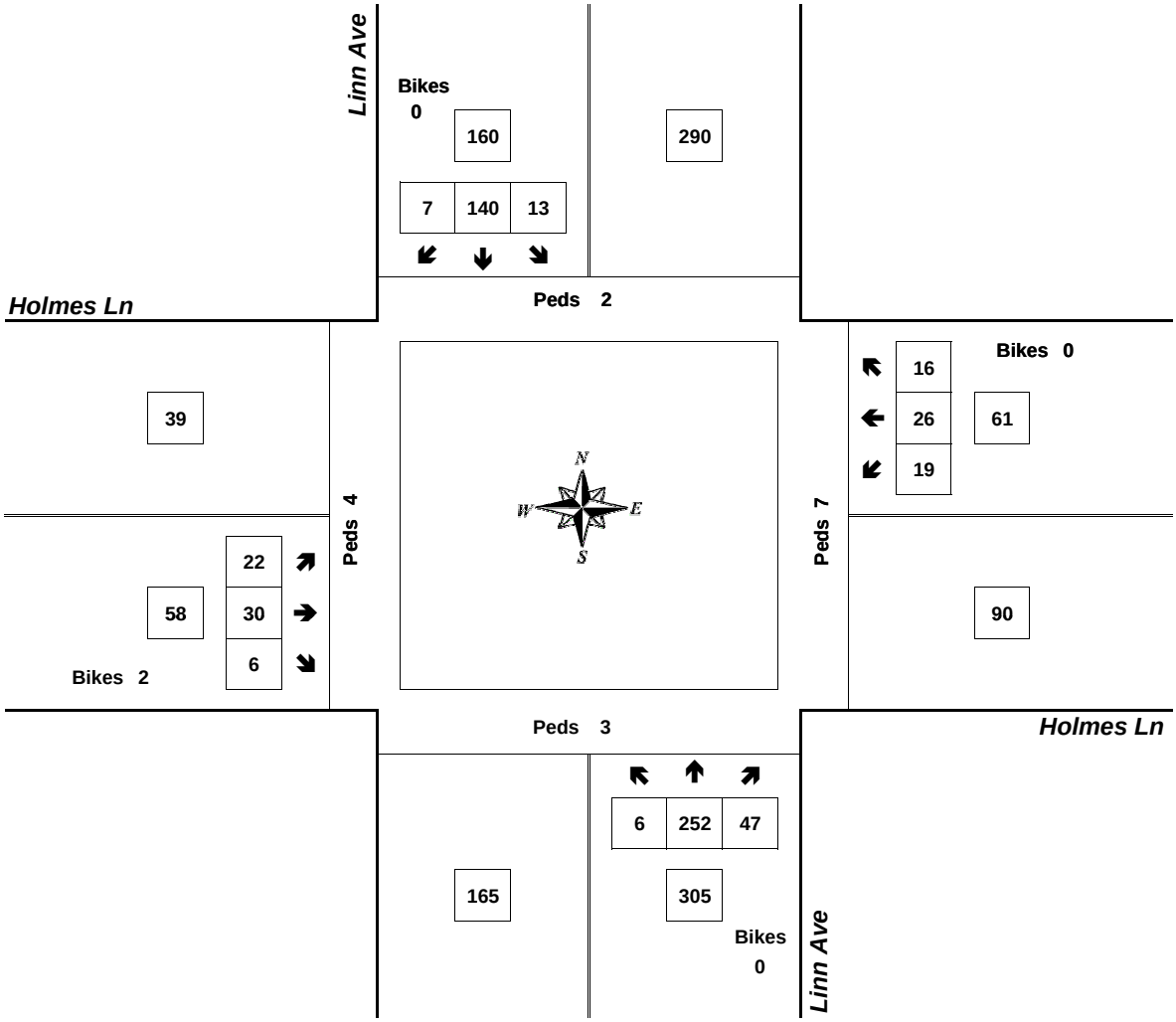
Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	11	0	11	1	5	1	7	0	2	0	2	0	0	1	1	21
7:15 AM	1	8	1	10	1	5	0	6	0	3	0	3	1	0	1	2	21
7:30 AM	1	9	4	14	0	8	0	8	0	2	0	2	1	0	0	1	25
7:45 AM	1	8	4	13	0	7	1	8	0	2	0	2	1	0	0	1	24
8:00 AM	1	8	5	14	0	9	1	10	0	2	0	2	1	0	0	1	27

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Linn Ave & Holmes Ln

7:40 AM to 8:40 AM
Tuesday, December 18, 2012

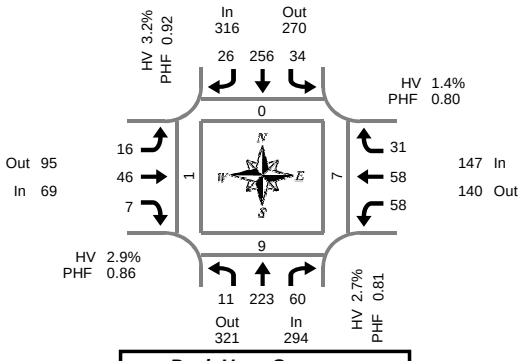


Approach	PHF	HV%	Volume
EB	0.73	3.4%	58
WB	0.54	1.6%	61
NB	0.79	4.6%	305
SB	0.85	5.0%	160
Intersection	0.88	4.3%	584

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
3:25 PM to 4:25 PM

Linn Ave & Holmes Ln

Tuesday, December 18, 2012
2:30 PM to 4:30 PM

5-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
2:30 PM	0	15	5	0	2	15	0	0	0	3	1	0	2	3	3	0	49	0	2	0	0
2:35 PM	0	13	4	0	2	18	1	0	0	3	2	0	4	3	4	0	54	0	0	0	0
2:40 PM	1	12	2	0	3	23	0	0	0	2	0	0	1	2	3	0	49	0	1	0	0
2:45 PM	1	20	2	0	1	18	2	0	1	4	0	0	1	2	3	0	55	0	0	0	0
2:50 PM	1	19	4	0	1	15	1	0	1	1	0	0	5	2	4	0	54	0	0	0	0
2:55 PM	1	19	2	3	5	12	0	0	0	3	0	0	3	3	1	0	49	0	0	0	0
3:00 PM	0	17	5	0	0	14	0	0	2	3	0	0	3	5	2	0	51	0	0	0	0
3:05 PM	0	13	1	0	4	20	1	0	1	3	0	0	5	4	2	0	54	0	0	0	0
3:10 PM	0	16	2	0	6	24	1	0	0	3	1	0	2	4	3	0	62	0	0	0	0
3:15 PM	1	14	5	0	2	24	0	0	1	6	1	0	4	3	1	0	62	0	0	0	0
3:20 PM	2	14	0	0	0	23	3	0	3	2	0	1	1	4	1	0	53	0	0	0	0
3:25 PM	1	15	1	0	1	18	1	0	2	4	0	0	9	5	4	0	61	0	0	0	0
3:30 PM	1	16	7	0	3	28	3	0	2	3	0	0	9	4	3	0	79	0	1	2	1
3:35 PM	1	25	12	0	7	19	2	0	2	5	1	0	1	9	2	0	86	0	7	4	0
3:40 PM	0	22	7	0	4	11	3	0	1	2	1	0	4	7	3	0	65	0	0	1	0
3:45 PM	0	14	4	0	5	22	2	0	1	5	0	0	7	2	0	0	62	0	0	0	0
3:50 PM	3	23	4	0	2	26	2	0	1	5	1	0	4	7	1	0	79	0	0	0	0
3:55 PM	0	17	6	0	2	24	1	0	1	6	0	0	2	1	6	0	66	0	1	0	0
4:00 PM	2	22	3	0	3	18	3	0	2	2	1	0	9	4	2	0	71	0	0	0	0
4:05 PM	1	23	2	0	0	22	3	0	0	7	1	0	3	6	2	0	70	0	0	0	0
4:10 PM	0	7	5	0	3	27	1	0	2	1	1	0	6	5	3	0	61	0	0	0	0
4:15 PM	2	20	5	0	2	25	2	0	2	3	1	0	1	3	1	0	67	0	0	0	0
4:20 PM	0	19	4	0	2	16	3	0	0	3	0	0	3	5	4	0	59	0	0	0	0
4:25 PM	1	18	2	0	1	23	2	0	0	2	1	0	1	5	2	0	58	0	0	0	0
Total Survey	19	413	94	3	61	485	37	0	25	81	13	1	90	98	60	0	1,476	0	12	7	1

15-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
2:30 PM	1	40	11	0	7	56	1	0	0	8	3	0	7	8	10	0	152	0	3	0	0
2:45 PM	3	58	8	3	7	45	3	0	2	8	0	0	9	7	8	0	158	0	0	0	0
3:00 PM	0	46	8	0	10	58	2	0	3	9	1	0	10	13	7	0	167	0	0	0	0
3:15 PM	4	43	6	0	3	65	4	0	6	12	1	1	14	12	6	0	176	0	0	0	0
3:30 PM	2	63	26	0	14	58	8	0	5	10	2	0	14	20	8	0	230	0	8	7	1
3:45 PM	3	54	14	0	9	72	5	0	3	16	1	0	13	10	7	0	207	0	1	0	0
4:00 PM	3	52	10	0	6	67	7	0	4	10	3	0	18	15	7	0	202	0	0	0	0
4:15 PM	3	57	11	0	5	64	7	0	2	8	2	0	5	13	7	0	184	0	0	0	0
Total Survey	19	413	94	3	61	485	37	0	25	81	13	1	90	98	60	0	1,476	0	12	7	1

Peak Hour Summary
3:25 PM to 4:25 PM

By Approach	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes 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	294	321	615	0	316	270	586	0	69	95	164	0	147	140	287	0	826	0	9	7	1
%HV	2.7%				3.2%				2.9%				1.4%				2.7%				
PHF	0.81				0.92				0.86				0.80				0.90				

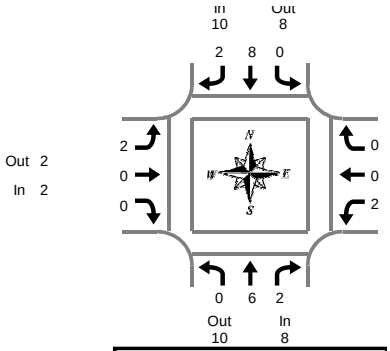
By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	11	223	60	294	34	256	26	316	16	46	7	69	58	58	31	147	826
%HV	0.0%	2.7%	3.3%	2.7%	0.0%	3.1%	7.7%	3.2%	12.5%	0.0%	0.0%	2.9%	3.4%	0.0%	0.0%	1.4%	2.7%
PHF	0.55	0.88	0.58	0.81	0.53	0.86	0.81	0.92	0.67	0.72	0.58	0.86	0.76	0.73	0.78	0.80	0.90

Rolling Hour Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
2:30 PM	8	187	33	3	27	224	10	0	11	37	5	1	40	40	31	0	653	0	3	0	0
2:45 PM	9	210	48	3	34	226	17	0	16	39	4	1	47	52	29	0	731	0	8	7	1
3:00 PM	9	206	54	0	36	253	19	0	17	47	5	1	51	55	28	0	780	0	9	7	1
3:15 PM	12	212	56	0	32	262	24	0	18	48	7	1	59	57	28	0	815	0	9	7	1
3:30 PM	11	226	61	0	34	261	27	0	14	44	8	0	50	58	29	0	823	0	9	7	1

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
3:25 PM to 4:25 PM

Linn Ave & Holmes Ln

Tuesday, December 18, 2012
2:30 PM to 4:30 PM

Heavy Vehicle 5-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
2:30 PM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
2:35 PM	0	0	0	0	0	2	0	2	0	1	0	1	0	1	0	1	4
2:40 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
2:45 PM	0	1	1	2	0	0	0	0	1	0	0	1	0	1	0	1	4
2:50 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
2:55 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:05 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
3:10 PM	0	1	0	1	2	1	0	3	0	0	0	0	0	0	0	0	4
3:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
3:20 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
3:25 PM	0	0	0	0	0	1	0	1	1	0	0	1	1	0	0	1	3
3:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
3:35 PM	0	2	0	2	0	1	1	2	0	0	0	0	0	0	0	0	4
3:40 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:50 PM	0	1	1	2	0	2	0	2	0	0	0	0	0	0	0	0	4
3:55 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:05 PM	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	2
4:10 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:20 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:25 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Survey	0	16	3	19	3	20	2	25	3	1	0	4	2	2	0	4	52

Heavy Vehicle 15-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
2:30 PM	0	2	0	2	1	3	0	4	0	1	0	1	0	1	0	1	8
2:45 PM	0	3	1	4	0	3	0	3	1	0	0	1	0	1	0	1	9
3:00 PM	0	2	0	2	2	4	0	6	0	0	0	0	0	0	0	0	8
3:15 PM	0	2	0	2	0	3	0	3	1	0	0	1	1	0	0	1	7
3:30 PM	0	4	0	4	0	2	1	3	1	0	0	1	0	0	0	0	8
3:45 PM	0	1	1	2	0	3	0	3	0	0	0	0	0	0	0	0	5
4:00 PM	0	0	1	1	0	1	1	2	0	0	0	0	1	0	0	1	4
4:15 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
Total Survey	0	16	3	19	3	20	2	25	3	1	0	4	2	2	0	4	52

Heavy Vehicle Peak Hour Summary
3:25 PM to 4:25 PM

By Approach	Northbound Linn Ave			Southbound Linn Ave			Eastbound Holmes Ln			Westbound Holmes Ln			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	8	10	18	10	8	18	2	2	4	2	2	4	22
PHF	0.50			0.63			0.50			0.50			0.61

By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	6	2	8	0	8	2	10	2	0	0	2	2	0	0	2	22
PHF	0.00	0.38	0.50	0.50	0.00	0.50	0.50	0.63	0.50	0.00	0.00	0.50	0.50	0.00	0.00	0.50	0.61

Heavy Vehicle Rolling Hour Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Holmes Ln				Westbound Holmes Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
2:30 PM	0	9	1	10	3	13	0	16	2	1	0	3	1	2	0	3	32
2:45 PM	0	11	1	12	2	12	1	15	3	0	0	3	1	1	0	2	32
3:00 PM	0	9	1	10	2	12	1	15	2	0	0	2	1	0	0	1	28
3:15 PM	0	7	2	9	0	9	2	11	2	0	0	2	2	0	0	2	24
3:30 PM	0	7	2	9	0	7	2	9	1	0	0	1	1	0	0	1	20

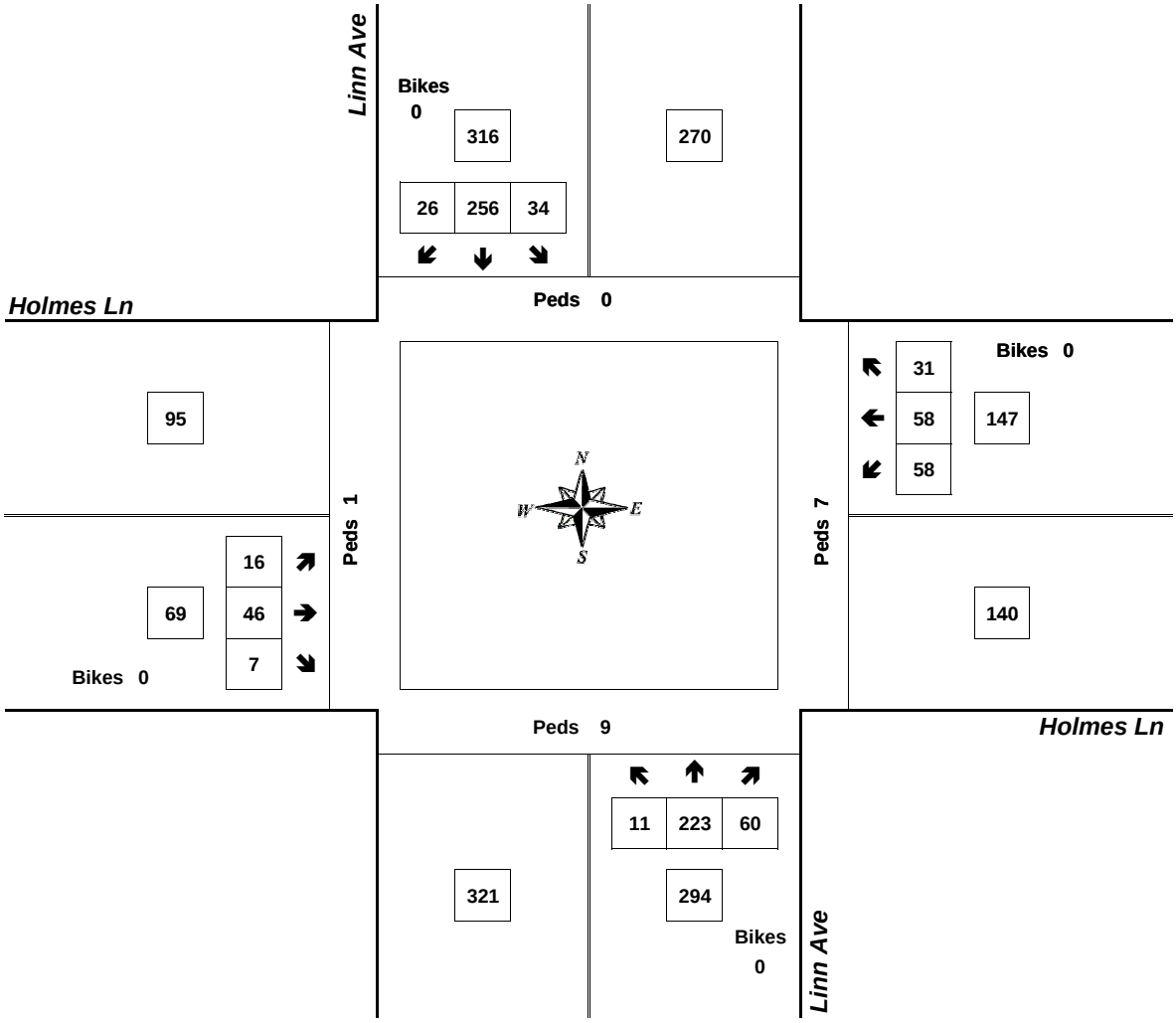
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Linn Ave & Holmes Ln

3:25 PM to 4:25 PM
Tuesday, December 18, 2012

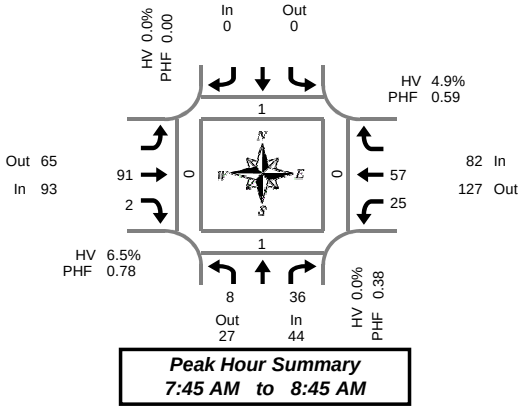


Approach	PHF	HV%	Volume
EB	0.86	2.9%	69
WB	0.80	1.4%	147
NB	0.81	2.7%	294
SB	0.92	3.2%	316
Intersection	0.90	2.7%	826

Count Period: 2:30 PM to 4:30 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Leonard St & Holmes St

Tuesday, December 18, 2012
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	0		0	0				0	6	0	0	0	2		0	8	0	0	0	0
7:05 AM	0		1	0				0	5	0	0	0	6		0	12	0	0	0	0
7:10 AM	0		2	0				0	6	0	0	0	2		0	10	0	0	0	0
7:15 AM	1		0	0				0	9	0	0	0	1		0	11	0	0	0	0
7:20 AM	0		2	0				0	8	0	0	0	4		0	14	0	0	1	0
7:25 AM	0		0	0				0	6	0	0	1	5		0	12	0	0	0	0
7:30 AM	1		0	0				0	10	0	0	1	4		0	16	0	1	0	0
7:35 AM	0		2	0				0	7	0	0	0	4		0	13	0	0	0	0
7:40 AM	0		0	0				0	1	1	0	1	3		0	6	0	0	0	0
7:45 AM	0		2	0				0	5	0	0	1	1		0	9	0	0	0	0
7:50 AM	0		0	0				0	7	0	0	0	4		0	11	0	0	0	0
7:55 AM	0		1	0				0	9	0	0	0	4		0	14	0	0	0	0
8:00 AM	0		0	0				0	8	0	0	0	7		1	15	0	0	0	0
8:05 AM	0		2	0				0	7	0	0	2	4		0	15	0	0	0	0
8:10 AM	0		1	0				0	11	0	0	3	3		0	18	0	0	0	0
8:15 AM	0		3	0				0	8	0	0	3	4		0	18	0	0	0	0
8:20 AM	0		6	0				0	9	0	0	3	7		0	25	0	0	0	0
8:25 AM	4		4	0				0	11	2	0	7	8		0	36	0	1	0	0
8:30 AM	4		9	0				0	7	0	0	5	5		0	30	0	0	0	0
8:35 AM	0		8	0				0	6	0	0	1	4		0	19	1	0	0	0
8:40 AM	0		0	0				0	3	0	0	0	6		0	9	0	0	0	0
8:45 AM	1		0	0				0	1	0	0	0	3		0	5	0	1	0	0
8:50 AM	0		0	0				0	11	0	0	0	2		0	13	0	0	0	0
8:55 AM	0		0	0				0	7	0	0	0	2		0	9	0	0	0	0
Total Survey	11		43	0				0	168	3	0	28	95		1	348	1	3	1	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	0		3	0				0	17	0	0	0	10		0	30	0	0	0	0
7:15 AM	1		2	0				0	23	0	0	1	10		0	37	0	0	1	0
7:30 AM	1		2	0				0	18	1	0	2	11		0	35	0	1	0	0
7:45 AM	0		3	0				0	21	0	0	1	9		0	34	0	0	0	0
8:00 AM	0		3	0				0	26	0	0	5	14		1	48	0	0	0	0
8:15 AM	4		13	0				0	28	2	0	13	19		0	79	0	1	0	0
8:30 AM	4		17	0				0	16	0	0	6	15		0	58	1	0	0	0
8:45 AM	1		0	0				0	19	0	0	0	7		0	27	0	1	0	0
Total Survey	11		43	0				0	168	3	0	28	95		1	348	1	3	1	0

Peak Hour Summary
7:45 AM to 8:45 AM

By Approach	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Total
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	
Volume	44	27	71	0	0	0	0	0	93	65	158	0	82	127	209	1	219
%HV	0.0%				0.0%				6.5%				4.9%				4.6%
PHF	0.38				0.00				0.78				0.59				0.60

Pedestrians Crosswalk			
North	South	East	West
1	1	0	0

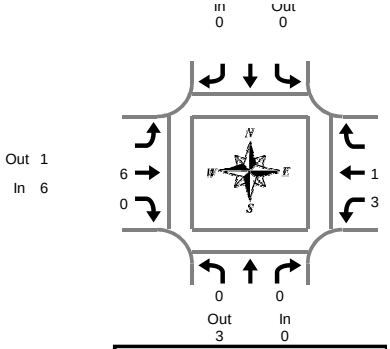
By Movement	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	8		36	44				0		91	2	93	25	57		82	219
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	6.6%	0.0%	6.5%	12.0%	1.8%	NA	4.9%	4.6%
PHF	0.25		0.43	0.38				0.00		0.81	0.25	0.78	0.42	0.71		0.59	0.60

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	2		10	0				0	79	1	0	4	40		0	136	0	1	1	0
7:15 AM	2		10	0				0	88	1	0	9	44		1	154	0	1	1	0
7:30 AM	5		21	0				0	93	3	0	21	53		1	196	0	2	0	0
7:45 AM	8		36	0				0	91	2	0	25	57		1	219	1	1	0	0
8:00 AM	9		33	0				0	89	2	0	24	55		1	212	1	2	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leonard St & Holmes St

Tuesday, December 18, 2012
7:00 AM to 9:00 AM

Peak Hour Summary
7:45 AM to 8:45 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total
	L		R	Total				Total	T	R	Total	L	T		Total	
7:00 AM	0		0	0				0	0	0	0	0	0		0	0
7:05 AM	0		0	0				0	0	0	0	0	0		0	0
7:10 AM	0		0	0				0	0	0	0	0	0		0	0
7:15 AM	0		0	0				0	1	0	1	0	0		0	1
7:20 AM	0		1	1				0	1	0	1	0	1		1	3
7:25 AM	0		0	0				0	1	0	1	0	0		0	1
7:30 AM	0		0	0				0	0	0	0	0	0		0	0
7:35 AM	0		0	0				0	0	0	0	0	0		0	0
7:40 AM	0		0	0				0	0	0	0	0	0		0	0
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	1	0	1	0	1		1	2
8:05 AM	0		0	0				0	1	0	1	0	0		0	1
8:10 AM	0		0	0				0	0	0	0	0	0		0	0
8:15 AM	0		0	0				0	0	0	0	0	0		0	0
8:20 AM	0		0	0				0	4	0	4	0	0		0	4
8:25 AM	0		0	0				0	0	0	0	1	0		1	1
8:30 AM	0		0	0				0	0	0	0	2	0		2	2
8:35 AM	0		0	0				0	0	0	0	0	0		0	0
8:40 AM	0		0	0				0	0	0	0	0	0		0	0
8:45 AM	0		0	0				0	0	0	0	0	0		0	0
8:50 AM	0		0	0				0	1	0	1	0	0		0	1
8:55 AM	0		0	0				0	0	0	0	0	0		0	0
Total Survey	0		1	1				0	10	0	10	3	2		5	16

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total
	L		R	Total				Total	T	R	Total	L	T		Total	
7:00 AM	0		0	0				0	0	0	0	0	0		0	0
7:15 AM	0		1	1				0	3	0	3	0	1		1	5
7:30 AM	0		0	0				0	0	0	0	0	0		0	0
7:45 AM	0		0	0				0	0	0	0	0	0		0	0
8:00 AM	0		0	0				0	2	0	2	0	1		1	3
8:15 AM	0		0	0				0	4	0	4	1	0		1	5
8:30 AM	0		0	0				0	0	0	0	2	0		2	2
8:45 AM	0		0	0				0	1	0	1	0	0		0	1
Total Survey	0		1	1				0	10	0	10	3	2		5	16

Heavy Vehicle Peak Hour Summary
7:45 AM to 8:45 AM

By Approach	Northbound Leonard St			Southbound Leonard St			Eastbound Holmes St			Westbound Holmes St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	3	3	0	0	0	6	1	7	4	6	10	10
PHF	0.00			0.00			0.38			0.33			0.36

By Movement	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Total
	L		R	Total				Total	T	R	Total	L	T		Total	
Volume	0		0	0				0	6	0	6	3	1		4	10
PHF	0.00		0.00	0.00				0.00	0.38	0.00	0.38	0.25	0.25		0.33	0.36

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

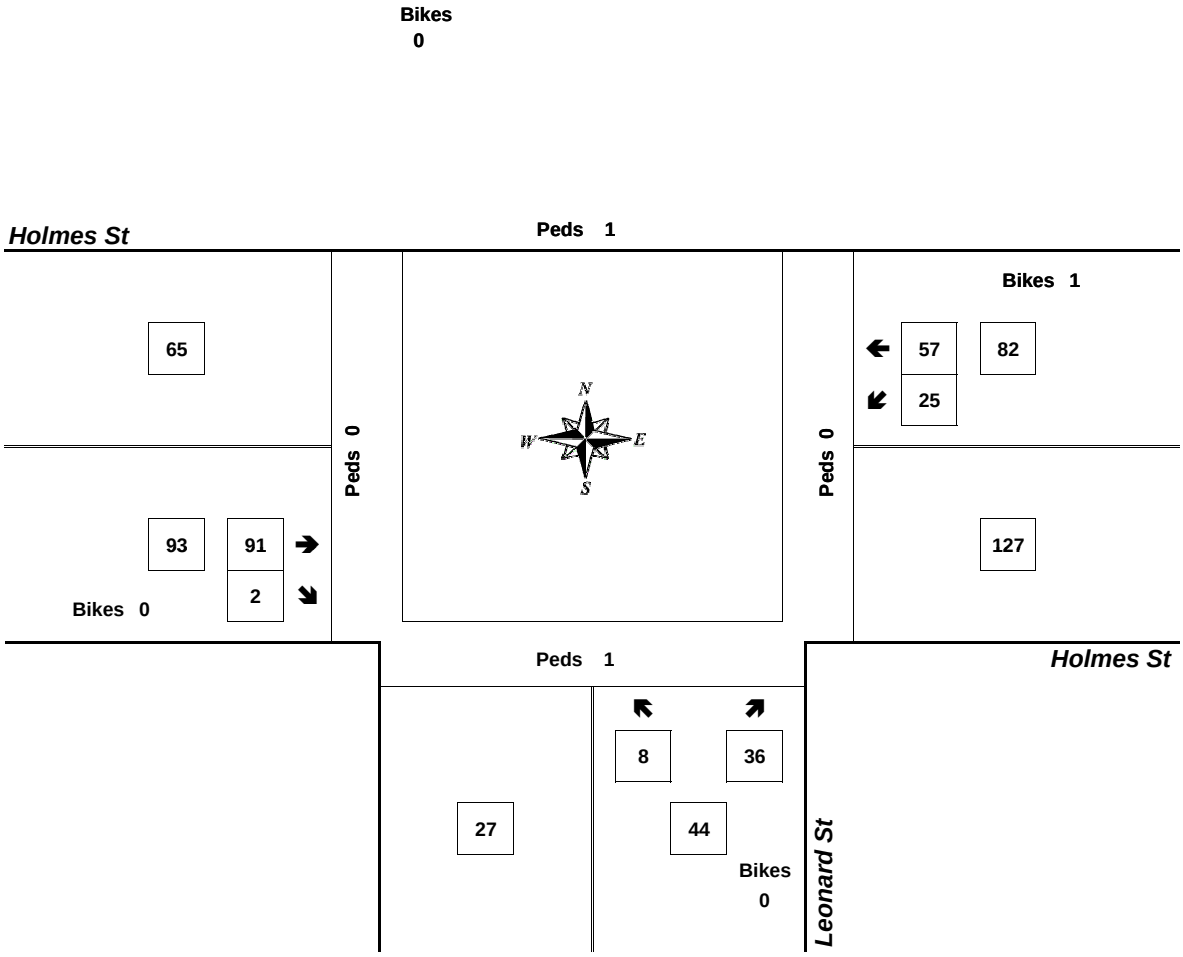
Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total
	L		R	Total				Total	T	R	Total	L	T		Total	
7:00 AM	0		1	1				0	3	0	3	0	1		1	5
7:15 AM	0		1	1				0	5	0	5	0	2		2	8
7:30 AM	0		0	0				0	6	0	6	1	1		2	8
7:45 AM	0		0	0				0	6	0	6	3	1		4	10
8:00 AM	0		0	0				0	7	0	7	3	1		4	11

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leonard St & Holmes St

7:45 AM to 8:45 AM
Tuesday, December 18, 2012

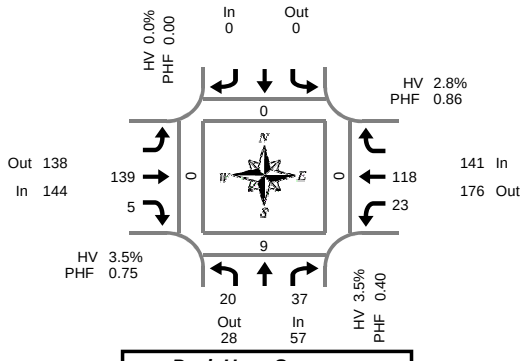


Approach	PHF	HV%	Volume
EB	0.78	6.5%	93
WB	0.59	4.9%	82
NB	0.38	0.0%	44
SB	0.00	0.0%	0
Intersection	0.60	4.6%	219

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
3:00 PM to 4:00 PM

Leonard St & Holmes St

Tuesday, December 18, 2012
2:30 PM to 4:30 PM

5-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
2:30 PM	0		1	0				0	14	0	0	1	8		0	24	1	2	0	0
2:35 PM	0		2	0				0	9	0	0	1	11		1	23	0	1	0	0
2:40 PM	0		1	0				0	7	0	0	3	6		0	17	0	0	0	0
2:45 PM	0		3	0				0	6	0	0	1	7		0	17	0	0	0	0
2:50 PM	0		2	0				0	6	0	0	1	12		0	21	0	0	0	0
2:55 PM	0		0	0				0	8	0	0	0	7		0	15	1	0	0	0
3:00 PM	0		0	0				0	11	0	0	1	12		0	24	0	0	0	0
3:05 PM	0		1	0				0	8	0	0	3	11		0	23	0	1	0	0
3:10 PM	0		1	0				0	10	1	0	4	9		0	25	0	1	0	0
3:15 PM	0		3	0				0	12	1	0	5	9		0	30	0	0	0	0
3:20 PM	0		1	0				0	6	0	0	0	7		0	14	0	0	0	0
3:25 PM	5		1	1				0	6	1	0	2	12		0	27	0	1	0	0
3:30 PM	6		14	0				0	10	0	0	4	8		0	42	0	0	0	0
3:35 PM	4		6	0				0	21	1	0	0	8		0	40	0	5	0	0
3:40 PM	3		3	0				0	11	1	0	2	13		0	33	0	1	0	0
3:45 PM	0		4	0				0	14	0	0	1	9		0	28	0	0	0	0
3:50 PM	1		2	0				0	15	0	0	0	12		0	30	0	0	0	0
3:55 PM	1		1	0				0	15	0	0	1	8		0	26	0	0	0	0
4:00 PM	1		0	0				0	7	1	0	0	14		0	23	0	1	0	0
4:05 PM	0		1	0				0	7	0	0	0	12		0	20	0	0	0	0
4:10 PM	0		0	0				0	11	0	0	2	12		0	25	0	0	0	0
4:15 PM	0		1	0				0	8	0	0	0	7		0	16	0	0	0	0
4:20 PM	0		2	0				0	10	0	0	0	11		0	23	0	0	0	0
4:25 PM	0		2	0				0	4	0	0	0	10		0	16	0	0	0	0
Total Survey	21		52	1				0	236	6	0	32	235		1	582	2	13	0	0

15-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
2:30 PM	0		4	0				0	30	0	0	5	25		1	64	1	3	0	0
2:45 PM	0		5	0				0	20	0	0	2	26		0	53	1	0	0	0
3:00 PM	0		2	0				0	29	1	0	8	32		0	72	0	2	0	0
3:15 PM	5		5	1				0	24	2	0	7	28		0	71	0	1	0	0
3:30 PM	13		23	0				0	42	2	0	6	29		0	115	0	6	0	0
3:45 PM	2		7	0				0	44	0	0	2	29		0	84	0	0	0	0
4:00 PM	1		1	0				0	25	1	0	2	38		0	68	0	1	0	0
4:15 PM	0		5	0				0	22	0	0	0	28		0	55	0	0	0	0
Total Survey	21		52	1				0	236	6	0	32	235		1	582	2	13	0	0

Peak Hour Summary
3:00 PM to 4:00 PM

By Approach	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	57	28	85	1	0	0	0	0	144	138	282	0	141	176	317	0	342	0	9	0	0
%HV	3.5%				0.0%				3.5%				2.8%				3.2%				
PHF	0.40				0.00				0.75				0.86				0.74				

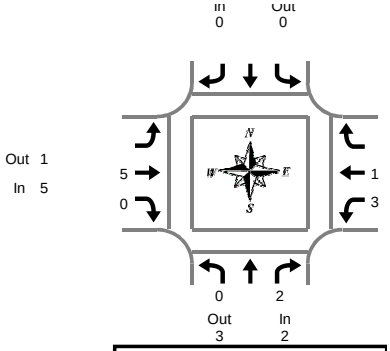
By Movement	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	20		37	57				0		139	5	144	23	118		141	342
%HV	0.0%	NA	5.4%	3.5%	NA	NA	NA	0.0%	NA	3.6%	0.0%	3.5%	13.0%	0.8%	NA	2.8%	3.2%
PHF	0.33		0.40	0.40				0.00		0.76	0.63	0.75	0.48	0.87		0.86	0.74

Rolling Hour Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
2:30 PM	5		16	1				0	103	3	0	22	111		1	260	2	6	0	0
2:45 PM	18		35	1				0	115	5	0	23	115		0	311	1	9	0	0
3:00 PM	20		37	1				0	139	5	0	23	118		0	342	0	9	0	0
3:15 PM	21		36	1				0	135	5	0	17	124		0	338	0	8	0	0
3:30 PM	16		36	0				0	133	3	0	10	124		0	322	0	7	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Leonard St & Holmes St

Tuesday, December 18, 2012
2:30 PM to 4:30 PM

Peak Hour Summary
3:00 PM to 4:00 PM

Heavy Vehicle 5-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
2:30 PM	0		0	0				0	1	0	1		0	0		0	1
2:35 PM	0		0	0				0	1	0	1		0	1		1	2
2:40 PM	0		0	0				0	0	0	0		0	0		0	0
2:45 PM	0		0	0				0	0	0	0		0	1		1	1
2:50 PM	0		0	0				0	0	0	0		0	0		0	0
2:55 PM	0		0	0				0	0	0	0		0	0		0	0
3:00 PM	0		0	0				0	1	0	1		0	0		0	1
3:05 PM	0		0	0				0	0	0	0		0	0		0	0
3:10 PM	0		0	0				0	2	0	2		1	0		1	3
3:15 PM	0		0	0				0	0	0	0		2	0		2	2
3:20 PM	0		1	1				0	0	0	0		0	0		0	1
3:25 PM	0		0	0				0	0	0	0		0	1		1	1
3:30 PM	0		1	1				0	0	0	0		0	0		0	1
3:35 PM	0		0	0				0	0	0	0		0	0		0	0
3:40 PM	0		0	0				0	0	0	0		0	0		0	0
3:45 PM	0		0	0				0	0	0	0		0	0		0	0
3:50 PM	0		0	0				0	2	0	2		0	0		0	2
3:55 PM	0		0	0				0	0	0	0		0	0		0	0
4:00 PM	0		0	0				0	0	0	0		0	0		0	0
4:05 PM	0		0	0				0	0	0	0		0	1		1	1
4:10 PM	0		0	0				0	1	0	1		0	0		0	1
4:15 PM	0		0	0				0	0	0	0		0	0		0	0
4:20 PM	0		0	0				0	0	0	0		0	0		0	0
4:25 PM	0		0	0				0	0	0	0		0	0		0	0
Total Survey	0		2	2				0	8	0	8		3	4		7	17

Heavy Vehicle 15-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
2:30 PM	0		0	0				0	2	0	2		0	1		1	3
2:45 PM	0		0	0				0	0	0	0		0	1		1	1
3:00 PM	0		0	0				0	3	0	3		1	0		1	4
3:15 PM	0		1	1				0	0	0	0		2	1		3	4
3:30 PM	0		1	1				0	0	0	0		0	0		0	1
3:45 PM	0		0	0				0	2	0	2		0	0		0	2
4:00 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
Total Survey	0		2	2				0	8	0	8		3	4		7	17

Heavy Vehicle Peak Hour Summary
3:00 PM to 4:00 PM

By Approach	Northbound Leonard St			Southbound Leonard St			Eastbound Holmes St			Westbound Holmes St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	3	5	0	0	0	5	1	6	4	7	11	11
PHF	0.25			0.00			0.42			0.33			0.46

By Movement	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	0		2	2				0	5	0	5		3	1		4	11
PHF	0.00		0.25	0.25				0.00	0.42	0.00	0.42		0.25	0.25		0.33	0.46

Heavy Vehicle Rolling Hour Summary
2:30 PM to 4:30 PM

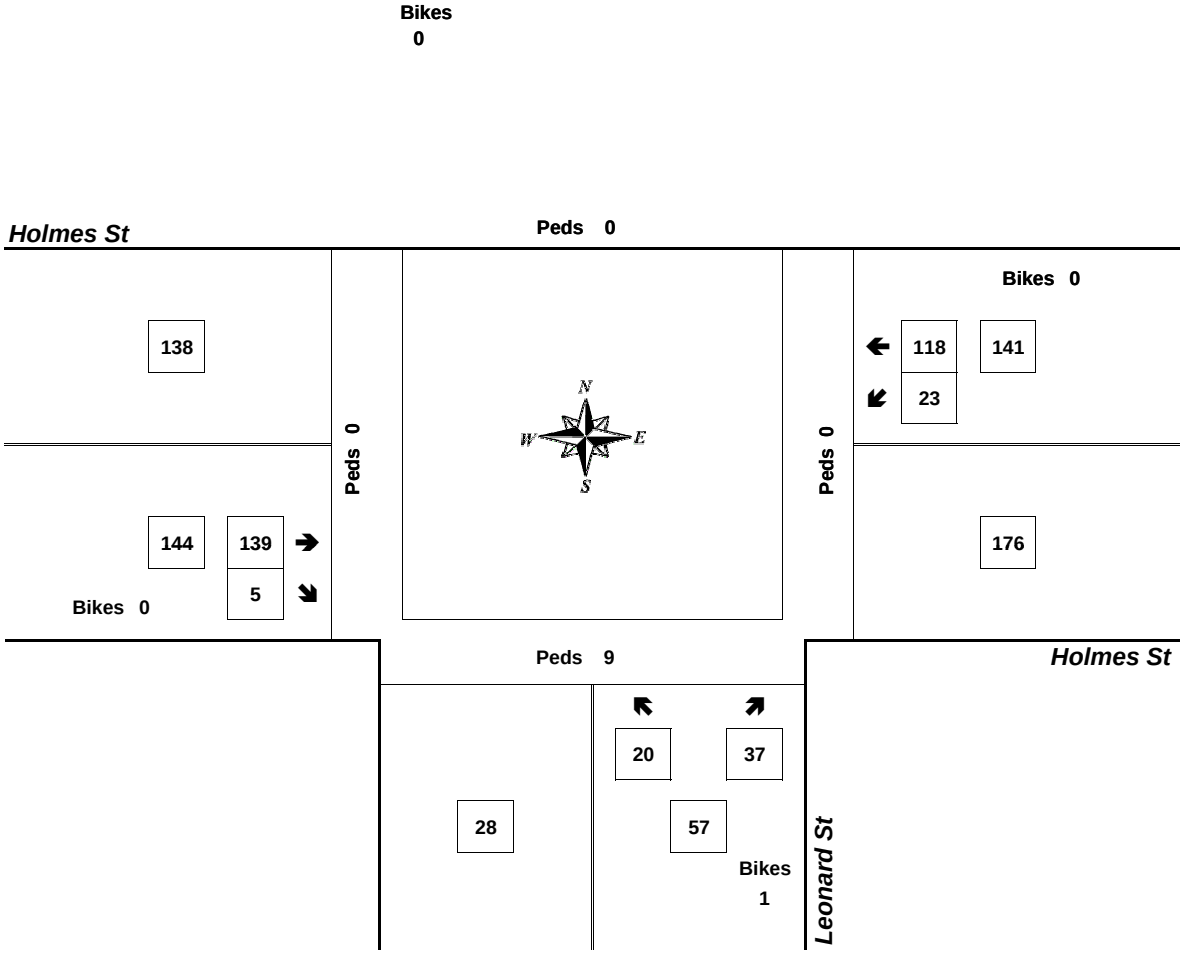
Interval Start Time	Northbound Leonard St				Southbound Leonard St				Eastbound Holmes St				Westbound Holmes St				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
2:30 PM	0		1	1				0	5	0	5		3	3		6	12
2:45 PM	0		2	2				0	3	0	3		3	2		5	10
3:00 PM	0		2	2				0	5	0	5		3	1		4	11
3:15 PM	0		2	2				0	3	0	3		2	2		4	9
3:30 PM	0		1	1				0	3	0	3		0	1		1	5

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Leonard St & Holmes St

3:00 PM to 4:00 PM
Tuesday, December 18, 2012

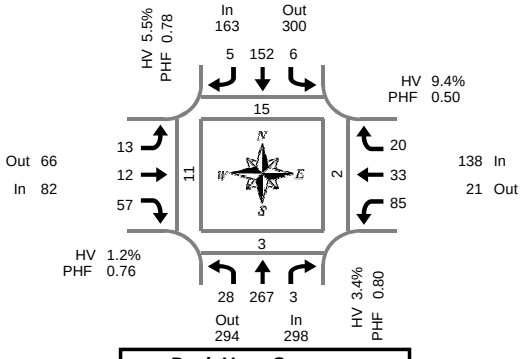


Approach	PHF	HV%	Volume
EB	0.75	3.5%	144
WB	0.86	2.8%	141
NB	0.40	3.5%	57
SB	0.00	0.0%	0
Intersection	0.74	3.2%	342

Count Period: 2:30 PM to 4:30 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:45 AM to 8:45 AM

Linn Ave & Ethel St

Tuesday, December 18, 2012
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	2	26	0	0	0	3	0	0	2	0	5	0	0	0	0	0	38	0	0	0	0
7:05 AM	7	19	0	0	0	9	0	0	0	1	4	0	1	0	0	0	41	0	0	1	0
7:10 AM	3	29	0	0	0	7	0	0	1	0	3	0	0	0	1	0	44	0	0	0	0
7:15 AM	5	28	0	0	0	15	0	0	0	0	2	0	0	0	0	0	50	0	0	0	0
7:20 AM	4	31	1	0	0	9	0	0	1	1	4	0	1	1	0	0	53	1	0	0	0
7:25 AM	1	15	0	0	0	10	1	1	1	1	4	0	2	1	0	0	36	1	0	0	0
7:30 AM	1	35	0	0	0	8	0	0	0	2	5	0	0	1	0	0	52	0	0	0	0
7:35 AM	1	23	0	0	0	7	0	0	0	2	5	0	0	0	1	0	39	0	0	0	0
7:40 AM	5	27	1	0	0	12	0	1	0	0	4	0	0	0	1	0	50	0	0	0	0
7:45 AM	5	37	0	0	0	11	0	0	2	1	5	0	1	0	1	0	63	0	0	0	0
7:50 AM	3	30	0	0	0	17	0	0	0	2	4	0	0	0	1	0	57	1	0	0	1
7:55 AM	2	16	0	0	0	17	0	0	3	2	5	0	0	1	0	0	46	0	0	0	4
8:00 AM	2	25	0	0	0	11	1	0	0	1	3	0	1	1	0	0	45	0	0	0	2
8:05 AM	1	11	0	0	0	5	1	0	4	0	2	0	4	1	2	0	31	3	0	0	1
8:10 AM	1	19	0	0	1	13	0	1	0	2	5	0	5	1	3	0	50	2	0	0	0
8:15 AM	0	20	0	0	2	9	0	0	0	1	4	0	12	2	1	0	51	2	0	0	0
8:20 AM	2	17	0	0	2	14	0	0	1	2	5	0	13	6	3	0	65	1	1	2	0
8:25 AM	2	27	1	0	1	12	0	0	2	1	9	0	13	3	0	0	71	4	0	0	0
8:30 AM	2	18	0	0	0	23	0	0	0	0	7	0	14	9	2	0	75	2	1	0	3
8:35 AM	5	22	0	0	0	11	1	0	0	0	5	0	13	9	6	0	72	0	1	0	0
8:40 AM	3	25	2	0	0	9	2	0	1	0	3	0	9	0	1	0	55	0	0	0	0
8:45 AM	0	15	0	0	0	10	0	0	0	0	2	0	4	1	0	0	32	0	0	0	0
8:50 AM	1	26	1	0	0	9	0	0	0	1	2	0	2	1	0	0	43	0	0	0	0
8:55 AM	1	17	0	0	0	15	0	0	0	0	3	0	1	1	0	0	38	0	0	0	0
Total Survey	59	558	6	0	6	266	6	3	18	20	100	0	96	39	23	0	1,197	17	3	3	11

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				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	12	74	0	0	0	19	0	0	3	1	12	0	1	0	1	0	123	0	0	1	0
7:15 AM	10	74	1	0	0	34	1	1	2	2	10	0	3	2	0	0	139	2	0	0	0
7:30 AM	7	85	1	0	0	27	0	1	0	4	14	0	0	1	2	0	141	0	0	0	0
7:45 AM	10	83	0	0	0	45	0	0	5	5	14	0	1	1	2	0	166	1	0	0	5
8:00 AM	4	55	0	0	1	29	2	1	4	3	10	0	10	3	5	0	126	5	0	0	3
8:15 AM	4	64	1	0	5	35	0	0	3	4	18	0	38	11	4	0	187	7	1	2	0
8:30 AM	10	65	2	0	0	43	3	0	1	0	15	0	36	18	9	0	202	2	2	0	3
8:45 AM	2	58	1	0	0	34	0	0	0	1	7	0	7	3	0	0	113	0	0	0	0
Total Survey	59	558	6	0	6	266	6	3	18	20	100	0	96	39	23	0	1,197	17	3	3	11

Peak Hour Summary
7:45 AM to 8:45 AM

By Approach	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	298	294	592	0	163	300	463	1	82	66	148	0	138	21	159	0	681	15	3	2	11
%HV	3.4%				5.5%				1.2%				9.4%				4.8%				
PHF	0.80				0.78				0.76				0.50				0.78				

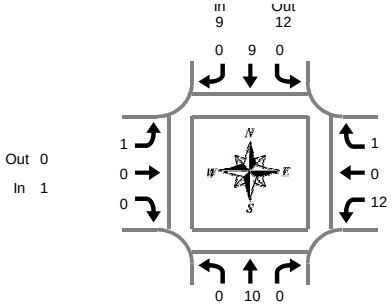
By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	28	267	3	298	6	152	5	163	13	12	57	82	85	33	20	138	681
%HV	0.0%	3.7%	0.0%	3.4%	0.0%	5.9%	0.0%	5.5%	7.7%	0.0%	0.0%	1.2%	14.1%	0.0%	5.0%	9.4%	4.8%
PHF	0.70	0.80	0.38	0.80	0.30	0.78	0.42	0.78	0.46	0.60	0.68	0.76	0.53	0.39	0.56	0.50	0.78

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				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	39	316	2	0	0	125	1	2	10	12	50	0	5	4	5	0	569	3	0	1	5
7:15 AM	31	297	2	0	1	135	3	3	11	14	48	0	14	7	9	0	572	8	0	0	8
7:30 AM	25	287	2	0	6	136	2	2	12	16	56	0	49	16	13	0	620	13	1	2	8
7:45 AM	28	267	3	0	6	152	5	1	13	12	57	0	85	33	20	0	681	15	3	2	11
8:00 AM	20	242	4	0	6	141	5	1	8	8	50	0	91	35	18	0	628	14	3	2	6

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Linn Ave & Ethel St

Tuesday, December 18, 2012
7:00 AM to 9:00 AM

Peak Hour Summary
7:45 AM to 8:45 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
7:10 AM	0	4	0	4	0	1	0	1	0	0	0	0	0	0	1	1	6
7:15 AM	1	1	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	2	0	2	0	0	1	1	0	0	0	0	3
7:35 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:40 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	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	0	0	0	0	0	0
7:55 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
8:00 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:05 AM	0	1	0	1	0	0	0	0	1	0	0	1	1	0	0	1	3
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:20 AM	0	4	0	4	0	0	0	0	0	0	0	0	1	0	0	1	5
8:25 AM	0	0	0	0	0	3	0	3	0	0	0	0	2	0	0	2	5
8:30 AM	0	2	0	2	0	2	0	2	0	0	0	0	2	0	0	2	6
8:35 AM	0	0	0	0	0	1	0	1	0	0	0	0	5	0	0	5	6
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	2	0	0	2	4
8:50 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
8:55 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
Total Survey	2	23	0	25	0	16	0	16	1	0	1	2	14	0	2	16	59

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	5	0	6	0	1	0	1	0	0	0	0	0	0	1	1	8
7:15 AM	1	1	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
7:30 AM	0	3	0	3	0	2	0	2	0	0	1	1	0	0	0	0	6
7:45 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
8:00 AM	0	2	0	2	0	2	0	2	1	0	0	1	1	0	1	2	7
8:15 AM	0	4	0	4	0	3	0	3	0	0	0	0	3	0	0	3	10
8:30 AM	0	2	0	2	0	3	0	3	0	0	0	0	8	0	0	8	13
8:45 AM	0	4	0	4	0	3	0	3	0	0	0	0	2	0	0	2	9
Total Survey	2	23	0	25	0	16	0	16	1	0	1	2	14	0	2	16	59

Heavy Vehicle Peak Hour Summary
7:45 AM to 8:45 AM

By Approach	Northbound Linn Ave			Southbound Linn Ave			Eastbound Ethel St			Westbound Ethel St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	10	21	31	9	12	21	1	0	1	13	0	13	33
PHF	0.42			0.38			0.25			0.36			0.49

By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	10	0	10	0	9	0	9	1	0	0	1	12	0	1	13	33
PHF	0.00	0.42	0.00	0.42	0.00	0.38	0.00	0.38	0.25	0.00	0.00	0.25	0.33	0.00	0.25	0.36	0.49

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	2	11	0	13	0	5	0	5	0	0	1	1	0	0	1	1	20
7:15 AM	1	8	0	9	0	6	0	6	1	0	1	2	1	0	1	2	19
7:30 AM	0	11	0	11	0	8	0	8	1	0	1	2	4	0	1	5	26
7:45 AM	0	10	0	10	0	9	0	9	1	0	0	1	12	0	1	13	33
8:00 AM	0	12	0	12	0	11	0	11	1	0	0	1	14	0	1	15	39

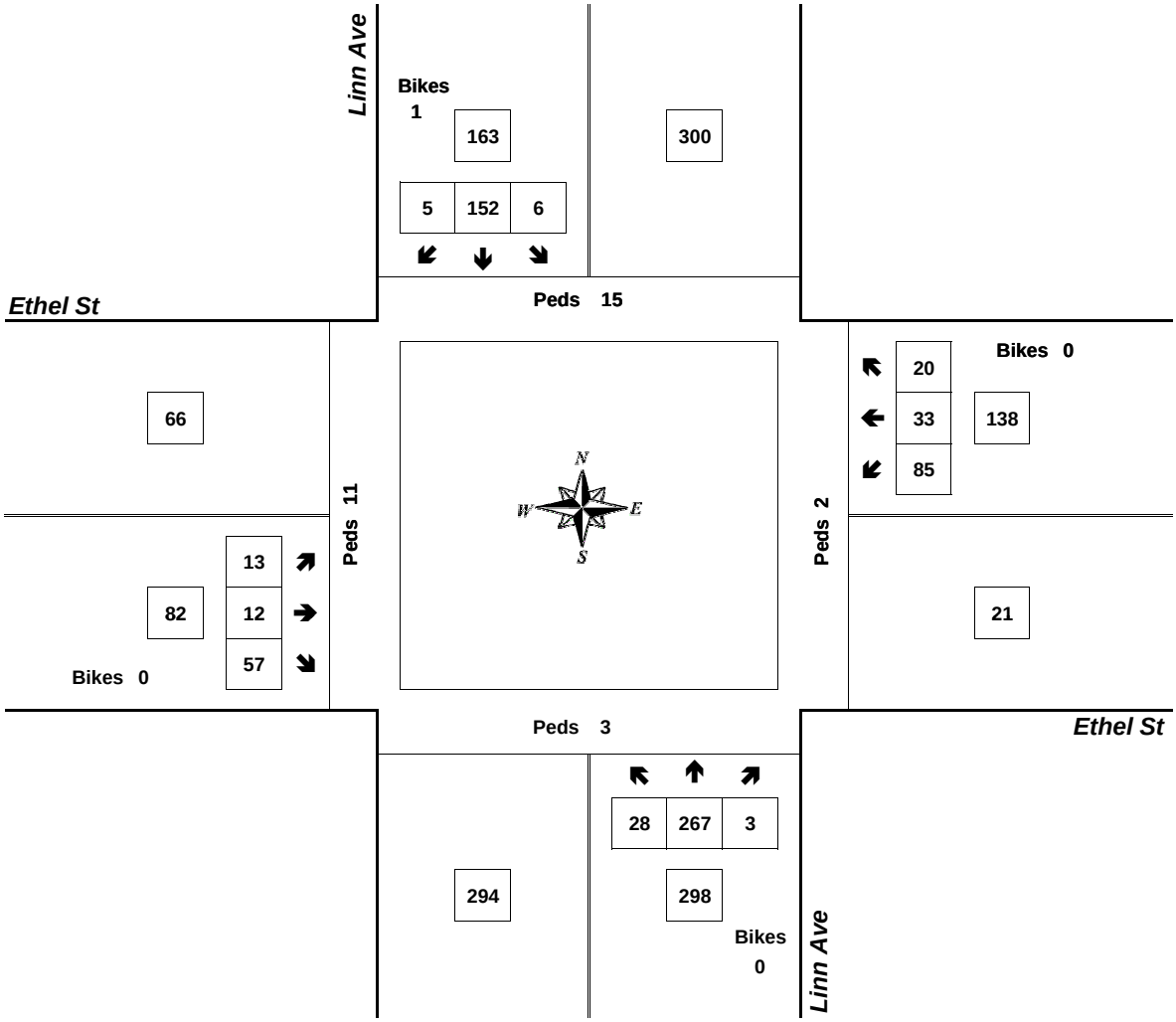
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Linn Ave & Ethel St

7:45 AM to 8:45 AM
Tuesday, December 18, 2012

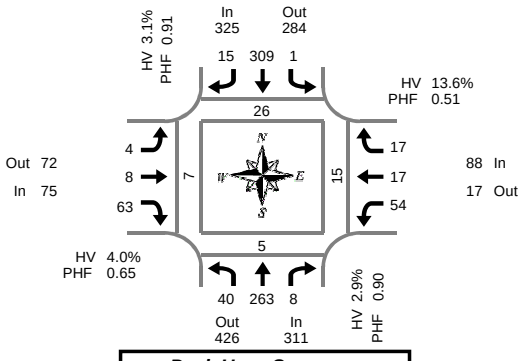


Approach	PHF	HV%	Volume
EB	0.76	1.2%	82
WB	0.50	9.4%	138
NB	0.80	3.4%	298
SB	0.78	5.5%	163
Intersection	0.78	4.8%	681

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
3:20 PM to 4:20 PM

Linn Ave & Ethel St

Tuesday, December 18, 2012
2:30 PM to 4:30 PM

5-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
2:30 PM	1	20	0	0	0	17	1	0	0	2	4	0	2	0	0	0	47	0	0	0	0
2:35 PM	2	14	1	0	0	23	1	0	1	0	5	0	0	2	0	1	49	0	0	0	0
2:40 PM	2	14	1	0	0	19	1	0	0	0	6	0	1	1	0	0	45	0	0	0	0
2:45 PM	2	19	0	0	0	15	0	0	1	1	5	0	3	0	1	0	47	0	0	0	0
2:50 PM	3	20	1	0	0	22	1	0	0	2	3	0	1	0	0	0	53	0	0	0	0
2:55 PM	2	23	2	0	0	8	0	0	0	0	0	0	2	0	0	0	37	0	0	0	0
3:00 PM	1	23	3	3	0	23	1	0	1	0	3	0	0	1	0	0	56	0	0	1	0
3:05 PM	4	17	1	0	0	22	0	0	0	0	1	0	2	0	0	0	47	0	0	0	0
3:10 PM	1	16	0	0	0	24	1	0	0	2	5	0	2	1	1	0	53	1	0	0	0
3:15 PM	4	15	1	0	0	22	2	0	0	0	5	0	0	0	1	0	50	1	0	1	0
3:20 PM	4	15	1	0	0	31	0	0	0	1	4	0	4	1	1	0	62	2	0	1	1
3:25 PM	3	16	2	0	0	21	1	0	0	1	4	0	4	4	1	0	57	4	1	0	1
3:30 PM	6	19	0	0	0	32	1	0	0	1	3	0	12	1	0	0	75	8	2	4	2
3:35 PM	1	32	0	0	0	26	5	0	0	0	6	0	9	2	9	0	90	7	1	8	1
3:40 PM	2	20	0	0	1	14	0	0	0	0	5	0	7	2	1	0	52	2	1	0	0
3:45 PM	6	22	1	0	0	24	1	0	1	0	5	0	5	1	1	0	67	1	0	1	0
3:50 PM	3	29	0	0	0	26	1	0	0	1	3	0	3	1	0	0	67	1	0	0	1
3:55 PM	5	18	1	0	0	33	1	0	1	1	2	0	3	2	1	0	68	0	0	0	0
4:00 PM	2	27	1	0	0	26	2	0	0	1	6	0	2	2	1	0	70	0	0	0	0
4:05 PM	0	29	1	0	0	24	0	0	0	0	7	0	2	1	1	0	65	1	0	1	1
4:10 PM	4	11	1	0	0	20	3	0	0	0	4	0	1	0	0	0	44	0	0	0	0
4:15 PM	4	25	0	0	0	32	0	0	2	2	14	0	2	0	1	0	82	0	0	0	0
4:20 PM	2	21	2	0	1	23	1	0	2	0	6	0	2	1	0	0	61	1	0	0	2
4:25 PM	3	16	3	0	1	19	0	0	1	0	4	0	2	1	0	0	50	2	0	0	1
Total Survey	67	481	23	3	3	546	24	0	10	15	110	0	71	24	20	1	1,394	31	5	17	10

15-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
2:30 PM	5	48	2	0	0	59	3	0	1	2	15	0	3	3	0	1	141	0	0	0	0
2:45 PM	7	62	3	0	0	45	1	0	1	3	8	0	6	0	1	0	137	0	0	0	0
3:00 PM	6	56	4	3	0	69	2	0	1	2	9	0	4	2	1	0	156	1	0	1	0
3:15 PM	11	46	4	0	0	74	3	0	0	2	13	0	8	5	3	0	169	7	1	2	2
3:30 PM	9	71	0	0	1	72	6	0	0	1	14	0	28	5	10	0	217	17	4	12	3
3:45 PM	14	69	2	0	0	83	3	0	2	2	10	0	11	4	2	0	202	2	0	1	1
4:00 PM	6	67	3	0	0	70	5	0	0	1	17	0	5	3	2	0	179	1	0	1	1
4:15 PM	9	62	5	0	2	74	1	0	5	2	24	0	6	2	1	0	193	3	0	0	3
Total Survey	67	481	23	3	3	546	24	0	10	15	110	0	71	24	20	1	1,394	31	5	17	10

Peak Hour Summary
3:20 PM to 4:20 PM

By Approach	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	311	426	737	0	325	284	609	0	75	72	147	0	88	17	105	0	799	26	5	15	7
%HV	2.9%				3.1%				4.0%				13.6%				4.3%				
PHF	0.90				0.91				0.65				0.51				0.90				

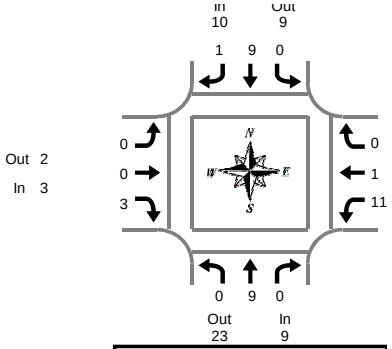
By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	40	263	8	311	1	309	15	325	4	8	63	75	54	17	17	88	799
%HV	0.0%	3.4%	0.0%	2.9%	0.0%	2.9%	6.7%	3.1%	0.0%	0.0%	4.8%	4.0%	20.4%	5.9%	0.0%	13.6%	4.3%
PHF	0.71	0.89	0.67	0.90	0.25	0.91	0.54	0.91	0.50	0.67	0.63	0.65	0.48	0.61	0.39	0.51	0.90

Rolling Hour Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
2:30 PM	29	212	13	3	0	247	9	0	3	9	45	0	21	10	5	1	603	8	1	3	2
2:45 PM	33	235	11	3	1	260	12	0	2	8	44	0	46	12	15	0	679	25	5	15	5
3:00 PM	40	242	10	3	1	298	14	0	3	7	46	0	51	16	16	0	744	27	5	16	6
3:15 PM	40	253	9	0	1	299	17	0	2	6	54	0	52	17	17	0	767	27	5	16	7
3:30 PM	38	269	10	0	3	299	15	0	7	6	65	0	50	14	15	0	791	23	4	14	8

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
3:20 PM to 4:20 PM

Linn Ave & Ethel St

Tuesday, December 18, 2012
2:30 PM to 4:30 PM

Heavy Vehicle 5-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
2:30 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
2:35 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
2:40 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	2
2:45 PM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
2:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:55 PM	0	2	0	2	0	1	0	1	0	0	0	0	1	0	0	1	4
3:00 PM	0	0	1	1	0	1	0	1	0	0	1	1	0	0	0	0	3
3:05 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
3:10 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
3:20 PM	0	2	0	2	0	1	0	1	0	0	1	1	1	1	0	2	6
3:25 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
3:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	6	0	0	6	8
3:35 PM	0	1	0	1	0	0	0	0	0	0	1	1	3	0	0	3	5
3:40 PM	0	2	0	2	0	1	0	1	0	0	0	0	1	0	0	1	4
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:50 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
3:55 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:05 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:10 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
4:20 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:25 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total Survey	0	20	1	21	0	20	1	21	0	0	6	6	12	1	0	13	61

Heavy Vehicle 15-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
2:30 PM	0	3	0	3	0	3	0	3	0	0	1	1	0	0	0	0	7
2:45 PM	0	4	0	4	0	3	0	3	0	0	0	0	1	0	0	1	8
3:00 PM	0	2	1	3	0	4	0	4	0	0	1	1	0	0	0	0	8
3:15 PM	0	2	0	2	0	3	1	4	0	0	1	1	1	1	0	2	9
3:30 PM	0	4	0	4	0	2	0	2	0	0	1	1	10	0	0	10	17
3:45 PM	0	2	0	2	0	3	0	3	0	0	0	0	0	0	0	0	5
4:00 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
4:15 PM	0	2	0	2	0	0	0	0	0	0	2	2	0	0	0	0	4
Total Survey	0	20	1	21	0	20	1	21	0	0	6	6	12	1	0	13	61

Heavy Vehicle Peak Hour Summary
3:20 PM to 4:20 PM

By Approach	Northbound Linn Ave			Southbound Linn Ave			Eastbound Ethel St			Westbound Ethel St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	9	23	32	10	9	19	3	2	5	12	0	12	34
PHF	0.56			0.63			0.75			0.30			0.50

By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	9	0	9	0	9	1	10	0	0	3	3	11	1	0	12	34
PHF	0.00	0.56	0.00	0.56	0.00	0.56	0.25	0.63	0.00	0.00	0.75	0.75	0.28	0.25	0.00	0.30	0.50

Heavy Vehicle Rolling Hour Summary
2:30 PM to 4:30 PM

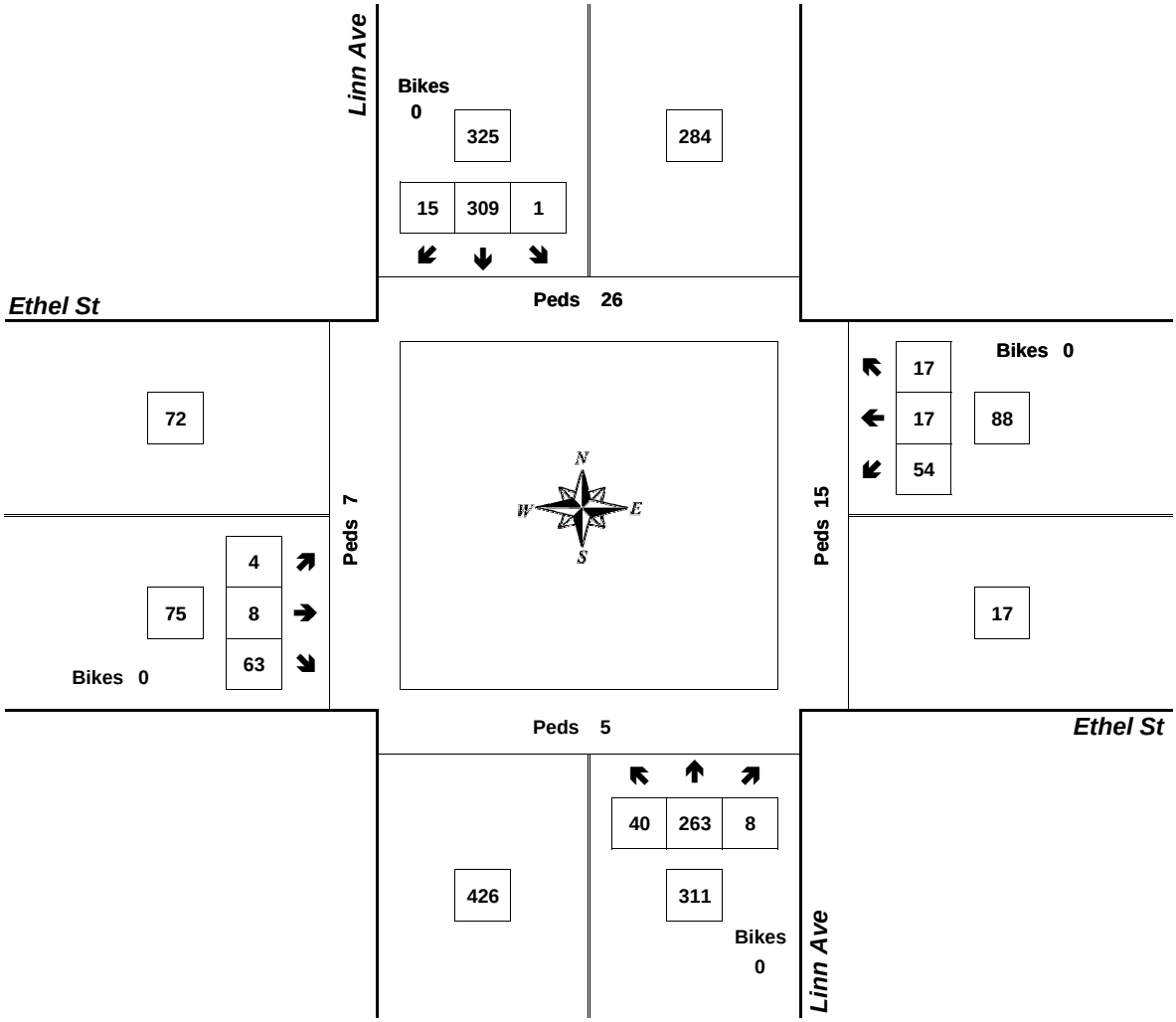
Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Ethel St				Westbound Ethel St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
2:30 PM	0	11	1	12	0	13	1	14	0	0	3	3	2	1	0	3	32
2:45 PM	0	12	1	13	0	12	1	13	0	0	3	3	12	1	0	13	42
3:00 PM	0	10	1	11	0	12	1	13	0	0	3	3	11	1	0	12	39
3:15 PM	0	9	0	9	0	10	1	11	0	0	2	2	11	1	0	12	34
3:30 PM	0	9	0	9	0	7	0	7	0	0	3	3	10	0	0	10	29

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Linn Ave & Ethel St

3:20 PM to 4:20 PM
Tuesday, December 18, 2012

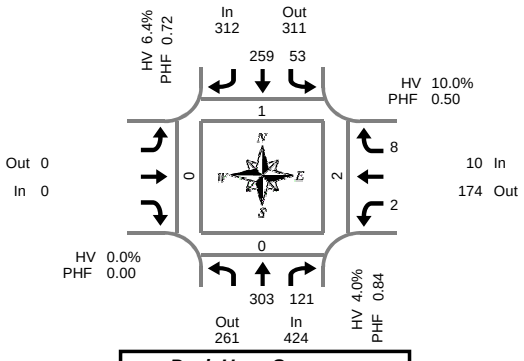


Approach	PHF	HV%	Volume
EB	0.65	4.0%	75
WB	0.51	13.6%	88
NB	0.90	2.9%	311
SB	0.91	3.1%	325
Intersection	0.90	4.3%	799

Count Period: 2:30 PM to 4:30 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Linn Ave & Hood St

Tuesday, December 18, 2012
7:00 AM to 9:00 AM

Peak Hour Summary
7:40 AM to 8:40 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	28	0	0		1	13		0				0	0		0	0	42	0	0	0	0
7:05 AM	30	2	0		1	7		0				0	0		0	0	40	0	0	0	0
7:10 AM	30	0	0		2	16		0				0	0		0	0	48	0	1	0	0
7:15 AM	35	4	0		2	13		0				0	0		0	0	54	0	0	0	0
7:20 AM	14	1	0		2	14		0				0	0		1	0	32	0	2	0	0
7:25 AM	35	1	0		2	11		0				0	0		0	0	49	0	0	1	0
7:30 AM	26	4	0		2	10		0				0	0		0	0	42	0	0	0	0
7:35 AM	31	4	0		1	15		1				0	0		0	0	51	0	0	0	0
7:40 AM	45	3	0		6	13		0				0	0		0	0	67	0	0	0	0
7:45 AM	33	2	0		3	18		0				0	0		0	0	56	0	0	0	0
7:50 AM	32	4	0		1	22		0				0	0		0	0	59	0	0	0	0
7:55 AM	23	7	0		1	24		1				0	0		1	0	56	0	0	0	0
8:00 AM	14	7	0		1	13		0				0	0		1	0	36	0	0	0	0
8:05 AM	18	9	0		3	21		1				0	1		0	0	52	1	0	0	0
8:10 AM	22	16	0		3	21		0				0	0		0	0	62	0	0	0	0
8:15 AM	17	15	0		6	25		0				0	0		0	0	63	0	0	2	0
8:20 AM	29	26	0		9	26		0				0	0		2	0	92	0	0	0	0
8:25 AM	21	17	0		14	29		0				0	0		2	0	83	0	0	0	0
8:30 AM	23	10	0		4	26		0				0	0		1	0	64	0	0	0	0
8:35 AM	26	5	0		2	21		0				0	1		1	0	56	0	0	0	0
8:40 AM	16	2	0		0	16		0				0	1		0	0	35	0	0	0	0
8:45 AM	29	1	0		0	13		0				0	0		0	0	43	0	0	0	0
8:50 AM	17	0	0		0	19		0				0	0		0	0	36	0	0	0	0
8:55 AM	22	0	0		1	10		0				0	0		0	0	33	0	0	0	0
Total Survey	616	140	0		67	416		3				0	3		9	0	1,251	1	3	3	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	88	2	0		4	36		0				0	0		0	0	130	0	1	0	0
7:15 AM	84	6	0		6	38		0				0	0		1	0	135	0	2	1	0
7:30 AM	102	11	0		9	38		1				0	0		0	0	160	0	0	0	0
7:45 AM	88	13	0		5	64		1				0	0		1	0	171	0	0	0	0
8:00 AM	54	32	0		7	55		1				0	1		1	0	150	1	0	0	0
8:15 AM	67	58	0		29	80		0				0	0		4	0	238	0	0	2	0
8:30 AM	65	17	0		6	63		0				0	2		2	0	155	0	0	0	0
8:45 AM	68	1	0		1	42		0				0	0		0	0	112	0	0	0	0
Total Survey	616	140	0		67	416		3				0	3		9	0	1,251	1	3	3	0

Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	424	261	685	0	312	311	623	2	0	0	0	0	10	174	184	0	746	1	0	2	0
%HV	4.0%				6.4%				0.0%				10.0%				5.1%				
PHF	0.84				0.72				0.00				0.50				0.78				

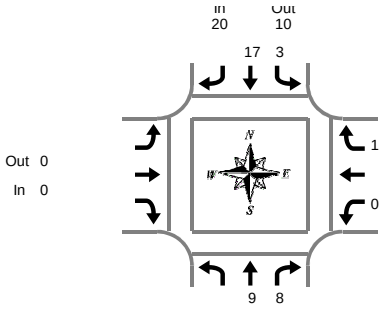
By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	303	121	424		53	259		312				0	2		8	10	746
%HV	NA	3.0%	6.6%	4.0%	5.7%	6.6%	NA	6.4%	NA	NA	NA	0.0%	0.0%	NA	12.5%	10.0%	5.1%
PHF		0.69	0.52	0.84	0.46	0.80		0.72				0.00	0.50		0.40	0.50	0.78

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	362	32	0		24	176		2				0	0		2	0	596	0	3	1	0
7:15 AM	328	62	0		27	195		3				0	1		3	0	616	1	2	1	0
7:30 AM	311	114	0		50	237		3				0	1		6	0	719	1	0	2	0
7:45 AM	274	120	0		47	262		2				0	3		8	0	714	1	0	2	0
8:00 AM	254	108	0		43	240		1				0	3		7	0	655	1	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Linn Ave & Hood St

Tuesday, December 18, 2012
7:00 AM to 9:00 AM

Peak Hour Summary
7:40 AM to 8:40 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		1	0	1	0	0		0				0	0		0	0	1
7:05 AM		5	0	5	0	1		1				0	0		0	0	6
7:10 AM		1	0	1	0	1		1				0	0		0	0	2
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	0	0	0	3		3				0	0		0	0	3
7:30 AM		1	0	1	0	0		0				0	0		0	0	1
7:35 AM		2	0	2	0	0		0				0	0		0	0	2
7:40 AM		0	0	0	0	0		0				0	0		0	0	0
7:45 AM		1	0	1	0	0		0				0	0		0	0	1
7:50 AM		1	1	2	0	0		0				0	0		0	0	2
7:55 AM		1	0	1	0	2		2				0	0		0	0	3
8:00 AM		1	0	1	0	1		1				0	0		0	0	2
8:05 AM		0	1	1	0	0		0				0	0		0	0	1
8:10 AM		1	0	1	0	0		0				0	0		0	0	1
8:15 AM		3	4	7	0	1		1				0	0		0	0	8
8:20 AM		0	1	1	1	4		5				0	0		0	0	6
8:25 AM		1	1	2	2	2		4				0	0		1	1	7
8:30 AM		0	0	0	0	6		6				0	0		0	0	6
8:35 AM		0	0	0	0	1		1				0	0		0	0	1
8:40 AM		1	0	1	0	3		3				0	0		0	0	4
8:45 AM		3	0	3	0	1		1				0	0		0	0	4
8:50 AM		0	0	0	0	1		1				0	0		0	0	1
8:55 AM		0	0	0	0	0		0				0	0		0	0	0
Total Survey		23	8	31	3	27		30				0	0		1	1	62

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		7	0	7	0	2		2				0	0		0	0	9
7:15 AM		0	0	0	0	3		3				0	0		0	0	3
7:30 AM		3	0	3	0	0		0				0	0		0	0	3
7:45 AM		3	1	4	0	2		2				0	0		0	0	6
8:00 AM		2	1	3	0	1		1				0	0		0	0	4
8:15 AM		4	6	10	3	7		10				0	0		1	1	21
8:30 AM		1	0	1	0	10		10				0	0		0	0	11
8:45 AM		3	0	3	0	2		2				0	0		0	0	5
Total Survey		23	8	31	3	27		30				0	0		1	1	62

Heavy Vehicle Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Linn Ave			Southbound Linn Ave			Eastbound Hood St			Westbound Hood St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	17	17	34	20	10	30	0	0	0	1	11	12	38
PHF	0.43			0.33			0.00			0.25			0.45

By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		9	8	17	3	17		20				0	0		1	1	38
PHF		0.56	0.33	0.43	0.25	0.35		0.33				0.00	0.00		0.25	0.25	0.45

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

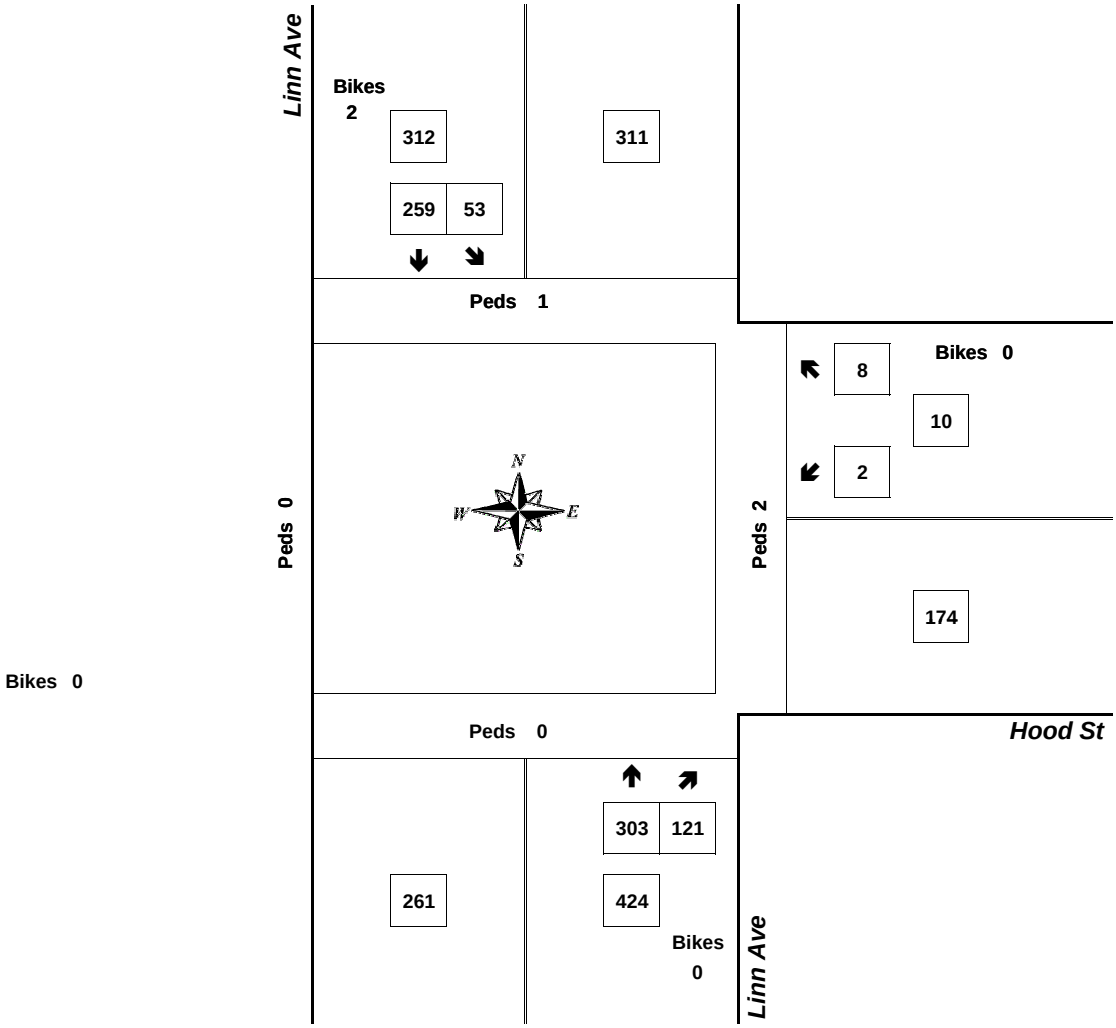
Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		13	1	14	0	7		7				0	0		0	0	21
7:15 AM		8	2	10	0	6		6				0	0		0	0	16
7:30 AM		12	8	20	3	10		13				0	0		1	1	34
7:45 AM		10	8	18	3	20		23				0	0		1	1	42
8:00 AM		10	7	17	3	20		23				0	0		1	1	41

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Linn Ave & Hood St

7:40 AM to 8:40 AM
Tuesday, December 18, 2012

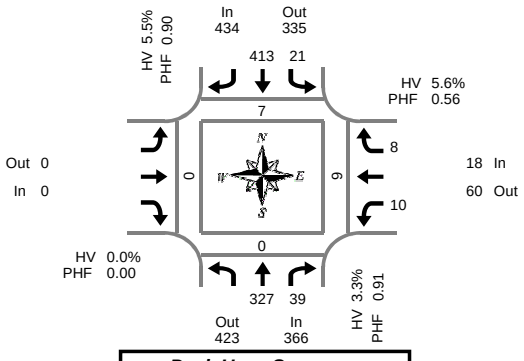


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.50	10.0%	10
NB	0.84	4.0%	424
SB	0.72	6.4%	312
Intersection	0.78	5.1%	746

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
3:15 PM to 4:15 PM

Linn Ave & Hood St

Tuesday, December 18, 2012
2:30 PM to 4:30 PM

5-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
2:30 PM		19	0	0	2	25		0				0	1		0	0	47	0	0	0	0
2:35 PM		17	2	0	1	27		0				0	0		0	0	47	0	0	0	0
2:40 PM		25	1	0	0	21		0				0	0		1	0	48	0	0	0	0
2:45 PM		20	0	0	0	27		0				0	0		1	0	48	0	0	0	0
2:50 PM		25	3	0	0	12		0				0	0		0	0	40	0	0	0	0
2:55 PM		30	4	3	3	24		0				0	1		0	0	62	0	0	0	0
3:00 PM		21	6	0	2	22		0				0	0		0	0	51	0	0	0	0
3:05 PM		19	4	0	2	31		0				0	1		0	0	57	1	0	2	0
3:10 PM		21	7	1	3	25		0				0	1		0	0	57	0	0	1	0
3:15 PM		18	12	0	4	30		0				0	0		0	0	64	2	0	0	0
3:20 PM		25	8	0	4	26		0				0	0		0	0	63	1	0	0	0
3:25 PM		24	5	0	1	42		0				0	2		3	0	77	4	0	3	0
3:30 PM		32	3	0	5	42		0				0	1		1	0	84	0	0	5	0
3:35 PM		26	2	0	1	28		1				0	1		0	0	58	0	0	0	0
3:40 PM		25	4	0	3	33		0				0	0		1	0	66	0	0	1	0
3:45 PM		39	0	0	0	27		0				0	0		0	0	66	0	0	0	0
3:50 PM		29	2	0	1	41		0				0	1		1	0	75	0	0	0	0
3:55 PM		30	1	0	1	31		0				0	1		1	0	65	0	0	0	0
4:00 PM		35	1	0	0	31		0				0	1		0	0	68	0	0	0	0
4:05 PM		15	1	0	1	28		0				0	2		1	0	48	0	0	0	0
4:10 PM		29	0	0	0	54		0				0	1		0	0	84	0	0	0	0
4:15 PM		25	0	0	0	33		0				0	1		0	0	59	0	0	0	0
4:20 PM		21	0	0	0	26		0				0	1		1	0	49	0	0	0	0
4:25 PM		27	1	0	1	38		0				0	0		0	0	67	0	0	0	0
Total Survey		597	67	4	35	724		1				0	16		11	0	1,450	8	0	12	0

15-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
2:30 PM		61	3	0	3	73		0				0	1		1	0	142	0	0	0	0
2:45 PM		75	7	3	3	63		0				0	1		1	0	150	0	0	0	0
3:00 PM		61	17	1	7	78		0				0	2		0	0	165	1	0	3	0
3:15 PM		67	25	0	9	98		0				0	2		3	0	204	7	0	3	0
3:30 PM		83	9	0	9	103		1				0	2		2	0	208	0	0	6	0
3:45 PM		98	3	0	2	99		0				0	2		2	0	206	0	0	0	0
4:00 PM		79	2	0	1	113		0				0	4		1	0	200	0	0	0	0
4:15 PM		73	1	0	1	97		0				0	2		1	0	175	0	0	0	0
Total Survey		597	67	4	35	724		1				0	16		11	0	1,450	8	0	12	0

Peak Hour Summary
3:15 PM to 4:15 PM

By Approach	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	366	423	789	0	434	335	769	1	0	0	0	0	18	60	78	0	818	7	0	9	0
%HV	3.3%				5.5%				0.0%				5.6%				4.5%				
PHF	0.91				0.90				0.00				0.56				0.91				

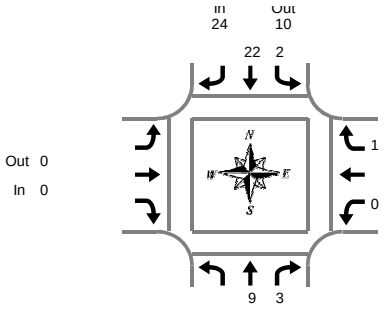
By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		327	39	366	21	413		434				0	10		8	18	818
%HV	NA	2.8%	7.7%	3.3%	9.5%	5.3%	NA	5.5%	NA	NA	NA	0.0%	0.0%	NA	12.5%	5.6%	4.5%
PHF		0.83	0.39	0.91	0.53	0.91		0.90				0.00	0.63		0.50	0.56	0.91

Rolling Hour Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
2:30 PM		264	52	4	22	312		0				0	6		5	0	661	8	0	6	0
2:45 PM		286	58	4	28	342		1				0	7		6	0	727	8	0	12	0
3:00 PM		309	54	1	27	378		1				0	8		7	0	783	8	0	12	0
3:15 PM		327	39	0	21	413		1				0	10		8	0	818	7	0	9	0
3:30 PM		333	15	0	13	412		1				0	10		6	0	789	0	0	6	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
3:15 PM to 4:15 PM

Linn Ave & Hood St

Tuesday, December 18, 2012
2:30 PM to 4:30 PM

Heavy Vehicle 5-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
2:30 PM		0	0	0	0	2		2				0	0		0	0	2
2:35 PM		0	0	0	0	1		1				0	0		0	0	1
2:40 PM		2	0	2	0	1		1				0	0		0	0	3
2:45 PM		0	0	0	0	0		0				0	0		0	0	0
2:50 PM		3	0	3	0	1		1				0	0		0	0	4
2:55 PM		0	1	1	1	2		3				0	1		0	1	5
3:00 PM		1	0	1	1	0		1				0	0		0	0	2
3:05 PM		1	0	1	1	2		3				0	0		0	0	4
3:10 PM		0	0	0	0	1		1				0	0		0	0	1
3:15 PM		2	2	4	1	1		2				0	0		0	0	6
3:20 PM		0	1	1	0	1		1				0	0		0	0	2
3:25 PM		1	0	1	0	2		2				0	0		0	0	3
3:30 PM		1	0	1	0	8		8				0	0		1	1	10
3:35 PM		1	0	1	1	4		5				0	0		0	0	6
3:40 PM		0	0	0	0	0		0				0	0		0	0	0
3:45 PM		3	0	3	0	1		1				0	0		0	0	4
3:50 PM		0	0	0	0	2		2				0	0		0	0	2
3:55 PM		0	0	0	0	1		1				0	0		0	0	1
4:00 PM		0	0	0	0	1		1				0	0		0	0	1
4:05 PM		1	0	1	0	1		1				0	0		0	0	2
4:10 PM		0	0	0	0	0		0				0	0		0	0	0
4:15 PM		1	0	1	0	0		0				0	0		0	0	1
4:20 PM		1	0	1	0	1		1				0	0		0	0	2
4:25 PM		1	0	1	0	1		1				0	0		0	0	2
Total Survey		19	4	23	5	34		39				0	1		1	2	64

Heavy Vehicle 15-Minute Interval Summary
2:30 PM to 4:30 PM

Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
2:30 PM		2	0	2	0	4		4				0	0		0	0	6
2:45 PM		3	1	4	1	3		4				0	1		0	1	9
3:00 PM		2	0	2	2	3		5				0	0		0	0	7
3:15 PM		3	3	6	1	4		5				0	0		0	0	11
3:30 PM		2	0	2	1	12		13				0	0		1	1	16
3:45 PM		3	0	3	0	4		4				0	0		0	0	7
4:00 PM		1	0	1	0	2		2				0	0		0	0	3
4:15 PM		3	0	3	0	2		2				0	0		0	0	5
Total Survey		19	4	23	5	34		39				0	1		1	2	64

Heavy Vehicle Peak Hour Summary
3:15 PM to 4:15 PM

By Approach	Northbound Linn Ave			Southbound Linn Ave			Eastbound Hood St			Westbound Hood St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	12	22	34	24	10	34	0	0	0	1	5	6	37
PHF	0.50			0.40			0.00			0.25			0.49

By Movement	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		9	3	12	2	22		24				0	0		1	1	37
PHF		0.56	0.25	0.50	0.50	0.39		0.40				0.00	0.00		0.25	0.25	0.49

Heavy Vehicle Rolling Hour Summary
2:30 PM to 4:30 PM

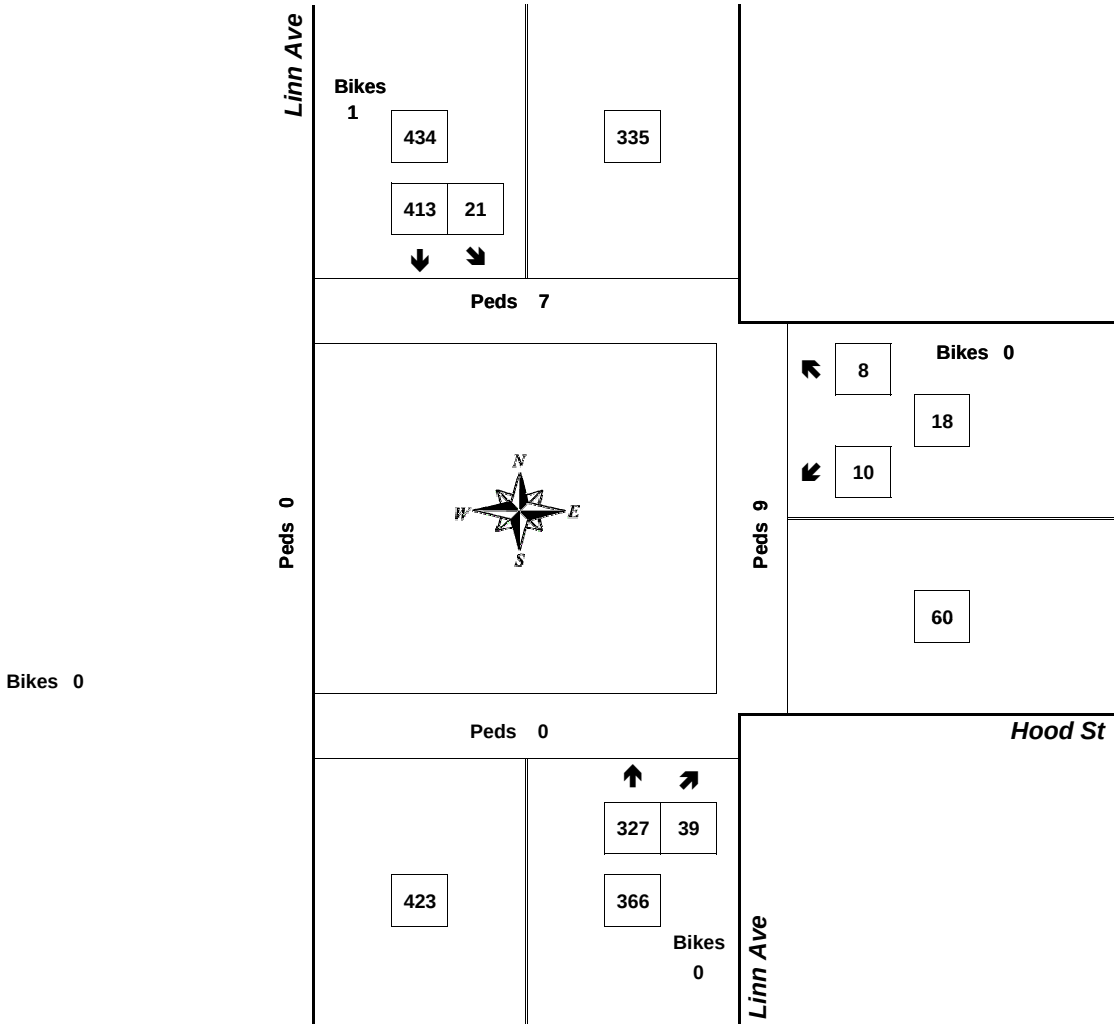
Interval Start Time	Northbound Linn Ave				Southbound Linn Ave				Eastbound Hood St				Westbound Hood St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
2:30 PM		10	4	14	4	14		18				0	1		0	1	33
2:45 PM		10	4	14	5	22		27				0	1		1	2	43
3:00 PM		10	3	13	4	23		27				0	0		1	1	41
3:15 PM		9	3	12	2	22		24				0	0		1	1	37
3:30 PM		9	0	9	1	20		21				0	0		1	1	31

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

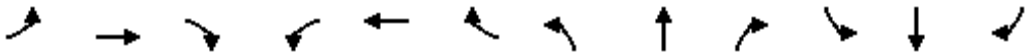
Linn Ave & Hood St

3:15 PM to 4:15 PM
Tuesday, December 18, 2012



Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.56	5.6%	18
NB	0.91	3.3%	366
SB	0.90	5.5%	434
Intersection	0.91	4.5%	818

Count Period: 2:30 PM to 4:30 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	22	30	6	19	26	16	6	252	47	13	140	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	25	34	7	22	30	18	7	286	53	15	159	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	66	69	347	182
Volume Left (vph)	25	22	7	15
Volume Right (vph)	7	18	53	8
Hadj (s)	0.06	-0.06	0.00	0.07
Departure Headway (s)	5.3	5.2	4.5	4.7
Degree Utilization, x	0.10	0.10	0.43	0.24
Capacity (veh/h)	605	619	778	721
Control Delay (s)	8.9	8.8	10.9	9.2
Approach Delay (s)	8.9	8.8	10.9	9.2
Approach LOS	A	A	B	A

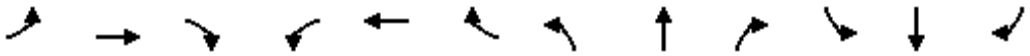
Intersection Summary			
Delay	10.0		
HCM Level of Service	A		
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	89	3	26	54	8	36
Peak Hour Factor	0.59	0.59	0.59	0.59	0.59	0.59
Hourly flow rate (vph)	151	5	44	92	14	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			156		333	153
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			156		333	153
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		98	93
cM capacity (veh/h)			1406		643	895

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	156	136	75
Volume Left	0	44	14
Volume Right	5	0	61
cSH	1700	1406	836
Volume to Capacity	0.09	0.03	0.09
Queue Length 95th (ft)	0	2	7
Control Delay (s)	0.0	2.7	9.7
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	9.7
Approach LOS			A

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	20.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	12	58	76	33	20	30	269	2	6	155	3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	15	15	74	97	42	26	38	345	3	8	199	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	686	640	201	721	641	346	203			347		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	686	640	201	721	641	346	203			347		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.0	*2.0	*2.0	2.2			2.3		
p0 queue free %	95	96	91	78	93	98	97			99		
cM capacity (veh/h)	326	380	840	445	639	1081	1357			1190		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	105	165	386	210
Volume Left	15	97	38	8
Volume Right	74	26	3	4
cSH	597	535	1357	1190
Volume to Capacity	0.18	0.31	0.03	0.01
Queue Length 95th (ft)	16	33	2	0
Control Delay (s)	12.3	14.7	1.0	0.4
Lane LOS	B	B	A	A
Approach Delay (s)	12.3	14.7	1.0	0.4
Approach LOS	B	B		

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	47.4%	ICU Level of Service	A	
Analysis Period (min)	15			

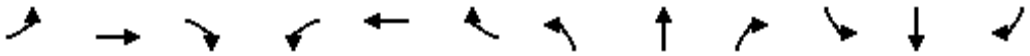
* User Entered Value



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	2	8	303	121	53	259
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	3	10	388	155	68	332
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	934	466			544	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	934	466			544	
tC, single (s)	6.5	6.3			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.3	
p0 queue free %	99	98			93	
cM capacity (veh/h)	266	580			1005	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	13	544	400
Volume Left	3	0	68
Volume Right	10	155	0
cSH	470	1700	1005
Volume to Capacity	0.03	0.32	0.07
Queue Length 95th (ft)	2	0	5
Control Delay (s)	12.9	0.0	2.1
Lane LOS	B		A
Approach Delay (s)	12.9	0.0	2.1
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	19	45	7	56	57	28	13	218	56	32	263	26
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	21	51	8	63	64	31	15	245	63	36	296	29

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	80	158	322	361
Volume Left (vph)	21	63	15	36
Volume Right (vph)	8	31	63	29
Hadj (s)	0.05	-0.01	-0.06	0.02
Departure Headway (s)	6.0	5.8	5.1	5.1
Degree Utilization, x	0.13	0.26	0.46	0.51
Capacity (veh/h)	501	551	663	672
Control Delay (s)	10.0	10.8	12.3	13.4
Approach Delay (s)	10.0	10.8	12.3	13.4
Approach LOS	A	B	B	B

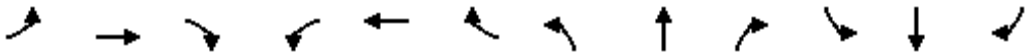
Intersection Summary			
Delay	12.3		
HCM Level of Service	B		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	131	4	12	122	21	34
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	187	6	17	174	30	49
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			193		399	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			193		399	190
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		95	94
cM capacity (veh/h)			1380		596	847

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	193	191	79
Volume Left	0	17	30
Volume Right	6	0	49
cSH	1700	1380	729
Volume to Capacity	0.11	0.01	0.11
Queue Length 95th (ft)	0	1	9
Control Delay (s)	0.0	0.8	10.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	10.5
Approach LOS			B

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	8	63	54	17	17	40	263	8	1	309	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	9	70	60	19	19	44	292	9	1	343	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	768	744	352	814	748	297	360			301		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	768	744	352	814	748	297	360			301		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.0	*2.0	*2.0	2.2			2.2		
p0 queue free %	98	97	90	84	96	98	96			100		
cM capacity (veh/h)	294	327	687	372	533	1158	1193			1254		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	83	98	346	361
Volume Left	4	60	44	1
Volume Right	70	19	9	17
cSH	578	459	1193	1254
Volume to Capacity	0.14	0.21	0.04	0.00
Queue Length 95th (ft)	13	20	3	0
Control Delay (s)	12.3	15.0	1.4	0.0
Lane LOS	B	B	A	A
Approach Delay (s)	12.3	15.0	1.4	0.0
Approach LOS	B	B		

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

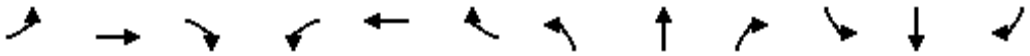
* User Entered Value



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	11	8	334	27	17	416
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	12	9	367	30	19	457
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	876	382			397	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	876	382			397	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	99			98	
cM capacity (veh/h)	310	659			1146	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	21	397	476
Volume Left	12	0	19
Volume Right	9	30	0
cSH	399	1700	1146
Volume to Capacity	0.05	0.23	0.02
Queue Length 95th (ft)	4	0	1
Control Delay (s)	14.5	0.0	0.5
Lane LOS	B		A
Approach Delay (s)	14.5	0.0	0.5
Approach LOS	B		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	22	31	6	19	27	16	6	257	48	13	143	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	25	35	7	22	31	18	7	292	55	15	162	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	67	70	353	185
Volume Left (vph)	25	22	7	15
Volume Right (vph)	7	18	55	8
Hadj (s)	0.06	-0.06	0.00	0.08
Departure Headway (s)	5.3	5.2	4.5	4.8
Degree Utilization, x	0.10	0.10	0.44	0.24
Capacity (veh/h)	601	615	775	718
Control Delay (s)	8.9	8.8	11.0	9.3
Approach Delay (s)	8.9	8.8	11.0	9.3
Approach LOS	A	A	B	A

Intersection Summary			
Delay	10.1		
HCM Level of Service	B		
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	91	3	27	55	8	37
Peak Hour Factor	0.59	0.59	0.59	0.59	0.59	0.59
Hourly flow rate (vph)	154	5	46	93	14	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			159		342	157
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			159		342	157
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		98	93
cM capacity (veh/h)			1402		635	891

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	159	139	76
Volume Left	0	46	14
Volume Right	5	0	63
cSH	1700	1402	832
Volume to Capacity	0.09	0.03	0.09
Queue Length 95th (ft)	0	3	8
Control Delay (s)	0.0	2.7	9.8
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	9.8
Approach LOS			A

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	12	59	78	34	20	31	274	2	6	158	3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	15	15	76	100	44	26	40	351	3	8	203	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	699	653	204	735	654	353	206			354		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	699	653	204	735	654	353	206			354		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.0	*2.0	*2.0	2.2			2.3		
p0 queue free %	95	96	91	77	93	98	97			99		
cM capacity (veh/h)	319	373	836	433	625	1070	1353			1183		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	106	169	394	214
Volume Left	15	100	40	8
Volume Right	76	26	3	4
cSH	591	521	1353	1183
Volume to Capacity	0.18	0.32	0.03	0.01
Queue Length 95th (ft)	16	35	2	0
Control Delay (s)	12.4	15.2	1.0	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	12.4	15.2	1.0	0.3
Approach LOS	B	C		

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

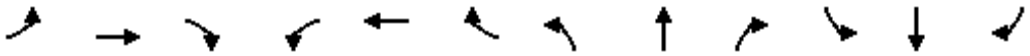
* User Entered Value



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	2	8	309	123	54	264
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	3	10	396	158	69	338
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	952	475			554	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	952	475			554	
tC, single (s)	6.5	6.3			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.3	
p0 queue free %	99	98			93	
cM capacity (veh/h)	259	574			997	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	13	554	408
Volume Left	3	0	69
Volume Right	10	158	0
cSH	462	1700	997
Volume to Capacity	0.03	0.33	0.07
Queue Length 95th (ft)	2	0	6
Control Delay (s)	13.0	0.0	2.1
Lane LOS	B		A
Approach Delay (s)	13.0	0.0	2.1
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	19	46	7	57	58	29	13	222	57	33	268	27
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	21	52	8	64	65	33	15	249	64	37	301	30

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	81	162	328	369
Volume Left (vph)	21	64	15	37
Volume Right (vph)	8	33	64	30
Hadj (s)	0.05	-0.01	-0.06	0.02
Departure Headway (s)	6.1	5.9	5.1	5.1
Degree Utilization, x	0.14	0.26	0.47	0.53
Capacity (veh/h)	495	546	658	668
Control Delay (s)	10.1	10.9	12.6	13.7
Approach Delay (s)	10.1	10.9	12.6	13.7
Approach LOS	B	B	B	B

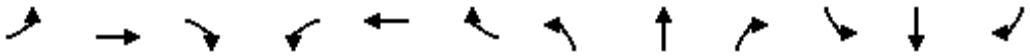
Intersection Summary			
Delay	12.5		
HCM Level of Service	B		
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	134	4	12	124	21	35
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	191	6	17	177	30	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			197		406	194
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			197		406	194
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		95	94
cM capacity (veh/h)			1376		590	842

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	197	194	80
Volume Left	0	17	30
Volume Right	6	0	50
cSH	1700	1376	726
Volume to Capacity	0.12	0.01	0.11
Queue Length 95th (ft)	0	1	9
Control Delay (s)	0.0	0.8	10.6
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	10.6
Approach LOS			B

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	26.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	8	64	55	17	17	41	268	8	1	315	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	9	71	61	19	19	46	298	9	1	350	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	782	758	358	829	762	302	367			307		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	782	758	358	829	762	302	367			307		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.0	*2.0	*2.0	2.2			2.2		
p0 queue free %	98	97	90	83	96	98	96			100		
cM capacity (veh/h)	287	321	681	360	520	1148	1186			1248		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	84	99	352	368
Volume Left	4	61	46	1
Volume Right	71	19	9	17
cSH	572	445	1186	1248
Volume to Capacity	0.15	0.22	0.04	0.00
Queue Length 95th (ft)	13	21	3	0
Control Delay (s)	12.4	15.4	1.4	0.0
Lane LOS	B	C	A	A
Approach Delay (s)	12.4	15.4	1.4	0.0
Approach LOS	B	C		

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

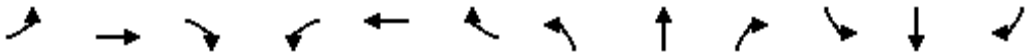
* User Entered Value



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	11	8	341	28	17	424
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	12	9	375	31	19	466
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	893	390			405	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	893	390			405	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	99			98	
cM capacity (veh/h)	303	652			1137	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	21	405	485
Volume Left	12	0	19
Volume Right	9	31	0
cSH	391	1700	1137
Volume to Capacity	0.05	0.24	0.02
Queue Length 95th (ft)	4	0	1
Control Delay (s)	14.7	0.0	0.5
Lane LOS	B		A
Approach Delay (s)	14.7	0.0	0.5
Approach LOS	B		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	22	31	13	19	27	16	9	271	48	13	160	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	25	35	15	22	31	18	10	308	55	15	182	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	75	70	373	205
Volume Left (vph)	25	22	10	15
Volume Right (vph)	15	18	55	8
Hadj (s)	0.00	-0.06	0.00	0.08
Departure Headway (s)	5.4	5.3	4.6	4.8
Degree Utilization, x	0.11	0.10	0.47	0.27
Capacity (veh/h)	593	597	765	709
Control Delay (s)	9.1	8.9	11.6	9.6
Approach Delay (s)	9.1	8.9	11.6	9.6
Approach LOS	A	A	B	A

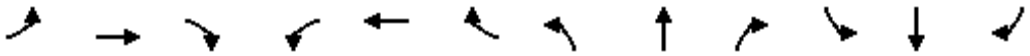
Intersection Summary			
Delay	10.5		
HCM Level of Service	B		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	91	3	38	55	11	45
Peak Hour Factor	0.59	0.59	0.59	0.59	0.59	0.59
Hourly flow rate (vph)	154	5	64	93	19	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			159		379	157
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			159		379	157
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		97	91
cM capacity (veh/h)			1402		596	891

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	159	158	95
Volume Left	0	64	19
Volume Right	5	0	76
cSH	1700	1402	812
Volume to Capacity	0.09	0.05	0.12
Queue Length 95th (ft)	0	4	10
Control Delay (s)	0.0	3.4	10.0
Lane LOS		A	B
Approach Delay (s)	0.0	3.4	10.0
Approach LOS			B

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	21.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	19	59	101	40	37	31	274	2	6	182	3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	15	24	76	129	51	47	40	351	3	8	233	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	756	684	235	771	685	353	237			354		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	756	684	235	771	685	353	237			354		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.0	*2.0	*2.0	2.2			2.3		
p0 queue free %	95	93	91	67	91	96	97			99		
cM capacity (veh/h)	282	358	804	397	595	1070	1318			1183		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	115	228	394	245
Volume Left	15	129	40	8
Volume Right	76	47	3	4
cSH	532	499	1318	1183
Volume to Capacity	0.22	0.46	0.03	0.01
Queue Length 95th (ft)	20	59	2	0
Control Delay (s)	13.6	18.1	1.1	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	13.6	18.1	1.1	0.3
Approach LOS	B	C		

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

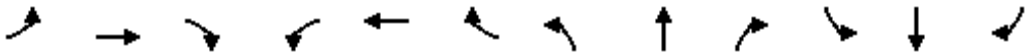
* User Entered Value



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	2	8	309	151	78	287
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	3	10	396	194	100	368
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1061	493			590	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1061	493			590	
tC, single (s)	6.5	6.3			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.3	
p0 queue free %	99	98			90	
cM capacity (veh/h)	215	560			966	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	13	590	468
Volume Left	3	0	100
Volume Right	10	194	0
cSH	424	1700	966
Volume to Capacity	0.03	0.35	0.10
Queue Length 95th (ft)	2	0	9
Control Delay (s)	13.8	0.0	2.9
Lane LOS	B		A
Approach Delay (s)	13.8	0.0	2.9
Approach LOS	B		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	19	46	10	57	58	29	15	233	57	33	276	27
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	21	52	11	64	65	33	17	262	64	37	310	30

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	84	162	343	378
Volume Left (vph)	21	64	17	37
Volume Right (vph)	11	33	64	30
Hadj (s)	0.02	-0.01	-0.05	0.02
Departure Headway (s)	6.2	5.9	5.2	5.2
Degree Utilization, x	0.14	0.27	0.49	0.55
Capacity (veh/h)	489	536	654	662
Control Delay (s)	10.2	11.1	13.1	14.2
Approach Delay (s)	10.2	11.1	13.1	14.2
Approach LOS	B	B	B	B

Intersection Summary			
Delay	13.0		
HCM Level of Service	B		
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	134	4	17	124	23	41
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	191	6	24	177	33	59
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			197		420	194
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			197		420	194
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		94	93
cM capacity (veh/h)			1376		576	842

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	197	201	91
Volume Left	0	24	33
Volume Right	6	0	59
cSH	1700	1376	722
Volume to Capacity	0.12	0.02	0.13
Queue Length 95th (ft)	0	1	11
Control Delay (s)	0.0	1.1	10.7
Lane LOS		A	B
Approach Delay (s)	0.0	1.1	10.7
Approach LOS			B

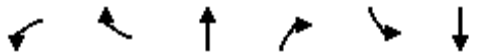
Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	11	64	71	21	30	41	268	8	1	326	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	12	71	79	23	33	46	298	9	1	362	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	811	771	371	843	774	302	379			307		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	811	771	371	843	774	302	379			307		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.0	*2.0	*2.0	2.2			2.2		
p0 queue free %	98	96	89	77	95	97	96			100		
cM capacity (veh/h)	269	316	671	348	510	1148	1174			1248		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	88	136	352	380
Volume Left	4	79	46	1
Volume Right	71	33	9	17
cSH	544	450	1174	1248
Volume to Capacity	0.16	0.30	0.04	0.00
Queue Length 95th (ft)	14	31	3	0
Control Delay (s)	12.9	16.4	1.4	0.0
Lane LOS	B	C	A	A
Approach Delay (s)	12.9	16.4	1.4	0.0
Approach LOS	B	C		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	11	8	341	41	28	440
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	12	9	375	45	31	484
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	942	397			420	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	942	397			420	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	99			97	
cM capacity (veh/h)	280	646			1123	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	21	420	514
Volume Left	12	0	31
Volume Right	9	45	0
cSH	368	1700	1123
Volume to Capacity	0.06	0.25	0.03
Queue Length 95th (ft)	4	0	2
Control Delay (s)	15.4	0.0	0.8
Lane LOS	C		A
Approach Delay (s)	15.4	0.0	0.8
Approach LOS	C		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

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

LINN AVE at HOLMES LN, City of Oregon City, Clackamas County, 01/01/2007 to 12/31/2011

Total crash records: 4

SER# / INVEST	SPEED	ALC	DRUGS	SCHL	WORK	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	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00098	N	N	N	N	N	01/06/2009	16	HOLMES LN	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										07
CITY						TU	0	LINN AVE	N		FLASHBCN-R	N	WET	REAR		UNKN	N -S									000	00
						9P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		026	000	07
																							UNK				
															02	NONE 0	STOP										
																PRVTE	N -S									011	00
																PSNGR CAR		01	DRVR	INJC	16	F	OR-Y		000	000	00
																							OR<25				
01218	N	N	N			04/11/2011	16	HOLMES LN	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
NONE						MO	0	LINN AVE	N		FLASHBCN-R	N	WET	REAR		PRVTE	N -S									000	00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	32	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	N -S									011	00
																PSNGR CAR		01	DRVR	INJC	36	F	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	N -S									011	00
																PSNGR CAR		02	PSNG	INJC	17	F			000	000	00
															02	NONE 0	STOP										
																PRVTE	N -S									011	00
																PSNGR CAR		03	PSNG	NO<5	02	M			000	000	00
															02	NONE 0	STOP										
																PRVTE	N -S									011	00
																PSNGR CAR		04	PSNG	NO<5	02	M			000	000	00
02676	N	N	N	N	N	06/26/2007	17	HOLMES LN	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02,03
CITY						TU	0	LINN AVE	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	W -E									000	00
						12P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	31	F	OR-Y		021,028	000	02,08
																							OR<25				
															02	NONE 0	STRGHT										
																PRVTE	N -S									000	00
																PSNGR CAR		01	DRVR	INJC	82	F	OR-Y		000	000	00
																							OR<25				
02353	N	N	N			07/08/2010	16	HOLMES LN	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						TH	0	LINN AVE	CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E									015	00
						12P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	32	F	OR-Y		028	000	02
																							OR<25				
															02	NONE 0	STRGHT										
																PRVTE	S -N									015	00
																PSNGR CAR		01	DRVR	NONE	58	M	OR-Y		000	000	00
																							OR<25				

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

LINN AVE at A V DAVIS RD, City of Oregon City, Clackamas County, 01/01/2007 to 12/31/2011

Total crash records: 5

SER# / INVEST	SPEED	ALC	DRUGS	CMV	HAZ	WORK	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	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02903	N	N	N	N	N		08/17/2010	16	A V DAVIS RD	INTER	CROSS	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
							11A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y OR<25		042	000		07
																02	NONE 0	STRGHT											
																	PRVTE	N -S									006		00
																	PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		000	000		00
03387	N	N	N	N	N		09/14/2011	16	A V DAVIS RD	INTER	CROSS	N	N	CLD	PED	01	NONE 0	TURN-L											02
CITY							WE	0	LINN AVE	N		STOP SIGN	N	DRY	PED		PRVTE	W -N									015		00
							8P			05	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	74	F	OR-Y OR<25		029	000		02
																		- STRGHT E W	01	PED	INJC	23	F		I XWLK	000	034		00
03704	Y	Y	N	N	N		10/11/2008	16	A V DAVIS RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										010,053,001	03,30
CITY							SA	0	LINN AVE	CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E									000	010	00
							9P			03	0		N	DLIT	FAT		PSNGR CAR		01	DRVR	INJA	22	M	SUSP OR<25		021,050	000	001	03,30
																01	NONE 0	STRGHT											
																	PRVTE	W -E									000	010	00
																	PSNGR CAR		02	PSNG	INJB	20	M			000	000		00
																01	NONE 0	STRGHT											
																	PRVTE	W -E									000	010	00
																	PSNGR CAR		03	PSNG	INJA	20	F			000	000		00
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000	053	00
																	PSNGR CAR		01	DRVR	INJB	25	M	OR-Y OR<25		000	000		00
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000	053	00
																	PSNGR CAR		02	PSNG	KILL	26	F			000	000		00
02813	N	N	N				08/10/2010	16	A V DAVIS RD	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT											02
CITY							TU	0	LINN AVE	CN		STOP SIGN	N	DRY	TURN		PRVTE	N -S									000		00
							1P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	50	M	OR-Y OR<25		000	000		00
																02	NONE 0	TURN-L											
																	PRVTE	W -N									015		00
																	PSNGR CAR		01	DRVR	NONE	76	F	OR-Y OR<25		028	000		02
00001	N	N	N				01/01/2011	16	A V DAVIS RD	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT											02
NONE							SA	0	LINN AVE	CN		STOP SIGN	N	DRY	TURN		PRVTE	N -S									000		00
							2P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	25	F	OR-Y OR<25		000	000		00
																01	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		02	PSNG	NO<5	04	F			000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

LINN AVE at A V DAVIS RD, City of Oregon City, Clackamas County, 01/01/2007 to 12/31/2011

Total crash records: 5

SER# / INVEST	S P E	A	U	D R S W C H	O	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
															02	NONE 0 PRVTE PSNGR CAR	TURN-L W -N										015	00
																		01	DRVR	NONE	18	M	OR-Y OR<25		028	000	02

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

LINN AVE at ETHEL ST, City of Oregon City, Clackamas County, 01/01/2007 to 12/31/2011

Total crash records: 5

SER# / INVEST	S P E D	A L C	R S L	U C H	S W O 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
00968	N	N	N	Y		03/23/2010	16	ETHEL ST	INTER	CROSS	N	N	CLR	BIKE													110	02
COUNTY						TU	0	LINN AVE	W		NONE	N	DRY	ANGL			-											
						7A			05	0		N	DAY	INJ			STRGHT N S	01	BIKE	INJC	65	M		I INRD	028	034		02
															01	NONE 0 / PRVTE / PSNGR CAR	STRGHT E -W	01	DRVR	NONE	45	F	OR-Y OR<25		000	015 / 000		00 / 00
00999	N	N	N			03/16/2009	16	ETHEL ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT S -N	01	DRVR	NONE	00	F	OR-Y OR<25		028	000 / 000		02 / 00 / 02
NONE						MO	0	LINN AVE	CN		STOP SIGN	N	WET	ANGL														
						9P			04	0		N	DLIT	PDO															
															02	NONE 0 / PRVTE / PSNGR CAR	STRGHT W -E	01	DRVR	NONE	81	M	OR-Y OR<25		000	000 / 000		00 / 00
02003	N	N	N	N	N	05/31/2009	16	ETHEL ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT W -E	01	DRVR	INJC	61	F	OR-Y OR<25		020	000 / 000		04 / 00 / 04
CITY						SU	0	LINN AVE	CN		TRF SIGNAL	N	DRY	ANGL														
						2P			04	0		N	DAY	INJ															
															02	NONE 0 / PRVTE / PSNGR CAR	STRGHT S -N	01	DRVR	NONE	18	M	OR-Y OR<25		000	000 / 000		00 / 00
00764	N	N	N	N	N	03/04/2011	16	ETHEL ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT N -S	01	DRVR	NONE	41	M	OR-Y OR<25		000	000 / 000		02 / 00 / 00
CITY						FR	0	LINN AVE	CN		STOP SIGN	N	DRY	TURN														
						12P			03	0		N	DAY	INJ															
															02	NONE 0 / PRVTE / PSNGR CAR	TURN-L E -S	01	DRVR	INJC	53	M	OR-Y OR<25		028	015 / 000		00 / 02
04953	N	N	N			12/24/2011	16	ETHEL ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT S -N	01	DRVR	INJC	51	F	OR-Y OR<25		000	000 / 000		02 / 00 / 00
NO RPT						SA	0	LINN AVE	CN		STOP SIGN	N	DRY	ANGL														
						11A			02	0		N	DAY	INJ															
															02	NONE 0 / PRVTE / PSNGR CAR	STRGHT E -W	01	DRVR	NONE	66	F	OR-Y OR<25		028	015 / 000		00 / 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

LINN AVE at HOOD ST, City of Oregon City, Clackamas County, 01/01/2007 to 12/31/2011

Total crash records: 1

SER# / INVEST	S P E D	A L C	U G S	C H L	S 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
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

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City of Oregon City
Pre-Application Conference Summary

Pre-application conferences are required by Section 17.50.030 of the City Code, as follows:
(A) PURPOSE: The pre-application conference is to provide the applicant the necessary information to make an informed decision regarding their land use proposal.
(B) A pre-application conference is required for all land use permits.
(C) Time Limit: A pre-application conference is valid for a period of six (6) months.
(D) An omission or failure by the Planning Division to provide an applicant with relevant information during a pre-application discussion shall not constitute a waiver of any standard, criterion, or requirement of the City of Oregon City. Information given in the conference is subject available information and may be subject to change without notice. *NOTE: The subsequent application may be submitted to any member of the Planning Staff.*

==========

PRE-APP # 12-20 / DATE: 10/09/2012
APPLICANT: OREGON CITY SCHOOL DISTRICT / RICK GIVENS
SITE ADDRESS: 150 Ethel St
PROPERTY DESCRIPTION: 3-2E-06AD-07800
STAFF: WALTER, CRAFTS, MONRO (KJ.), VANDAGRIFF
PROPOSED USE/ACTIVITY: MODULAR CLASSROOMS

INFORMATION NECESSARY TO BEGIN DEVELOPMENT: This listing of information does not preclude the Community Development Department or hearings body from requesting additional data necessary to make a recommendation and/or decision regarding the proposed activity.

1. PLANNING

- ☑ Zoning/ Setbacks R6- Single Family Residential District
- ☐ Is the Site in a Water Resource Overlay District? (Yes or (No)) NO
- ☑ Neighborhood Meeting Required: YES - Rivercrest
- ☐ List of Minimum Required Planning Processes

1. Conditional Use - Prior CU Permit =

- ☐ OCMC 17.50 – *Administrative Processes*
- ☐ OCMC 17.56 – *Conditional Uses*

2. Site Plan and Design Review-

- ☐ OCMC 17.50 – *Administrative Processes*
- ☐ OCMC 17.62 – *Site Plan and Design Review*
- ☐ OCMC 17.62.055 - *Institutional and Commercial Building Standards*
- ☐ OCMC 17.52 – *Off Street Parking*
- ☐ OCMC 17.41 – *Tree Protection*
- ☐ ~~OCMC 12.04 – *Streets, Sidewalks and Public Places*~~ N.A. already existing
- ☐ ~~OCMC 12.08 – *Public and Street Trees*~~ N.A. already existing

Comments: see attached memo from Peter Walter

2. ENGINEERING - See attached comments from Gordon Monro

A. Grading: OCMC 15.48
B. Drainage: OCMC 13.12
C. Sanitary Sewer: OCMC 13.08
D. Water: OCMC 13.04
E. Right-of-Way Dedication/Easements: N/A
F. Street Improvements (including continuation of existing streets within subdivisions): N/A all existing
G. Special Analysis (traffic study, geotechnical study, EIS): TIA see John Replinger comments attached
~~H. Development Impact Statement required with Subdivision applications.~~
I. TSP compliance (Connectivity, Street Widths, etc.): TIA

Other: _____

3. BUILDING - SAMANTHA VANNDAGRIFF

A. Proposed Construction Type: Modular Complex
B. Number of Stories: _____
C. Square Footage: ~ 8000 SF/
D. Number of Buildings: _____
E. Type of Occupancy: _____
F. Fire Sprinklers: _____
G. Valuation (estimate): $_____
H. Fire/Life Safety Required: Yes _____ No _____

4. FIRE - CCFD # 1 -

A. Fire Flow Requirements (gallons per minute): _____
B. Location/Number of Hydrants: _____
C. Access Requirements: _____
D. Other: _____

OTHER COMMENTS:

NOTICE TO APPLICANT: A property owner may apply for any permit they wish for their property. HOWEVER, THERE ARE NO GUARANTEES THAT ANY APPLICATION WILL BE APPROVED. No decisions are made until all reports and testimony have been submitted. This form will be kept by the Community Development Department . A copy will be given to the applicant. ***If the applicant does not submit an application within six (6) months from the Pre-application Conference meeting date, a NEW Pre-Application Conference will be required.***

Our Web Site is www.orcity.org

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

MEMORANDUM

To: Rick Givens – Planning consultant, Ted Thonstad - OCSD
From: Pete Walter, AICP, Associate Planner
Re: PA 12-20 Gardiner Middle School Modular
Date: October 9, 2012

APPLICATION ITEMS TO ADDRESS

- Rivercrest Neighborhood Association Meeting required prior to submittal. Contact Kattie Riggs, staff liaison to the Neighborhood Associations, to set up the meeting.
  - Kriggs@orcity.org (503) 657-0891 at City Hall
- Provide scaled site plans per 17.62.040 - Plans required.
- Provide a pedestrian circulation plan
- Provide scaled plans of all façade elevations.
- Provide colors and materials.
- Provide a scaled landscaping plan prepared by licensed Landscape Architect.
- Provide a Traffic Impact Analysis (TIA) – *See attached email from John Replinger*
- Provide a parking analysis based on total number of classrooms existing and proposed.

CODE TO ADDRESS IN WRITTEN RESPONSES IN APPLICATION:

R-6 Zone District
http://library.municode.com/HTML/16540/level2/TIT17ZO_CH17.06ZODICL.html

Conditional Use Chapter 17.56 - CONDITIONAL USES
http://library.municode.com/HTML/16540/level2/TIT17ZO_CH17.56COUS.html

Chapter 17.52 - Off-Street Parking and Loading
17.52.020 - Number of automobile spaces required.

Use	Min	Max
Elementary/Middle School	1 per classroom	1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium

- Please confirm number of spaces

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Chapter 17.62 - SITE PLAN AND DESIGN REVIEW

17.62.050 - Standards. Please address all applicable standards A (1) through (22).

Unless the community development director determines otherwise, a variance will be required from various site Plan and Design Review requirements. Standards that may require a variance include the following:

17.62.055 - Institutional and commercial building standards.

D. Relationship of Buildings to Streets and Parking.

1. Buildings shall be placed no farther than five feet from the front property line.

2. The front most architecturally significant facade shall be oriented toward the street.

G. Variation in Massing.

H. Minimum Wall Articulation.

I. Facade Transparency.

Please provide elevations drawings of all facades in order for staff to determine compliance with the sections cited above, and to determine whether a variance is required from the applicable section of code.

Chapter 17.60 - VARIANCES

For each design review variance sought (see 17.62.055 above), please explain how the variance criteria listed in 17.60.030 - Variance—Grounds. are met.

ENGINEERING / DEVELOPMENT SERVICES DIVISION COMMENTS

Please see attached comments from Gordon Monro, P.E. GordonMunro@KennedyJenks.com

TRANSPORTATION COMMENTS

Please see attached comments from John Replinger, P.E. replinger-associates@comcast.net

BUILDING DIVISION COMMENTS

Contact Samantha Vandagriff, Commercial Plans Examiner svandagriff@orcity.org.

CCFD#1 COMMENTS

Contact Mike Boumann, Lt. Deputy District Fire Marshall michaelbou@CCFD1.com

Pete Walter

From: replinger-associates@comcast.net
Sent: Monday, October 08, 2012 7:47 PM
To: Pete Walter
Subject: Re: PA-12-20: Pre-application conference for Gardiner Middle School modular classrooms / restrooms.

Pete:

The applicant's traffic engineer should refer to the City's Guidelines for Transportation Impact Analyses. The applicant's traffic engineer should feel free to contact me if he/she has questions.

Because of the size of the planned expansion, I think it is highly likely that a Transportation Impact Analysis (TIA), rather than a Traffic Analysis Letter, will be required. A TIA is required if the peak hour trip generation exceeds 25 or if the daily trip generation exceeds 250.

The applicant is required to analyze operations at intersections where the project is predicted to cause an increase of 20 or more vehicles during a peak hour. The applicant's traffic engineer can discuss these with me after calculating the trip generation from the proposed expansion. I think candidate intersections that may require analysis are: Linn/Hood; Linn/Ethel; Leonard/Holmes; and Linn/Holmes.

Due to the timing of activities at the school, two time periods will need to be analyzed: the AM peak hour and the end of the school day. The PM peak hour need not be analyzed.

The applicant's traffic engineer should devote careful attention to operational issues at the site including the site driveways, parking, and drop-off locations for both school buses and private vehicles. Access to the school for buses, motor vehicles, bicyclists and pedestrians should be addressed.

Please let me know if you have questions.

John Replinger, PE
Replinger & Associates LLC
6330 SE 36th Avenue
Portland, OR 97202
503-719-3383
replinger-associates@comcast.net

From: "Pete Walter" <pwalter@ci.oregon-city.or.us>
To: "Adam Crafts" <acrafts@ci.oregon-city.or.us>
Cc: "John Replinger" <replinger-associates@comcast.net>
Sent: Thursday, September 20, 2012 11:47:11 AM
Subject: PA-12-20: Pre-application conference for Gardiner Middle School modular classrooms / restrooms.

When: Tuesday, October 09, 2012 10:00 AM-11:00 AM (GMT-08:00) Pacific Time (US & Canada).

Taxlot Detail Report

Taxlot: 3-2E-06AD-07800



Overview Map



Taxlot highlighted in blue

Taxlot Information

APN: 3-2E-06AD-07800
Alt ID: 00852679
Site Address: 180 ETHEL ST
OREGON CITY, OR 97045
Year Built: 0

Taxpayer Information

Taxpayer: OREGON CITY SCH DIST #62
Address: PO BOX 2110
OREGON CITY, OR 97045

Reference Information

Parcel Area (acres - approx): 18.2
Parcel Area (sq. ft. - approx): 794,534
Twn/Rng/Sec: 03S 02E 6
Tax Map Reference: 32E06AD

Values

Values as of: 12/15/2011
Land Value (Mkt): $647,107
Building Value (Mkt): $5,454,050
Exempt Amount: $0
Net Value (Mkt): $6,101,157
Note: The values above are Market, NOT Assessed values.
Assessed Value: $6,101,157

Planning Designations

Zoning: R6
- 6,000 Single Family Dwelling District

Comprehensive Plan: qp
- Public/Quasi-Public

Subdivision: NONE
PUD (if known):
Neighborhood Assn: Rivercrest NA
Urban Renewal District:
Historic District:
Historic Designated Structure? N
In Willamette Greenway? N
In Geologic Hazard? N
In Nat. Res. Overlay District (NROD)? N
In 1996 Floodplain? N

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.

Report generated 9/17/2012 4:48 PM

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

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

PRE-APPLICATION MEETING NOTES
September 24, 2012

Project Number: PA 12-20
Project Name: Gardiner Middle School Addition
Meeting Date: October 9th, 2012

The following items may be addressed at the pre-application meeting:

GENERAL COMMENTS

1. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements.
2. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement.
3. The Applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval.
4. All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance for increased square footage, if any, and Park and Bike/Pedestrian SDCs for the full extent of the building's square footage.
5. A grading permit shall be obtained from Development Services for the on-site work.

UTILITIES

1. The existing water mains are located within easements as noted on the attached map. – forward to Rick Gruss
2. The proposed addition will require relocation of the existing 8-inch and 12-inch water mains.
3. The access road around the school buildings will also need to be relocated. This road also serves as access to the water line and fire hydrants.
4. The existing easements will need to be modified or replaced with new easements to include the relocated portions of the water main. The access easement will also need to be reviewed to determine if it needs to be modified as well.

OREGON CITY

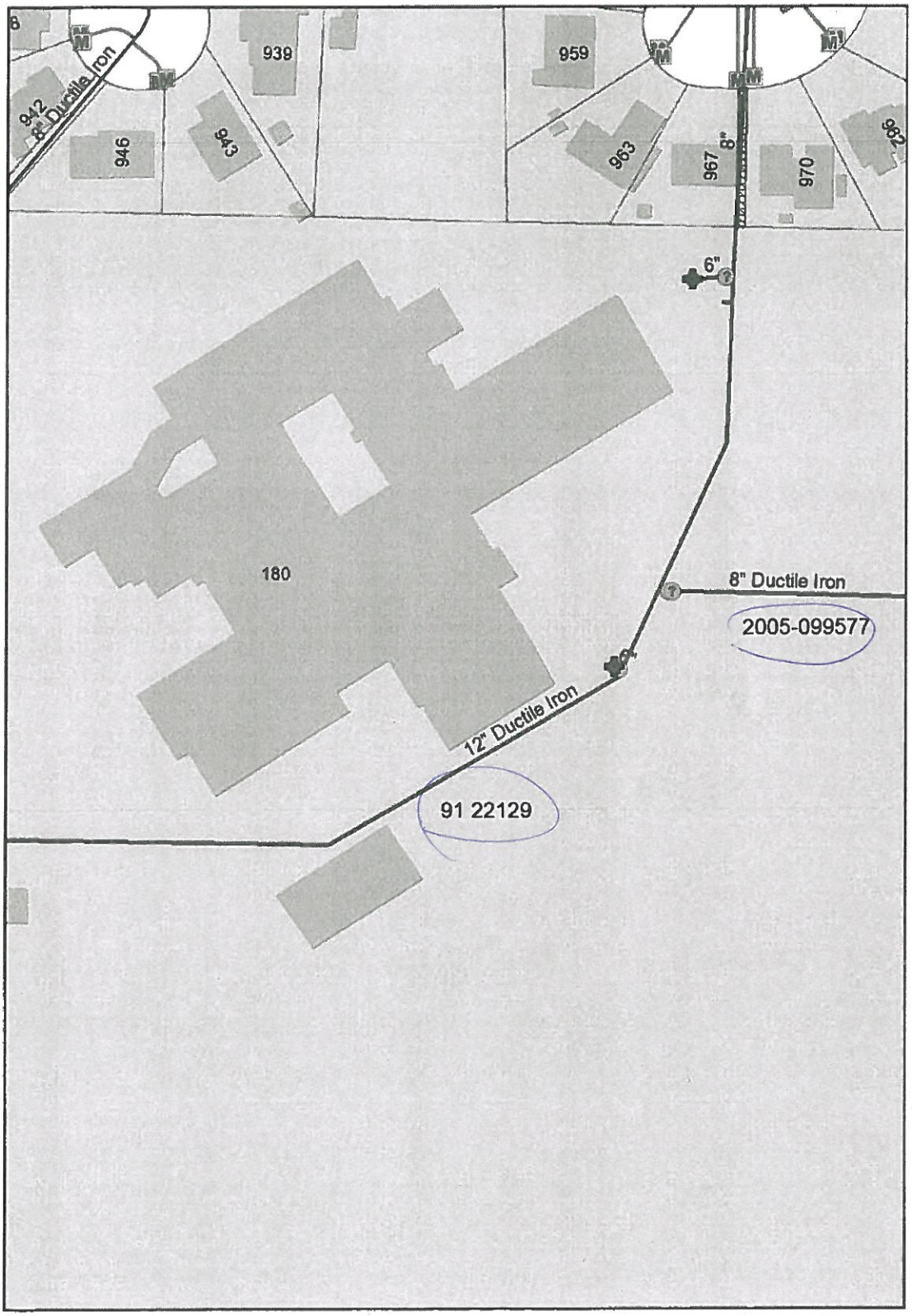
Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

5. The proposed improvements will increase the amount of impervious area on the site. A Drainage Report will be required. ~ 8000 SF of additional.

6. There is a private storm pipe on the property in the vicinity of the proposed improvements, and it discharges to the public system. It does not appear that the line will be affected by the improvements, but it should be checked. If drainage from the proposed improvements is directed to this facility, then detention may be required as it discharges to the public system.

Gardiner MS Waterline Easements

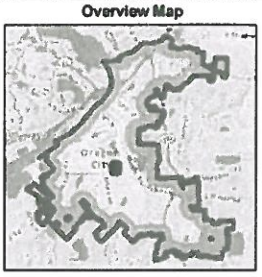


Legend

- City Limits
- UGB
- Taxlots
- Unimproved ROW
- Hydrants
- Meters
  - Meters (Type missing)
  - Service Meter
  - Master Meter
- Valves
  - Unclassified
  - Valves
  - Pressure Reducing Valves
- Sampling Stations
- Vaults
- Pipes - OC
- Pipes - South Fork
- Pipes - CRWD
- Pipes - West Linn
- Pipes - Private
- Pipes - Abandoned
- Service Taps
- Reservoirs
- South Fork Facilities
  - Filter Plant
  - Intake
- Pump Stations

Notes

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.

N

0 116 Feet

1: 1,391

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
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OREGON CITY

Map created 9/18/2012

OREGON CITY

Public Works

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

Oregon City System Development Charges

Estimate

Estimate #/Building Permit	
Applicant	OCSD
Site Address	180 Ethel St: Gardiner Middle School
Building/Tenant SF/Units	8,192 SF Modular with 6 to 8 classrooms (120-160 students)
Gross Land Area	n/a
Water Meter / Service Size	n/a but if needed see atch Water Meter Summary
Type of Occupancy	Middle School
Intended Use Category	Cond Use

Transportation 120 students X $1089 = **$130,680.00**

Bike/Ped 120 Students X $41.99 = **$5,039.00**

OC Sanitary Sewer/Tri-City (City collects for TCSD SDC) 120 students/29 students per EDU = 4.14

OC: 4.14 EDU X $1,775.20* = **$7,349.00**

TCSD: 4.14 EDU X $2,020.00* = **$8,363.00**

* **Stormwater** ERU = ARN X DIF

sf / 5,000 sf per ARN = ARN (rounded). DIF for = ERU = X = X $674.34* = **$0.00**

OC Water/SFWB (City collects for South Fork Water Board SDC) See Water Meter Summary if needed

OC - -inch meter = EDU X $3,247.79* =

SFWB - -inch meter = EDU X $1,410.83* =

Parks SIC is Services/Education= 1300 sf per employee.

8192 sf / 1300 sf =6.28 (rounded) X $232.98/emp = **$1,463.00**

* OC Sanitary Sewer = $1600 (basic) X 1.1095 adjustment factor = $1,775.20
Stormwater = $494.24 (basic) X 1.3644 adjustment factor = $674.34
OC Water = $2820 (basic) X 1.1517 adjustment factor = $3,247.79
South Fork Water Board (SFWB) Water = $1225 (basic) X 1.1517 adjustment factor = $1,410.83

TOTAL ESTIMATED SDC FEES BY AGENCY
THIS ESTIMATE IS FOR ONE SINGLE MODULAR OF 8,192 SF, AND 120 STUDENTS WITHOUT ANY NEW WATER METER

OC	**$144,531.00**
SFWB	**$ 0.00**
TCSD	**$8,363.00**
TOTAL	**$152,894.00**

Development Services Manager Date 9/20/12

City Engineer Date

PRESERVING OUR PAST, BUILDING OUR FUTURE

Sign in Sheet

Meeting 10/20/2012

Name	E-Mail Address	telephone #
Don Thomas	DRAGON@ARACNET.COM	503-657-9197
Lesley Krueger		503-656-4916
Vern Bultsma	VBUTTOLPH@COMCAST.NET	LSG 5057
Cheryl Cuttle	JCuttle40@comcast.Net	503-656-1674
Patty Brown	12221221@Comcast.Net	503 655-021.
Eileen Olsen		
Ted Thonstad	ted.thonstad@oreaty.k12.or.us	503-785-8421
Susan Nungesser	snungesser110@aol.com	561 346 3943
Debra Sahleen	sandrider@msn.com	503 887 348;

Gardiner Middle School
Modular Classroom Project
Neighborhood Meeting Notes
October 18, 2012

Rick Givens, planning consultant, and Ted Thonstad of Oregon City School District attended the October 18, 2012 meeting of the Rivercrest Neighborhood Association to explain the proposed modular classroom addition at Gardiner Middle School. The meeting had been arranged via mutually agreeable e-mail correspondence with Rivercrest Neighborhood Association officers.

Rick Givens presented the project using a colored site plan to show the conceptual layout of the modular classroom addition. He explained that Oregon City School District was proposing the project in order to move sixth graders from the former Mt. Pleasant Elementary School site to the Gardiner Middle School campus starting in fall of 2013. The project is proposed both as a cost-savings measure and as a means of addressing federal programs that support middle schools that serve grades 6 through 8. Mr. Givens explained the land use process that would be needed in order to process the application through the City of Oregon City. Applications that will be sought include conditional use approval, site plan and design review and several variances.

Ted Thonstad explained that the project is proposed both as a cost-savings measure and as a means of addressing federal programs that support middle schools that serve grades 6 through 8. He also explained that there is not sufficient capacity at Gardiner to provide for the change without adding classroom space. Mt. Pleasant is a temporary use and the District is exploring options for its future use.

Several neighbors asked questions:

- Traffic speed is a concern on local streets that access the school
- How much are the cost savings?
- Will the modular building be permanent? Mr. Thonstad explained that the building is designed as a modular structure composed of several sections and that, although more expensive than typical modular classrooms, this would actually be a modular building. The intent is that it be permanent and that this design would have reduced operational costs and maintenance costs vs. traditional modular classroom units.
- A question was asked about the potential to use King Elementary to meet 6th grade needs. Mr. Thonstad explained that King is being used for 2 charter schools.
- A question was asked about continuing to use Mt. Pleasant Elementary for the 6th graders. Mr. Thonstad explained that the District is considering leasing or selling the building and that alternative uses are under discussion but have not been finalized. Having the 6th graders on the same campus as the 7th and 8th graders is consistent with District plans and it allows for better educational program development.

- A question was asked about whether King and Mt. Pleasant would be needed in the future. Mr. Thonstad explained that District enrollment is declining. Further, small elementary schools are not economically viable.
- A question was asked whether there would be bus service and Mr. Thonstad explained that there would be.

Your Rivercrest Neighborhood Meeting

Guest Speakers:

- Scott Archer, Community Services Director for the City of Oregon City—Presentation regarding Rivercrest Park Restroom project
- Oregon City School District—Presentation regarding modulars at Gardner Middle School

Interested in more information about Rivercrest Neighborhood Association please contact the Chair, Diane McKnight, at jdmcknight2@juno.com or 503-656-6435.

Meeting Location

The First Presbyterian Church
1321 Linn Ave, Oregon City, OR

Thursday, October 18, 2012 @ 7:00 PM

Please Note: This meeting is in lieu of the Nov. meeting, so there will not be a Nov. meeting.

Your Rivercrest Neighborhood Meeting

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- Oregon City School District—Presentation regarding modulars at Gardner Middle School

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Rivercrest Neighborhood

c/o PO Box 3040
Oregon City, OR 97045

Neighborhood Meeting

Thursday, October 18, 2012
@ 7:00 PM

The First Presbyterian Church
1321 Linn Avenue, Oregon City

Rivercrest Neighborhood

c/o PO Box 3040
Oregon City, OR 97045

Neighborhood Meeting

Thursday, October 18, 2012
@ 7:00 PM

The First Presbyterian Church
1321 Linn Avenue, Oregon City

Pabco Premier Architectural Shingle
see brochure sample

Benjamin Moore Paint
Body color: Bare Harbor Beige (See brochure)
Trim color: Alexandria Beige (See brochure)
Roofing color: Pewter Gray (See brochure)

Colors depict in this drawing are representive only please refer to the provided brochres for accurate color representation

4" in 12"
sloped roof



White vinyl frame
windows 5'x4'

Hardie Plank Lap siding as
main siding product
See provided Brochure

Hardie Stucco Panel Above
and below all windows

Concrete Foundation

HardiePlank® lap siding is the most popular brand of siding in America and can be found on over 5.5 million homes. With its strength, beauty and durability, HardiePlank® siding enhances and protects homes in all kinds of climates—and now, with the HardieZone® System, James Hardie provides siding with specific performance attributes relative to the climate where the product is being used. James Hardie now gives you the optimum siding for your home and climate, regardless of location.

All HardiePlank® lap siding comes in a variety of looks and textures, all of which are engineered for climate. We are so sure about how well the HardieZone system will perform, HardiePlank® lap siding comes with a 30-year nonprorated, transferable, limited warranty—our strongest warranty ever.

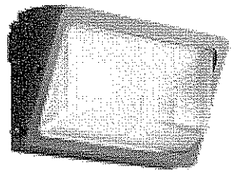
Premier Advantage®
is the heavyweight alternative to traditional laminated fiberglass shingles. Designed with a distinctive palette inspired by the colors found in nature, Premier Advantage is often installed on structures in demanding climates -
from beachfront estates to mountain cabins. Premier Advantage features up to a Limited Lifetime Warranty* for single family
residential structures and a 50-year fully transferable Limited Warranty* for all other structures. All Premier Advantage colors
are available with the Scotchgard
TM
Algae Resistant Roofing System**, which warrants that your roof will remain algae resistant
for 20 years. Give your roof the advantage, the Premier Advantage.

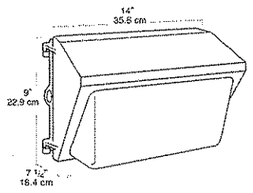
WP2F84

Mid sized wallpack. All aluminum precision die cast construction with tempered glass refractor. Lamp supplied.

Color: Bronze

Weight: 10.9 lbs





Lamp Info

Type:	2-42W Triple
Watts:	84W
Shape/Size:	N/A
Base:	N/A
ANSI:	N/A
Hours:	12,000
Lamp Lumens:	6,400
Efficacy:	69 LPW

Ballast Info

Type:	Elec HPF QT
120V:	0.78
208V:	0.5
240V:	0.5
277V:	0.33
Input Watts:	93W
Efficiency:	90%

Technical Specifications

UL Listing:
Suitable for wet locations. HID fixtures can be wired with 90°C supply wiring if supply wires are routed 3" away from ballast.

Housing:
Die cast aluminum, 1/2" NPS tapped holes top, both sides and back for conduit or photocontrol. Hinged refractor frame. Continuous silicone rubber gasket.

Reflector:
Specular anodized aluminum, removable for installation. Symmetrical light pattern maximizes distance between fixtures.

Cutoff Lens:
Tempered glass.

Refractor:
Prismatic optics designed to minimize glare and throw light down and out. Heat resistant borosilicate glass.

Finish:
Chip and fade resistant polyester powder coating.

Patents:
RAB sensor and fixture designs are protected under U.S. and International Intellectual Property laws

Ballast Minimum Starting Temperature:
0°F

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Note: Specifications are subject to change without notice

Arrangement

Single

Arm : 0 ft

Offset : -- ft

Layout

	Cols (X)	Rows (Y)	
Layout :	1	4	
Spacing :	10	30	ft

Mounting Height : 9 ft

Orient : 0 deg

Tilt : 0 deg

Statistical Analysis

Illuminance Values

Average : 0.27 fc

Maximum : 7.75 fc

Minimum : 0.00 fc

Avg/Min Ratio : N.A. fc

Max/Min Ratio : N.A. fc

Max/Avg Ratio : 28.42 fc

Lighting Power Density

LPD : 0.013 W /ft^2

LPD Area : 25921 ft^2

LPD Watts : 336 W

Total Watts : 336 W

Luminaire Location Summary

N	Arrangement	Lum #	X	Y	Z	Orient	Tilt	Tilt Factor
1	Single		0.0	-45.0	9.0	0	0	
		1	0.0	-45.0	9.0	0	0	1.000
2	Single		0.0	-15.0	9.0	0	0	
		1	0.0	-15.0	9.0	0	0	1.000
3	Single		0.0	15.0	9.0	0	0	
		1	0.0	15.0	9.0	0	0	1.000
4	Single		0.0	45.0	9.0	0	0	
		1	0.0	45.0	9.0	0	0	1.000

Date : 15 Feb 2013

Title : Enter the title here...

Desc : Enter the description here...

For : Client's name or company...

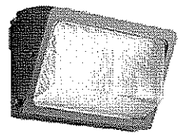
By : Your name or company...

Luminaire

IES Filename : t21719t.ies

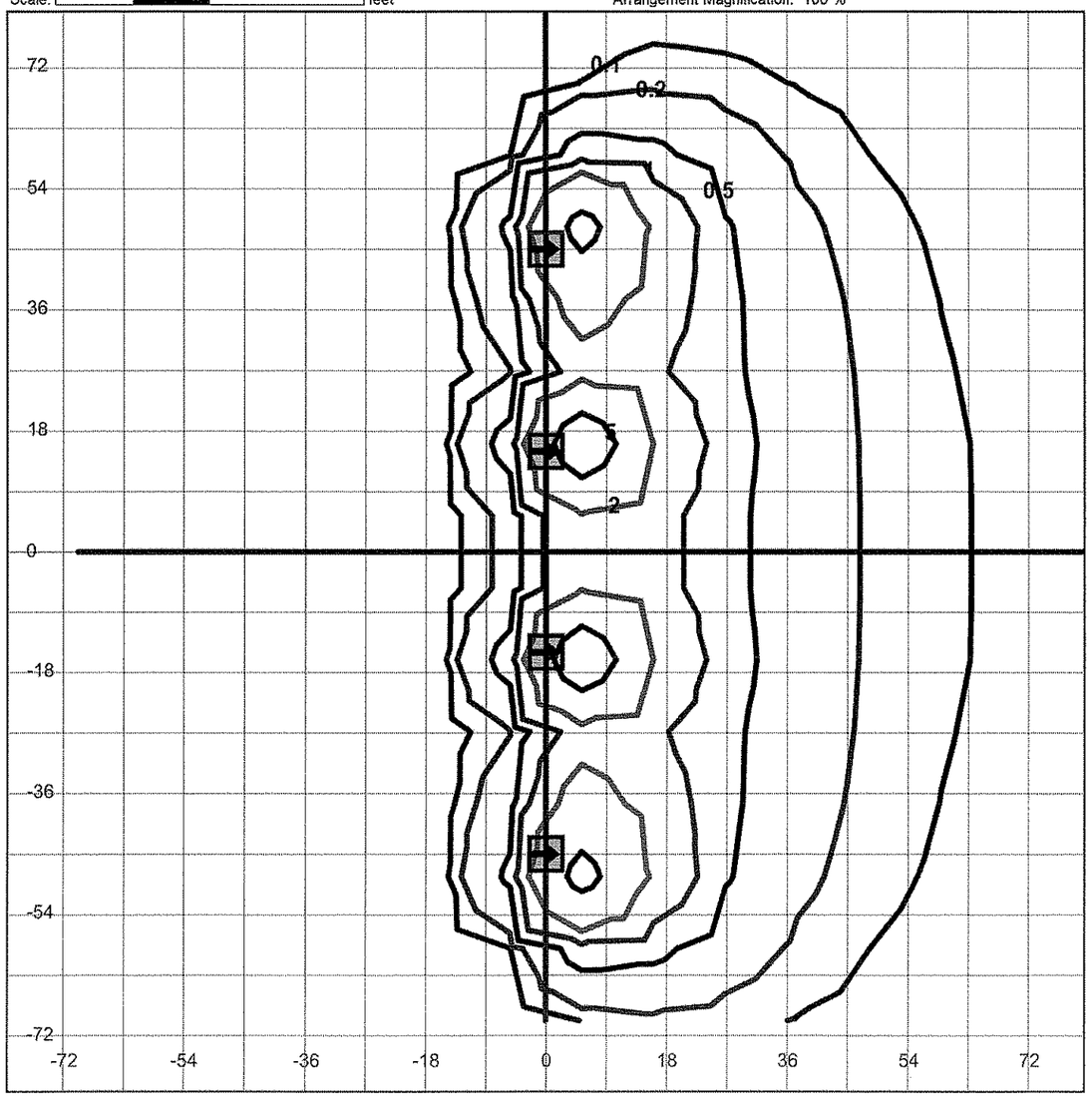
Description : WP2F84
WITH DIFFUSE REFLECTOR AND PRISMATIC WRAP
GLASS LENS
TWO PHILIPS 42 WATT CFL LAMPS

Light Loss Factor : 1.00
Number of Lamps : 1
Lamp Lumens : 6400 lms
Luminaire Watts : 84 W



Scale: 0 23 46 feet

Arrangement Magnification: 100 %



Arrangement

Single

Arm : 0 ft

Offset : -- ft

Layout

	Cols (X)	Rows (Y)	
Layout :	1	1	
Spacing :	10	30	ft

Mounting Height : 9 ft

Orient : 0 deg

Tilt : 0 deg

Statistical Analysis

Illuminance Values

Average : 0.17 fc

Maximum : 6.06 fc

Minimum : 0.00 fc

Avg/Min Ratio : N.A. fc

Max/Min Ratio : N.A. fc

Max/Avg Ratio : 36.02 fc

Lighting Power Density

LPD : 0.008 W /ft^2

LPD Area : 11025 ft^2

LPD Watts : 84 W

Total Watts : 84 W

Luminaire Location Summary

N	Arrangement	Lum #	X	Y	Z	Orient	Tilt	Tilt Factor
1	Single		0.0	0.0	9.0	0	0	
		1	0.0	0.0	9.0	0	0	1.000

RAB LIGHTING

Date : 15 Feb 2013

Title : Enter the title here...

Desc : Enter the description here...

For : Client's name or company...

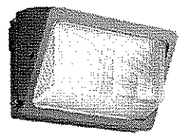
By : Your name or company...

Luminaire

IES Filename : t21719t.ies

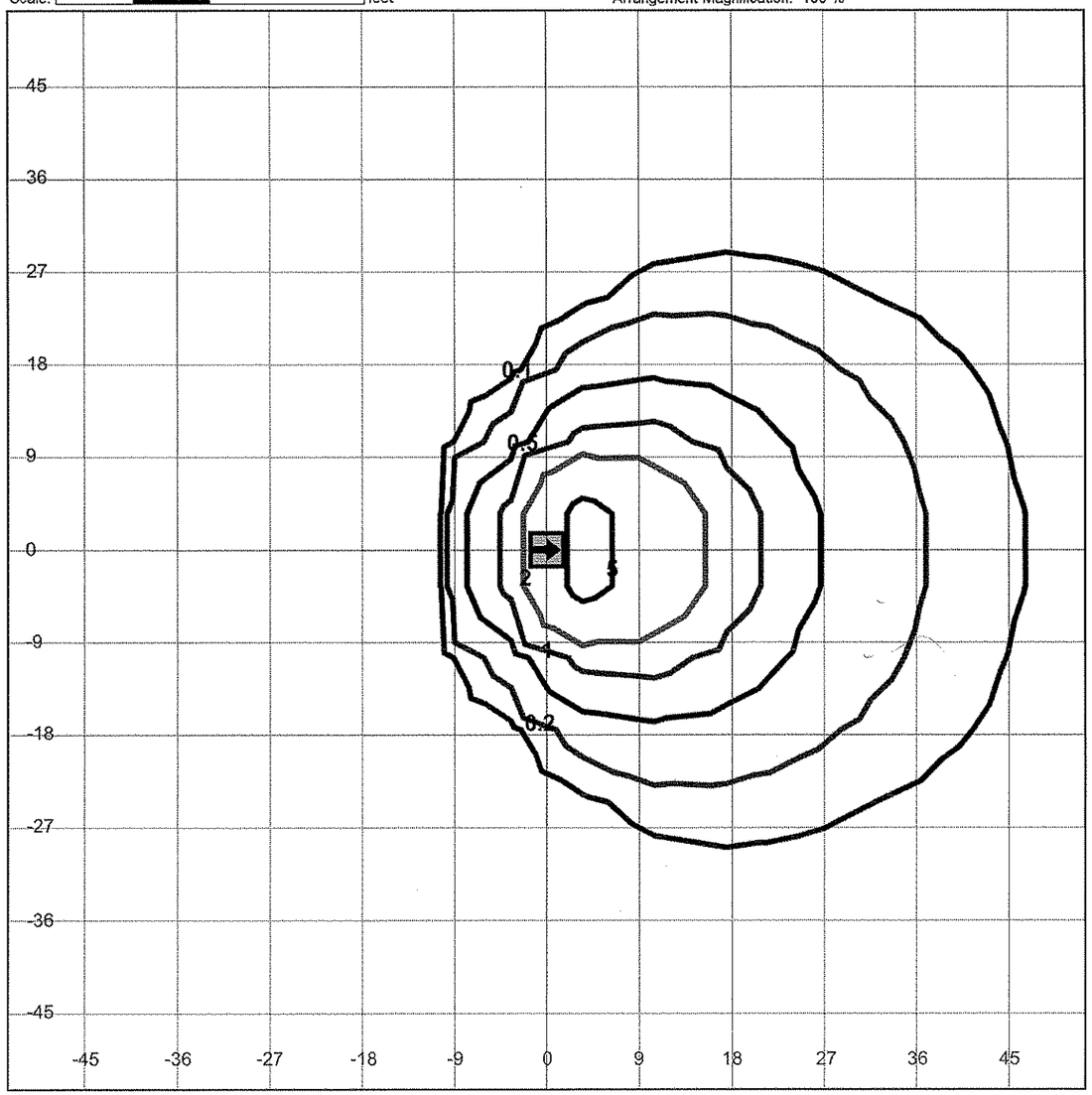
Description : WP2F84
WITH DIFFUSE REFLECTOR AND PRISMATIC WRAP
GLASS LENS
TWO PHILIPS 42 WATT CFL LAMPS

Light Loss Factor : 1.00
Number of Lamps : 1
Lamp Lumens : 6400 lms
Luminaire Watts : 84 W



Scale: 0 15 30 feet

Arrangement Magnification: 100 %

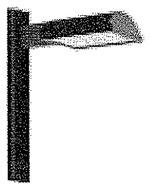


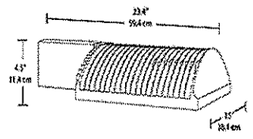
ALED4T78

Specification Grade Area lights available in IES Type II, III and IV distributions. For use in parking lots, roadways, pathways and general area lighting. Mounts to 4" square steel poles at 15-25'. Designed to replace 250W Metal Halide Area Lights. Patent Pending thermal management system. 5 Year Warranty.

Color: Bronze

Weight: 31.0 lbs





LED Info

Watts:	78W
Color Temp:	5100K (Cool)
Color Accuracy:	68
L70 Lifespan:	100000
LM79 Lumens:	5,456
Efficacy:	60 LPW

Driver Info

Type:	Constant Current
120V:	0.78 A
208V:	0.50 A
240V:	0.44 A
277V:	0.38 A
Input Watts:	91W
Efficiency:	86%

Technical Specifications

UL Listing:
Suitable for wet locations as a downlight.

Lumen Maintenance:
100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

IES Classification:
The Type IV distribution (also known as a Forward Throw) is especially suited for mounting on the sides of buildings and walls, and for illuminating the perimeter of parking areas. It produces a semiCircular distribution with essentially the same candlepower at lateral angles from 90° to 270°.

Effective Projected Area:
EPA = 0.75

LEDs:
Six (6) multi-chip, 13W, high-output, long-life LEDs

Drivers:
Three drivers, constant current, Class 2, 100 - 277V, 50 - 60 Hz, 100 - 277VAC .04 Amps.

Fixture Efficacy:
60 Lumens per Watt

Ambient Temperature:
Suitable for use in 40°C ambient temperatures.

Surge Protection:
6 KV

Cold Weather Starting:
The minimum starting temperature is -40°F/-40°C

Thermal Management:
Superior heat sinking with external Air-Flow fins.

Housing:
Die cast aluminum housing, lens frame and mounting arm.

Color Stability:
RAB LEDs exceed industry standards for chromatic stability.

Color Accuracy:
68 CRI

Color Temperature (Nominal CCT):
5100K

Color Uniformity:
RAB's range of CCT (Correlated color temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2008.

Reflector:
Specular aluminum.

Gaskets:
High temperature silicone gaskets.

Finish:
Chip and fade resistant polyester powder coat finish.

Green Technology:
Mercury and UV free.

IESNA LM-79 & IESNA LM-80 Testing:
RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

Replacement:
The ALED78 replaces 250W Metal Halide Area Lights.

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Arrangement

Single

Arm : 3 ft

Offset : -- ft

Layout

	Cols (X)	Rows (Y)	
Layout :	1	1	
Spacing :	10	10	ft
Mounting Height :	15		ft
Orient :	0		deg
Tilt :	0		deg

Statistical Analysis

Illuminance Values

Average :	0.13 fc
Maximum :	4.82 fc
Minimum :	0.00 fc
Avg/Min Ratio :	N.A. fc
Max/Min Ratio :	N.A. fc
Max/Avg Ratio :	38.35 fc

Lighting Power Density

LPD :	0.002 W /ft^2
LPD Area :	38416 ft^2
LPD Watts :	78 W
Total Watts :	78 W

Luminaire Location Summary

N	Arrangement	Lum #	X	Y	Z	Orient	Tilt	Tilt Factor
1	Single		0.0	0.0	15.0	0	0	
		1	3.0	0.0	15.0	0	0	1.000

RAB LIGHTING

Date : 20 Dec 2012

Title : Enter the title here...

Desc : Enter the description here...

For : Client's name or company...

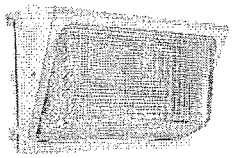
By : Your name or company...

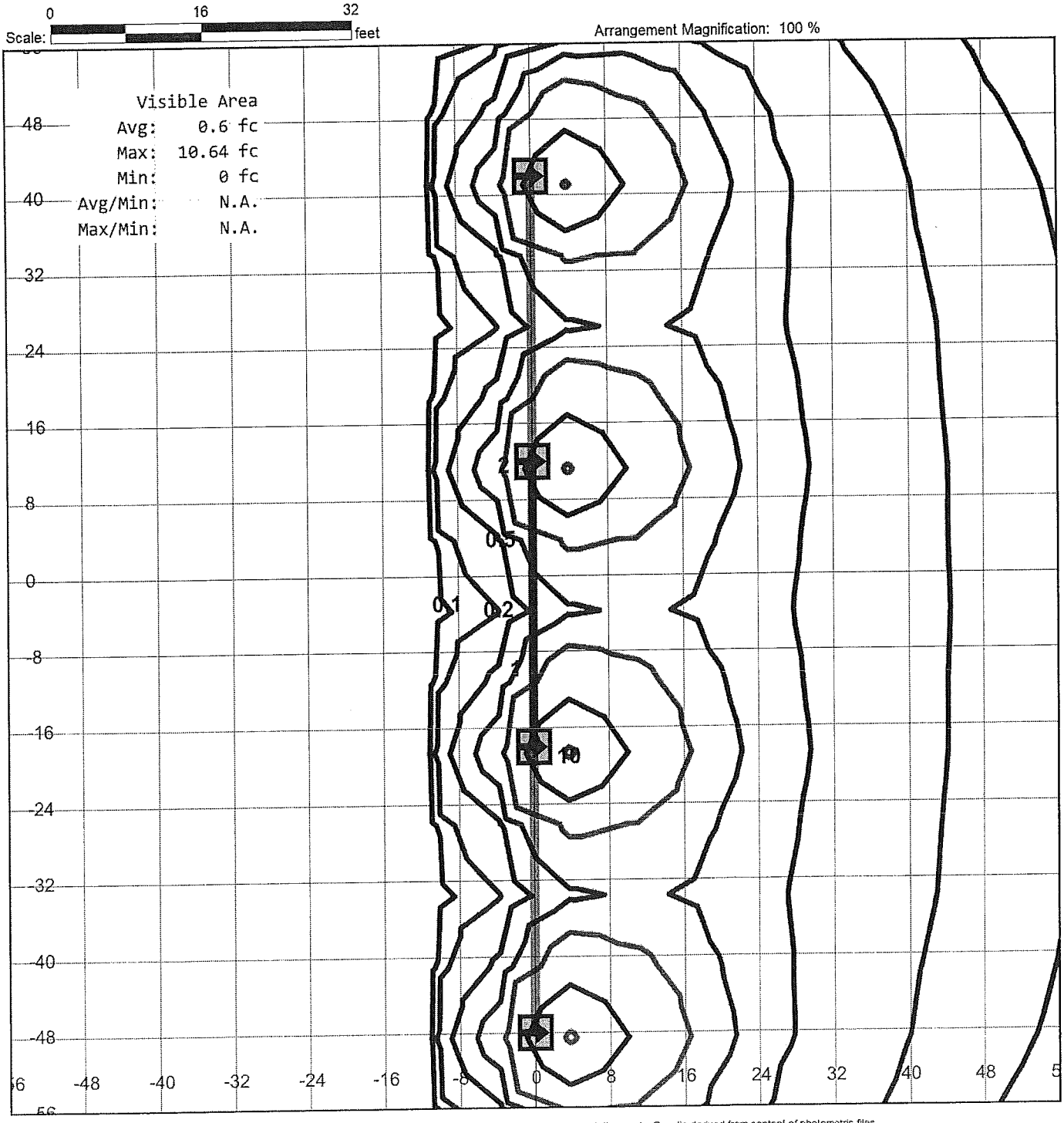
Luminaire

IES Filename : t21719t.ies

Description : WP2F84
WITH DIFFUSE REFLECTOR AND PRISMATIC WRAP
GLASS LENS
TWO PHILIPS 42 WATT CFL LAMPS

Light Loss Factor : 1.00
Number of Lamps : 1
Lamp Lumens : 6400 lms
Luminaire Watts : 84 W





RAB LIGHTING

Arrangement

4 Side-By-Side

Arm : 0 ft

Offset : 30 ft

Layout

	Cols (X)	Rows (Y)	
Layout :	Varies	Varies	
Spacing :	Varies	Varies	ft

Mounting Height : 8 ft

Orient : 0 deg

Tilt : 0 deg

Statistical Analysis

Illuminance Values

Average :	0.60 fc
Maximum :	10.64 fc
Minimum :	0.00 fc
Avg/Min Ratio :	N.A. fc
Max/Min Ratio :	N.A. fc
Max/Avg Ratio :	17.87 fc

Lighting Power Density

LPD :	0.027 W /ft^2
LPD Area :	12544 ft^2
LPD Watts :	336 W
Total Watts :	336 W

Luminaire Location Summary

N	Arrangement	Lum #	X	Y	Z	Orient	Tilt	Tilt Factor
1	4 Side-By-Side		0.0	-3.0	8.0	0	0	
		1	0.0	42.0	8.0	0	0	1.000
		2	0.0	12.0	8.0	0	0	1.000
		3	0.0	-18.0	8.0	0	0	1.000
		4	0.0	-48.0	8.0	0	0	1.000

KEYED NOTES:

① –

CLED 2x18
under Canopy every 10'
(7) Total

RAB WP 2F 84
@ (2) Locations

RAB ALED 4T 78 – Single – 3' Arm
Pole Location – 15' Pole Height

RAB WP 2F 84
@ (1) Location

RAB WP 2F 84 @ (4) Locations

Slim 18

Slim 18

10'

10'

10 – 15'

30'

30'

30'

EXISTING GARDINER MIDDLE SCHOOL

PROPOSED MODULAR EXPANSION FFE = 474.75

1 C1.1 ENLARGED GRADING PLAN 1" = 10'

2 C1.1 ENLARGED GRADING PLAN 1" = 10'

10 0 5 10 20
(FEET)
1 INCH = 10 FT

OREGON CITY PUBLIC SCHOOLS
GARDINER MIDDLE SCHOOL
MODULAR CLASSROOM EXPANSION

ZBINDEN • CARTER • SOUDERS
ENGINEERING
525 Main Street - Suite 002, Oregon City, OR 97045
(503) 557-2000

PROJECT NO.	P-1765-12
DRAWN:	JDM
CHECKED:	DSS
DATE:	12-27-12

REGISTERED PROFESSIONAL ENGINEER
STATE OF OREGON
JEFFREY D. SOUDERS
JULY 21, 2004
PRELIMINARY NOT FOR CONSTRUCTION
EXPIRES: 6-30-14

ENLARGED GRADING PLAN

C1.1

SCHEMATIC DESIGN – NOT FOR CONSTRUCTION

Date : 15 Feb 2013

Title : Enter the title here...

Desc : Enter the description here...

Luminaire

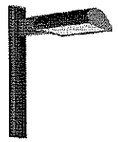
IES Filename : itl69952.ies

Description : ALED4T78 / ASLED4T78X / WPLED78
CAST FINNED METAL HOUSING, SIX CIRCUIT
BOARDS EACH WITH ONE
SIX WHITE MULTI-CHIP LIGHT EMITTING

For : Client's name or company...

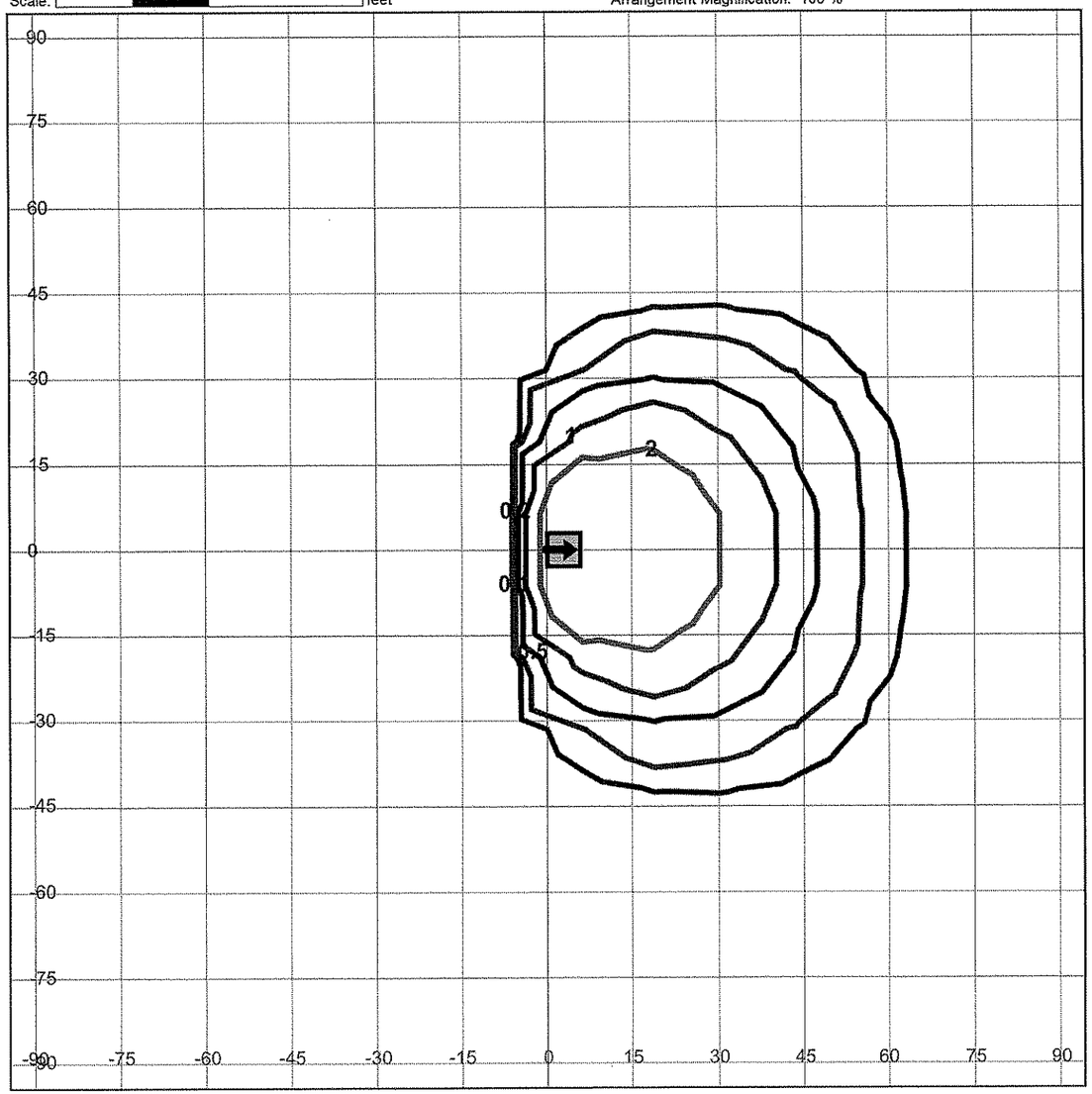
By : Your name or company...

Light Loss Factor : 1.00
Number of Lamps : 6
Lamp Lumens : -1 lms
Luminaire Watts : 78 W



Scale: 0 27 54 feet

Arrangement Magnification: 100 %



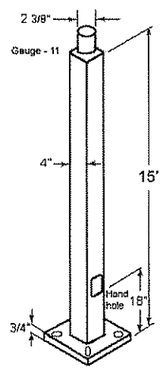
PS4-11-15WT

Square steel poles with welded tenon included for use with floodlights. Designed for ground mounting. Poles are stocked nationwide for quick shipment. Protective packaging ensures poles arrive at the job site good as new.

Color: Bronze

Weight: 134.0 lbs





Lamp Info

Type:	N/A
Watts:	0W
Shape/Size:	N/A
Base:	N/A
ANSI:	N/A
Hours:	0
Lamp Lumens:	0
Efficacy:	N/A

Ballast Info

Type:	N/A
120V:	N/A
208V:	N/A
240V:	N/A
277V:	N/A
Input Watts:	0W
Efficiency:	N/A

Technical Specifications

Shaft:
46,000 p.s.i. minimum yield

Hand Holes:
Reinforced with grounding lug and removable cover.

Base Plates:
Slotted base plates 36,000 p.s.i.

Shipping Protection:
All poles are shipped in individual corrugated cartons to prevent finish damage.

Color:
Bronze powder coating

Tenon:
Welded 2 3/8" tenon included

Terms of Sale:
Pole Terms of Sale is available

Height:
15 FT

Gauge:
11

Wall Thickness:
1/8"

Shaft Size:
4"

Hand Hole Dimensions:
3" x 5"

Bolt Circle:
8-9"

Base Dimension:
8"

Weight:
134 lbs.

Anchor Bolt:
Galvanized anchor bolts and galvanized hardware and anchor bolt template. All bolts have a 3" hook

Anchor Bolt Templates:
WARNING Template must be printed on 11" x 17" sheet for actual size. CHECK SCALE BEFORE USING. Templates shipped with anchor bolts and available

Pre-Shipped Anchor Bolts:
Bolts can be pre-shipped upon request for additional freight charge

MaxEPA's/Max Weights:
70MPH 14.0 ft_/400 lb
80MPH 10.2 ft_/295 lb
90MPH 7.6 ft_/220 lb
100MPH 5.6 ft_/165 lb
110MPH 4.2 ft_/125 lb
120MPH 3.0 ft_/95 lb
130MPH 2.1 ft_/70 lb
140MPH 1.4 ft_/50 lb
150MPH 0.8 ft_/35 lb

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ALED4T78 - continued

California Title 24:
ALED78 complies with California Title 24 building and electrical codes.

Warranty:
LED fixtures give you peace of mind because both the fixture and driver components are backed by RAB's 5 Year Warranty. For more information,

Patents:
The ALED design is protected by patents pending in the U.S., Canada, China, Taiwan and Mexico.

For use on LEED Buildings:
IDA Dark Sky Approval means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction

Dark Sky Approved:
The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

DLC Listed:
This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.

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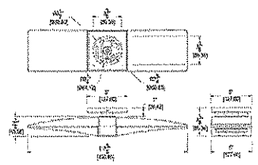
CLED2X13

26 Watts of energy efficient ceiling mounted LED lighting. 100,000-hour LED lifespan. 5 year warranty. Flush mount fixture bracket. LED Light Engine included.

Color: Bronze

Weight: 6.6 lbs





LED Info

Watts:	26W
Color Temp:	5000K (Cool)
Color Accuracy:	69
L70 Lifespan:	100000
LM79 Lumens:	2,069
Efficacy:	68 LPW

Driver Info

Type:	Constant Current
120V:	0.26 A
208V:	0.17 A
240V:	0.14 A
277V:	0.13 A
Input Watts:	30W
Efficiency:	86%

Technical Specifications

UL Listing:
Damp Locations

Lumen Maintenance:
The LED will deliver 70% of its initial lumens at 100,000 hours of operation.

Country of Origin:
Designed by RAB in New Jersey and assembled in Taiwan

Trade Agreements Act Compliant:
This product is a product of Taiwan and a "designated country" end product that complies with the Trade Agreements Act.

GSA Schedule:
This product is suitable for listing on the GSA Schedule of the US General Services in accordance with FAR Subpart 25.4

Driver:
Multi-chip 13W high output long life LED Driver Constant Current, Class 2 100V - 277V, 50/60 Hz

Thermal Management:
Cast aluminum Thermal Management system for optimal heat sinking. Designed for cool operation, most efficient output and maximum LED life by minimizing LED junction temperature.

Housing:
Precision die cast aluminum housing and lens framing

Finish:
Chip and fade resistant polyester powder coat finish

Green Technology:
RAB LEDs are Mercury and UV free.

Patents:
The design of the CLED is protected by U.S. Pat. D608,040, D615,689 , Canada Patent 821412 and patents pending in China, Taiwan and Mexico

Warranty:
RAB LED fixtures give you peace of mind because both the fixture and driver components are backed by RAB's 5 Year Warranty. For more information,

Color Stability:
RAB LEDs exceed industry standards for chromatic stability.

Color Uniformity:
RAB's range of CCT (Correlated color temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2008.

Cold Weather Starting:
The minimum starting temperature is -40°F/-40°C

Ambient Temperature:
Suitable for use in 40°C (104°F) ambient temperatures

Surge Protection:
4kv

Fixture Efficacy:
68 Lumens per Watt

Color Temperature (Nominal CCT):
5000K

Color Accuracy:
69 CRI

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CLED2X13 - continued

IESNA LM-79 & IESNA LM-80 Testing:
RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

Equivalency:
The CLED2X13 is Equivalent in delivered lumens to a 42W CFL or 70W Metal Halide Ceiling Fixture.

HID Replacement Range:
The CLED2X13 can be used to replace 70-100W Metal Halide Ceiling Lights based on delivered lumens.

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Title :

Description :

Date : 15 Feb 2013

For :

By :

IES Filename : itl69257.ies

Description : CLED2X13 / PLED2X13
ONE LUMINAIRE CONSISTING OF TWO OPPOSING LIGHT HEADS, EACH

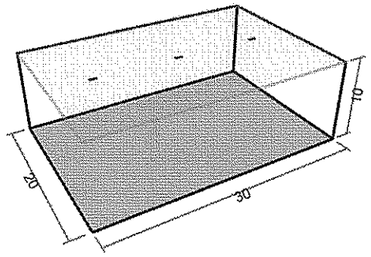


Luminaire

Number of Lamps :	2	
Lamp Lumens :	-1	
Luminaire Wattage :	30	W
Light Loss Factor (LLF) :	1.00	

Geometry

Length (X) :	30	ft
Width (Y) :	20	ft
Height (Z) :	10	ft
Workplane Height :	0	ft
Suspension Length :	0	ft
Room Cavity Ratio :	4.167	

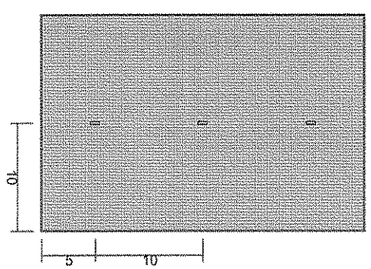


Reflectance

Ceiling :	80	%
Walls :	50	%
Floor :	20	%
Eff. Cavity Refl. -- Ceiling :	80.0	%
Eff. Cavity Refl. -- Floor :	20.0	%
CU :	0.749	

Results

Average Illuminance :	8	fc
Number of Luminaires :	3	
Lighting Power Density (LPD) :	0.15	W/ft^2



Layout

	Rows (Width)		Columns (Length)	
Grid Layout (size) :	1	X	3	Luminaires :
Grid Spacing :	0.00	X	10.00	ft
Wall Spacing :	10.00	X	5.00	ft
Spacing Criteria :	1.19	X	1.28	

FlashIndoor 1.36 Build: 721-3658 | © 2004-2013 Lighting Analysts, Inc. | Calculations based on IESNA methods and recommendations. | Results derived from content of photometric files.

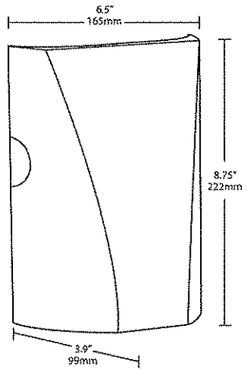
SLIM18

Available in 12, 18 and 26 Watt models, SLIM Wallpacks deliver ultra efficient LED technology in a compact design that's super easy to install as a downlight or uplight.

Color: Bronze

Weight: 4.5 lbs





LED Info

Watts:	18W
Color Temp:	5100K (Cool)
Color Accuracy:	69
L70 Lifespan:	100000
LM79 Lumens:	1,909
Efficacy:	91 LPW

Driver Info

Type:	Constant Current
120V:	0.18A
208V:	0.11A
240V:	0.09A
277V:	0.08A
Input Watts:	21W
Efficiency:	86%

Technical Specifications

UL Listing:
Suitable for wet locations. Suitable for mounting within 1.2m (4ft) of the ground

IP Rating:
Ingress Protection rating of IP66 for dust and water

LED:
Multi-chip, long-life LED

Lifespan:
100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations

Driver:
Constant Current, Class 2, 100-277V, 50/60 Hz., 4KV surge protection, 500mA, 100-240VAC 0.3-0.15 Amps, 277VAC 0.15 Amps, THD<20%, Power Factor 99%

Input Watts:
21W

Output Lumens:
1,909

Color Accuracy (CRI):
69 CRI

Correlated Color Temp. (Nominal CCT):
5100K

Cold Weather Starting:
The minimum starting temperature is -40°F/-40°C

Ambient Temperature:
Suitable for use in 40°C (104°F) ambient temperatures

Thermal Management:
Superior heat sinking with internal Air-Flow fins

Housing:
Precision die-cast aluminum housing

Mounting:
Heavy-duty mounting bracket with hinged housing for easy installation

Recommended Mounting Height:
Up to 14 ft.

HID Replacement Range:
The SLIM18 can be used to replace 100W MH based on delivered lumens

Lens:
Tempered glass lens

Reflector:
Specular thermoplastic

Gaskets:
High-temperature silicone

Finish:
Chip and fade resistant polyester powder coat finish

DLC Listed:
This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.

Dark Sky Approved:
The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

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Note: Specifications are subject to change without notice

SLIM18 - continued

Color Stability:
RAB LED performance exceeds industry standards for chromatic stability

Color Uniformity:
RAB's range of CCT (Correlated Color Temperature) follows the guidelines for the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2011

Green Technology:
Mercury and UV free, and RoHS compliant

IESNA LM-79 & LM-80 Testing:
RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80, and have received the Department of Energy "Lighting Facts" label

Patents:
The design of the SLIM™ is protected by patents pending in US, Canada, China, Taiwan and Mexico

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ZBINDEN • CARTER • SOUDERS
ENGINEERING Inc.

Memo

To: Oregon City Development Services – Public Works Department

From: Scott Souders, PE SS
Josh Modin

CC: Ted Thonstad – Oregon City Public Schools

Date: 12/27/2012

Re: Gardiner Middle School Modular Classroom Expansion
Site Plan & Design Review – Preliminary Storm Narrative

Oregon City Public Schools (OCPS) proposes to construct a new ±8,290 square foot modular building to house approximately 8 classrooms and two restrooms located adjacent to Gardiner Middle School at 180 Ethel Street. In addition to the new building, an existing asphalt paved fire lane will be relocated and ±1,800 square feet of new concrete sidewalk will be constructed.

The proposed building, associated walkways, and relocated fire lane provide 10,843 square feet of new impervious surface. However, OCPS also wishes to remove a total of 24,250 square feet of existing hardscape (24,020 ft^2 of asphalt tennis court and 230 ft^2 of concrete). The removal of the tennis court and adjacent concrete viewing area provide a total net reduction of impervious surface of 13,407 square feet with this project.

The City of Oregon City Public Works Stormwater & Grading Design Standards manual was utilized to determine specific design requirements for the above referenced development. According to those design standards, it appears that stormwater quantity and quality control are not required because of the overall reduction in hardscape surfaces.

All stormwater within the limits of this phase of the private development will be collected by roof drain downspouts or will sheet flow to area inlets which will be collected by an underground pipe network. The new underground pipe network will combine into a common stormline that will discharge into an existing private 15"Ø concrete pipe. That 15"Ø concrete pipe routes towards and daylight discharges into an existing swale located on taxlot 9700 within Township 3, Range 2E, Section 5bc.

Plan sheet C1.0 in the Site Plan and Design Review submittal package provides a schematic of the proposed conveyance system. Above grade conveyance swales and rain gardens have been discouraged by the School District for safety and functionality reasons.

Please feel free to contact our office if you have any questions, comments, etc.

Thank You.

Chapter 13.12 – Stormwater Management

13.12.050 - Applicability and exemptions.

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

Pursuant to each of the subsections below, proposed activities may be required to meet the performance standards for stormwater conveyance, stormwater quantity or stormwater quality.

Comment: The proposed construction is subject to the stormwater management provisions of this chapter. Stormwater management for the project is depicted on the preliminary utility plan and is discussed in a memorandum from ZCS Engineering dated February 14, 2013 that addresses stormwater management and compliance with city standards.

13.12.080 - Submittal requirements.

A. Timing and Scope of Required Submittal.
   1. Applications subject to the stormwater conveyance requirements of this chapter shall include an engineered drainage plan and design flow calculation report submitted prior to, or contemporaneous with, submittal of an application for a building, land use or other city issued permit.
   2. Applications subject to the stormwater quantity and/or Category A quality requirements of this chapter shall include an engineered drainage plan and an engineered drainage report submitted prior to, or contemporaneous with, submittal of an application for a building, land use or other city issued permit.
   3. Applications subject to Category B water quality special management practices shall demonstrate compliance with the additional management practices for commercial, industrial and multi-unit dwelling land uses of the Public Works Stormwater and Grading Design Standards as part of the site plan and design review process.
   4. Applications subject to Category C water quality requirements for the Clackamas River Watershed are subject to OAR 340-41-470 (Three Basin Rule). No new discharges will be approved until a copy of a current DEQ permit, or written statement from DEQ that none is required, is on file with the city.

B. Required engineered drainage plans, drainage reports, and design flow calculation reports, which contain methods and proposed facilities to manage stormwater conveyance, quantity and/or quality, shall be prepared in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards.

C. 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.

Comment: A storm drainage memorandum and preliminary storm drainage plan have been prepared for this proposed project and are included in the application submittal package. These documents have been prepared in accordance with city standards.

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 management 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. Unless otherwise exempted by Section 13.12.050(B), the plan and report includes adequate stormwater quantity control facilities, so that when the proposed land development activity takes place, peak rates and volumes of runoff:

1. Do not exceed the capacity of receiving drainage conveyance facilities;

2. Do not increase the potential for streambank erosion; and

3. Do not add volume to an off-site closed depression without providing for mitigation.

Comment: The preliminary utility plan submitted with this application illustrates how storm drainage will be handled in conformance with these requirements. The stormwater within the limits of this phase of the development will be handled in two separate ways. Stormwater on the roofs of structures will be collected by a gutter system and routed to closely spaced downspouts (+/-20' on center). The down spouts will then be terminated at grade and provided with splash blocks and landscaping material to dissipate the water uniformly along the length of the building. Stormwater on hardscape surfaces will sheet flow into adjacent manicured lawn areas. This system is proposed in order to mimic the current stormwater conditions at the tennis court where water hits the court, travels to the perimeter, and dissipates into the adjacent lawn area. As proposed, all of the stormwater in both pre and post conditions ultimately evaporates, infiltrates, or sheet flows to the same location where the existing storm system discharges into the adjacent ditch. The new building, walkways and relocated fire lane provide a total of 10,843 square feet of new impervious surface. However, the School District also proposes to remove 24,250 square feet of existing tennis courts and walkways, for a net reduction of 13,407 square feet of impervious surfaces. With this reduction in impervious surfacing, the project will not result in exceeding the capacity of receiving drainage conveyance facilities, increase the potential for streambank erosion, or add volume to any off-site closed depression. The preliminary utility plan demonstrates how the proposed storm water plan will conform to city standards.

D. Unless otherwise exempted by Section 13.12.050(C), the proposed development includes:

1. Adequate stormwater quality control facilities, so that when the proposed land development activity takes place, the temperature and overall pollution level of stormwater runoff is no greater than the water entering. When no water enters a project, then stormwater runoff shall be compared to rain samples; and

2. Stormwater quality control facilities which:

a. Are in compliance with applicable National Pollutant Discharge Elimination System (NPDES) requirements;

b. *Minimize the deterioration of existing watercourses, culverts, bridges, dams and other structures; and*
c. *Minimize any increase in nonpoint source pollution.*

Comment: Because the project will result in a net reduction in impervious area, there will be a reduction in water runoff and a reduced impact upon stormwater facilities.

E. 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.

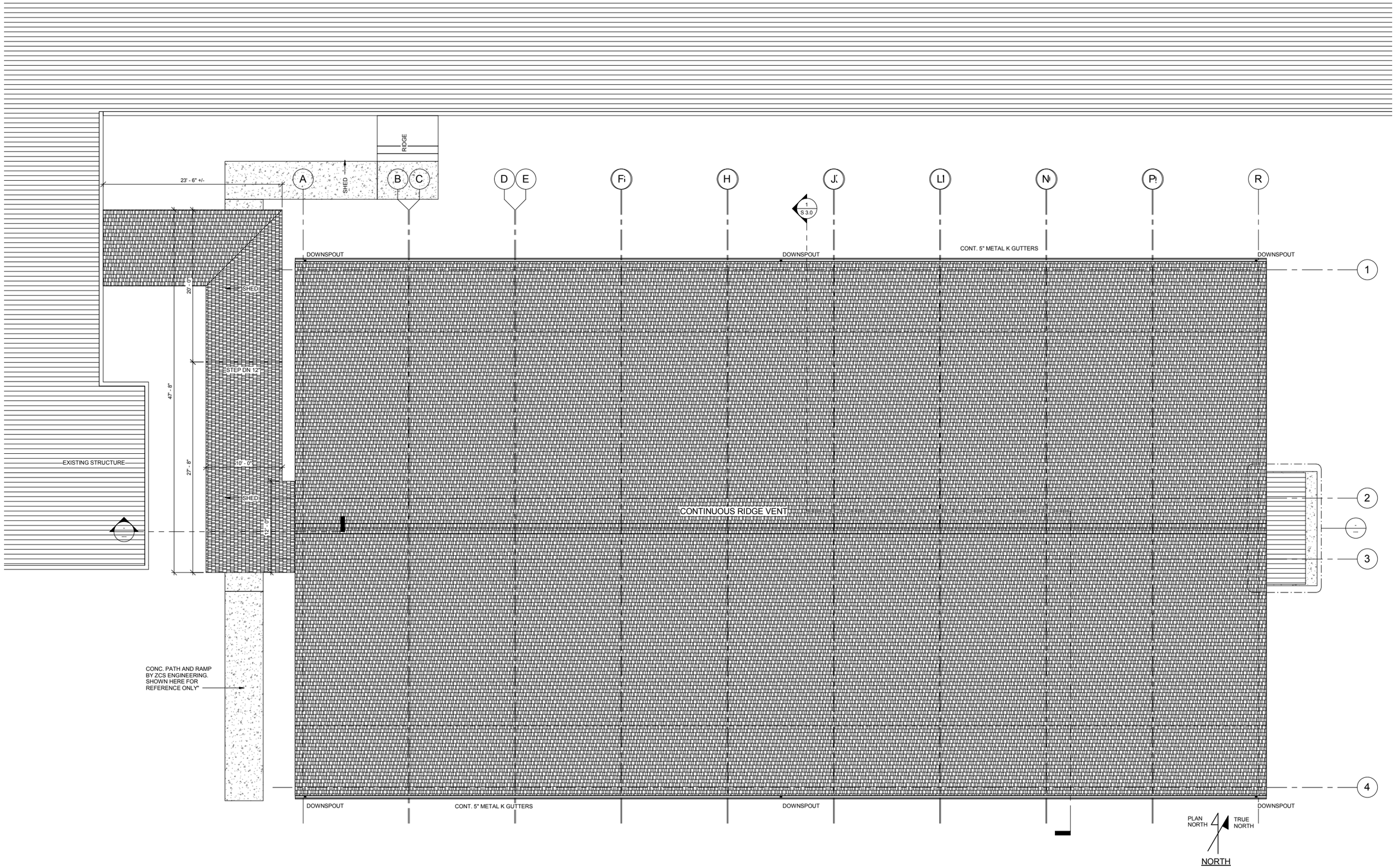
Comment: As shown on the preliminary utility plan, the storm drainage system will provide for collection of all storm water from the relocated fire lane and from roofs and footings associated with new classroom addition.

F. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams. The postdevelopment peak stormwater discharge rate from a development site for the two year, twenty-four hour duration storm event shall not exceed fifty percent of the two year, twenty-four hour predevelopment peak runoff rate.

Comment: Not applicable. The storm sewer system connects to existing storm sewer lines.

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

Comment: The School District maintains private storm drainage facilities on the school property. The City of Oregon City maintains public lines that serve this property.


RIDGE
23' - 6" +/-
A
SHED
B
C
D
E
F
H
1
S 3.0
J
L
N
P
R
DOWNSPOUT
DOWNSPOUT
CONT. 5" METAL K GUTTERS
DOWNSPOUT
1
20' - 0"
SHED
STEP DN 12"
47' - 8"
EXISTING STRUCTURE
27' - 8"
10' - 0"
SHED
CONTINUOUS RIDGE VENT
2
3
4
CONC. PATH AND RAMP BY ZCS ENGINEERING. SHOWN HERE FOR REFERENCE ONLY*
DOWNSPOUT
CONT. 5" METAL K GUTTERS
DOWNSPOUT
DOWNSPOUT
PLAN NORTH
TRUE NORTH
NORTH

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

January 30, 2013

Mr. Pete Walter
City of Oregon City
PO Box 3040
Oregon City, OR 97045

SUBJECT: REVIEW OF TRAFFIC IMPACT STUDY AND PARKING ANALYSIS – GARDINER MIDDLE SCHOOL EXPANSION – CU12-01

Dear Mr. Walter:

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 Traffic Impact Study (TIS) dated December 28, 2012 and the project narrative. The TIS was prepared under the direction of Todd E. Mobley, PE of Lancaster Engineering.

The proposed school expansion would increase its capacity from approximately 550 to approximately 800 students.

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

Comments

1. ***Study Area.*** The study addresses effect of the proposed school expansion at four nearby intersections and along the school's frontage. The intersections addressed in the study are: Linn Avenue at Ethel Street, Linn Avenue at Hood Street, Linn Avenue at Holmes Lane, and Leonard Street at Holmes Lane. The study area is appropriate for the purposes of judging the impacts of this development.

2. ***Traffic Volumes.*** Traffic counts were conducted at the specified intersections in mid-December 2012. The counts were conducted for the AM peak period and for the afternoon peak period corresponding with the dismissal of school. The traffic counts appear reasonable.

3. ***Trip Generation.*** The TIS presents information on trip generation based upon Middle School/Jr. High School from the Institute of Transportation Engineers' *Trip Generation.* The engineer compares the trip generation for the existing enrollment with the proposed enrollment. The engineer calculates that the expansion of the school will increase the site trips by 127 during the AM peak hour and 73 during the afternoon hour corresponding with dismissal. I found the estimates of new trips associated with the school expansion to be reasonable.

4. ***Trip Distribution.*** The trip distribution is based on the volumes and turning movements on the nearby street network and appears reasonable.

5. ***Traffic Growth.*** The engineer assumed a 2 percent increase in base traffic volumes to account for one year's growth before the proposed expansion is completed. I find this to be a reasonable assumption.

6. ***Analysis.*** Traffic volumes were calculated for the intersections described in #1, above. The engineer calculated the level of service (LOS), delay and the volume-to-capacity (v/c) ratio. The calculations were performed for AM peak and afternoon hours for existing conditions, background 2013 conditions, and 2013 with the proposed school expansion.

   According to the engineer, the intersections are predicted to operate acceptably with the intersections calculated to operate at no worse than LOS C. Only a slight degradation in performance is predicted. The engineer concludes that performance meets applicable city standards and no mitigation is required. I concur.

7. ***Turn Lanes at Site Entrance(s).*** The configuration of site is not being altered. The engineer makes recommendations for changes to operations as discussed in #10, below.

8. ***Crash Information.*** The engineer provides information about crashes at the intersections identified in #1, above. The intersections exhibit low to modest crash rates. The engineer does a good job analyzing and explaining the reported crashes, including the fatal crash at Linn Avenue/Ethel Street, which was due to alcohol and excessive speed. He concludes there are no design issues and that the intersections will continue to operate safely. I concur with his conclusions.

9. ***Pedestrian and Bicycle Facilities.*** The TIS provides summary of the existence of facilities for bicyclists and pedestrians on key streets in the area. Sidewalks are lacking in several areas.

   The land use narrative states that "there are no sidewalk improvements warranted on abutting streets." I disagree with this conclusion. There appears to be a gap in the sidewalk adjacent to the school in the northeast quadrant of the intersection where Hood Street turns and where access is provided to the south parking lot. This intersection features the Gardiner Middle School sign. I recommend that the sidewalk and ADA compliant ramps be installed at this location to improve pedestrian accessibility to the site from the marked crosswalks at this intersection.

   The TIS recommends increasing the number of bicycle parking spaces and the site plan notes that additional bicycle parking will be provided. In the TIS, the engineer indicates racks have capacity for 12 bicycles; the site plan narrative claims space for 18. The engineer indicated some bicycles were parked using posts and railing rather than the existing bicycle racks. He noted that this occurred during winter months and suggested increased bicycle use may occur in warmer, drier months. The site plan narrative indicates that the school district believes that providing 32 additional bicycle parking spaces is excessive and proposes that it be reduced to 16 additional spaces. I find the engineer's observations of bicyclists using alternative locations and explanation of seasonal use to be evidence of a need for more bicycle parking. I think these argue against a reduction in the number of required bicycle parking spaces. Even with the required 32 bicycle parking spaces associated with eight new classrooms, the bicycle parking

provided on the site would be far less than would be required for a new school under the code. I am not persuaded by the proposal to reduce required bicycle parking.

10. ***Site Plan and Access.*** The existing access will not be changed by the proposal. The engineer conducted observations of the operations of the site. Among other things he noted were the use of parking spaces by those waiting to pick up children at dismissal time and queues extending beyond the school boundaries during peak activity during mornings and afternoons.

    Based on his observations the engineer makes two recommendations in the TIS to accommodate the increased activity at the school associated with the proposed expansion:

    > First, it is recommended that staff be encouraged 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.
    >
    > Second, the loop drive provides ideal frontage for pick-ups and drop-offs, however vehicles are prohibited from using this frontage to ensure that the three short buses can be accommodated although the buses require only a small portion of this frontage. The school could open the loop drive to pickups and drop-offs so long as space for the buses was clearly off limits to these vehicles via pavement markings and signs. This would provide additional space for the increased pick-up and drop-off activity and reduce the likelihood that queues would extend beyond school property.

    I concur with the engineer's recommendations and suggest their implementation be made conditions of approval for the application. Without such actions, the existing conditions will be made more difficult with the expansion of the school and increased traffic.

11. ***Intersection Spacing.*** The proposal makes no changes to intersection spacing.

12. ***Sight Distance.*** The sight distance is unchanged.

13. ***Consistency with the Transportation System Plan (TSP).*** The completion of the sidewalk system noted in #9, above, will help implement the local street standards consistent with the TSP.

14. ***Parking.*** The applicant's engineer inventoried the existing parking and evaluated parking utilization. He concludes that there will be sufficient parking on site with the proposed expansion. Parking will clearly be more fully utilized with the proposed expansion but appears to be adequate. As noted in #10, above, greater use of the south parking lot by staff will help pick-up and drop-off activities along the west side of the school frontage.

15. ***Conclusions and Recommendations.*** The engineer concludes that the school expansion does not adversely impact operations or safety of the study area intersections. He concludes that on-site parking will be adequate. He recommends encouraging use of the underutilized south parking lot and allowing pick-up and drop-off activity in part of the loop driveway in front of the school. He concludes other mitigation is not necessary. I concur with the conclusions of the applicant's engineer.

Conclusion and Recommendations

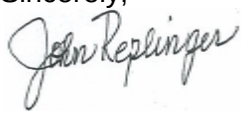
I find that the TIS provides an adequate basis upon which to assess the impacts of the proposed school expansion. The engineer recommends actions to improve parking utilization and pick-up and drop-off activity as follows:

> First, it is recommended that staff be encouraged 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.
>
> Second, the loop drive provides ideal frontage for pick-ups and drop-offs, however vehicles are prohibited from using this frontage to ensure that the three short buses can be accommodated although the buses require only a small portion of this frontage. The school could open the loop drive to pickups and drop-offs so long as space for the buses was clearly off limits to these vehicles via pavement markings and signs. This would provide additional space for the increased pick-up and drop-off activity and reduce the likelihood that queues would extend beyond school property.

I concur with these recommendations and recommend they be made conditions of approval. In addition, I recommend that sidewalk improvements including the installation of ADA compliant ramps in the northeast quadrant of the intersection where Hood Street turns and where access is provided to the south parking lot. Finally, I recommend that the applicant install the code-specified 32 bicycle parking spaces rather than 16 as proposed in the project narrative.

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\2012\CU12-01.docx

Oregon
John A. Kitzhaber, MD, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE, Ste C
Salem, OR 97301-1266
(503) 986-0671
Fax (503) 986-0793
www.oregonheritage.org

Nature HISTORY Discovery

February 7, 2013

Mr. Pete Walter
Oregon City Community Development Dept
221 Molalla Ave STE 200
Oregon City, OR 97045

RE: SHPO Case No. 13-0150
Gardiner Middle School Modular Classroom Proj
DOE/FOE/mddular addition to existing school bldg
Oregon City Planning/Oregon City School District
180 Ethel St, Oregon City, Clackamas County

Dear Mr. Walter:

Our office recently received a request to conduct a cultural resource review for the area of the project referenced above. In checking our statewide cultural resource database, I find that there have been no previous cultural surveys completed within the proposed project area but cultural sites are known to exist in the surrounding area. The project area is located on a landform generally perceived to have a high probability for possessing archaeological sites and buried human remains.

While not having sufficient knowledge to pinpoint the exact location of cultural resources within the proposed project area, due to the very high likelihood of significant sites being present, I suggest that the applicant contact a qualified archaeologist to conduct a cultural resource survey of the project area. A list of possible archaeological consultants can be found on our web site (www.oregonheritage.org) by clicking on Archaeological Services web page and highlighting the section marked Archaeological Permits.

If you have any questions about the above comments or would like additional information, please feel to contact me at your convenience. In order to help us track your project accurately, please be sure to reference the SHPO case number above in all correspondence.

Sincerely,

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@state.or.us

ALWAYS FREE ISSUE NO. 01

THE GARDINER GAZETTE

GARDINER MIDDLE SCHOOL / OCTOBER 2011

Who is She Anyway?

By Katie Schultz



Gardiner Middle School is named after Thora B. Gardiner, who was an active member of many organizations in Oregon City. She was born in Iceland on March 17th, 1884. She came to North Dakota with her parents in 1901. She eventually married Fredrick W Gardiner, and they moved to Oregon City in 1912. She was a member of the Oregon City school board for 20 years and was the chairman when she died on November 13th, 1953. The school was built in her memory in 1954.



Meet Your Writing Staff!

These trailblazing students volunteered to sign up for our first ever Gardiner school newspaper, which we've named The Gardiner Gazette: Dominique Bangle, Brianna Bliquez, Megan Canaday, Catie Colvin, Kiahve Dennis-Lee, Alissa Frazier, Brian Frazier, Michael Hawkins, Audrianna Hicks, Jaisa Holt, Lucy Kogel, Jacob Marquez, Cady Mock, Mady Nelson, Jacob Nixon, Penelope Provant, Jacob Robinson, Katie Schultz, Austin Sillett, Rachel Smith, Caitlin Snyder, Brendan Swogger, Tara Thomas, and Madi Warren



Interview with Mr. Vancil

Mark Your Calendars!

October 21: VIP Breakfast
October 25: Fundraiser Delivery
October 27: Picture Retakes
November 3: Social Networking Presentation @ 6:30 PM

by Audrianna Hicks and Rachel Smith



We ask the big question...Duck or Beaver?

Interview with Sierra Terkelson

By Madi Warren, Tara Thomas, and Megan Canaday

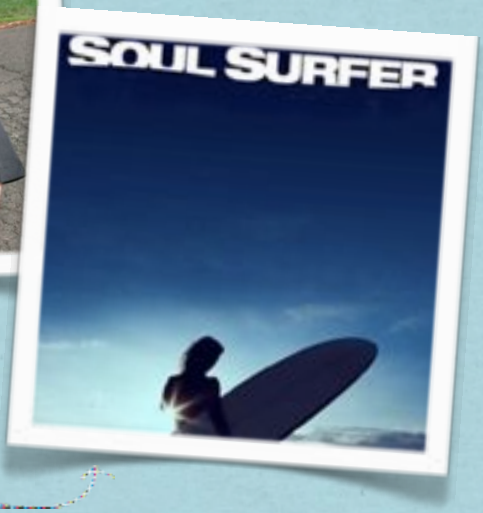
Sierra, a new 8th grade student, has Arthrogryposis Multiplex Congenita (A.M.C.), a condition where you have low muscle in your forearm. We asked her some questions, so we could know more about her.

Q: Is it hard for you to do things the way the majority of us do that involve your hands and/or arms? Like brush your teeth and write?
A: Yes, for some things I use my feet. It's not so much my hands as my arms.
Q: Has anybody ever made fun of you for your condition?
A: Yeah, but I can handle myself, so it's not that big of a problem.
Q: Does it ever hurt?
A: Yes, during the winter. My hands get numb and I can't feel them. They tried medication, but the doctor said it's normal and to basically deal with it.
Q: When did they diagnose you with A.M.C.?
A: When I was born. Well, actually I was born with my arms straight behind my back. When I was two I had surgery. If I hadn't have had it, I would be stuck with my hands behind my back.
Q: Does it ever bother you that other kids are doing things you can't?
A: No. I'm kind of like, proud, I guess. I know that God made me this way for a reason.
Q: Do you think you have made a difference in anyone's lives?
A: I know I have because people have told me before that they changed the way they look at things and I inspire them.
Q: Is there anything that has inspired you?
A: Yes, the movie Soul Surfer.
Q: Do you ever try to change for other people?
A: No, if they can't accept me like this, then they aren't important to me.

☆ STUDENT SPOTLIGHT ☆



Inspirational student Sierra Terkelson



A movie that inspired her

Sierra is an amazing person with a special condition! She has changed so many people and helped others by being herself.

THE BIG QUESTION: DUCK OR BEAVER?



After a disappointing loss to Auburn in last season's National Championship, the Ducks seek to win the PAC 12 and go to the championship once again.



The Beavers are hoping to beat the Ducks this year, after losing to them since 2007. With a 1-4 start, they have their work cut out for them.

— By Jacob Marquez and Kiahve Dennis-Lee

Teacher Survey	
Duck	45%
Beaver	55%
Random Student Sample	
Duck	85%
Beaver	15%
Platypus	0%

OUR PRINCIPAL



Mrs. Schmidt is our new principal this year. Before becoming the principal of Gardiner Middle School, Mrs. Schmidt was also a teacher and vice principal at our school. She is assisted by Cyndi Borgmeier, who came to us from Oregon City High School.

NUMBERS

Students

628

Teachers and Counselors

36

Classified Staff

25

Have you heard about our bomb shelter or "the fire?"



THIS IS A PICTURE OF THE "NEW WING" AFTER THE FIRE IN 1989.

History of Gardiner
by Brian Frazier

Do you know anything about the history of our school? Did you know that in 1989, the whole west wing burned down in a fire? Gardiner Junior High was named after Thora B. Gardiner, civic leader and active member of many community service organizations. Gardiner Jr. High was built in 1954 with 28 classrooms and approximately 550 students in grades 7 through 9.

Gardiner Junior High School was built in 1954 a year after Mrs. Gardiner's death. It was originally a Junior High and opened with grades 7, 8, and 9. Gardiner became a 7-8 middle school in 1990. In 1964, before Ogden opened, Gardiner Middle School had too many students to safely put in the school at one time, so they were forced to have students go to school in shifts. Half the students attended school in the morning and half in the afternoon.

It was not unusual for large buildings, like schools, to have fallout shelters in the 1950's. Gardiner was one of these buildings. The school has a series of tunnels that run under the hallways of the school. In the 1950's, these tunnels could have been used as a fallout shelter; now they are simply tunnels that house wirings, plumbing, and vent systems.

The fire happened in the middle of a winter night in 1989. They never were sure about the exact cause. Some people say it was arson (done intentionally); some people say it was a coffee pot left on. The only casualties were the loss of an iguana and a snake. The district brought in portable classrooms to house the students who were displaced by the fire. The new wing was opened a year later in 1990.

The first principal was Milo Cameron, who served from 1954 to 1972. Don Barta served from 1972 to 1984, Denny Peters from 1984 to 1990, and Warren Burley from 1990 to 1998. Our beloved Mr. Mills was principal from 1998 to 2011, and finally, it is in the hands of our wonderful Kelly Schmidt (2011- hopefully many years to come).

MR. VANCIL



Fast Facts

First Name: Steve

Teaches: Math

Loves: Golf

Dislikes: Chocolate!!

"Other Job:" Works as a TOSA (Teacher on Special Assignment) in the afternoons.

Duck or Beaver?



Math, golf, and humor: Mr. Vancil in a nutshell!



Getting to Know Mr. Vancil
By Alissa Frazier

Mr. Vancil first became a teacher because it was the "quickest way to get out of college." He has now been teaching for 19 years and 58 minutes (from the time he was interviewed, which was on Tuesday, October 4th). He is currently a geometry and algebra teacher. Mr. Vancil remarked that he really enjoys teaching, and he "wouldn't trade the job for any other." In his opinion, he claims he is always needing to improve his teaching habits. Mr. Vancil has learned over the years that having a fine relationship with your students always makes the teaching easier. For example, being able to cooperate well with the students is an example of an exceptional relationship. Mr. Vancil likes Thursdays, and Saturday is his favorite day of the week. "All days are good days," he stated. One more thing about Mr. Vancil: if you're going to give him a gift, don't give him any chocolate. Sadly, he doesn't like it.



Oregon City Sports



OC vs. West Linn

by Austin Sillett

• • •

On Friday, September 30, the Oregon City varsity football team played West Linn in the "Battle for the Bridge," the biggest game of the season. It started off as a great game with OC's Landon Martinez throwing a pass to Trevor Dye for a touchdown.

As the ball came down from kick off, number 6 for the Lions caught the football and ran it back to even the score, but the persistent Pioneers didn't let it shake them up. We threw a 66 yard pass, this time to wide receiver Adam Genskay, to put us in the lead, 24-14.

As the game went on, we eventually lost the lead at 24-28 and were lucky enough to score a field goal for 27-28 with 27 seconds left on the board. Unfortunately, we weren't able to score just once more and lost by just one point. Final score: OC, 27 West Linn, 28. It was a great game anyway!

Student Athletes Around our School

by Dominique Bangle

• • •

Many students all over the school play sports. From swimming to basketball, to soccer and many others too. An 8th grader named Alissa Frazier swims competitively. I recently interviewed her, and I asked what some of her biggest achievements are. The recent 14 year old replied, "I've been top 5 in Oregon multiple times. Every year I go to State in a few events, and I always compete at high meets." Alissa is very successful in her swimming life.

Moving from the pool to the playing field... Jacob Nixon, a goalie on two soccer teams, describes soccer as his life. "I play it, live it and eat it. It's probably the most amazing sport, and I always want to play soccer." Some team members that are on his teams are Jake Torres, Nick Slaughter, and Quade Barta. Another soccer player, Britney Smith, shared about her game on October 1st. They lost the game, but they did it in style. Her team's uniforms are forest green shirts, shorts, and neon green zebra socks--very flashy for a soccer team, but that's how they get noticed. The main position Smith plays is right defense and describes her style as "aggressive."

Fall Sports

- Soccer
- Volleyball
- Football
- Cross Country

Winter Sports

- Basketball
- Wrestling
- Swimming
- Racquetball
- Dance
- Equestrian

Spring Sports

- Track and Field
- Softball/Baseball
- Golf
- Lacrosse
- Tennis

Mr. Altiero plays Rugby.

Mr. Vancil is quite the golfer.

Mrs. Palaoro and Mr. Upkes are distance runners.

Mrs. Kramer coaches lacrosse.

Your Teachers Love Sports Too!

Mrs. Barry encourages us to try new sports in P.E.

Mr. Kmetic coaches football and baseball.

Mr. Henigan is a track and field coach.

Mr. Collard coaches wrestling and track and field.

Community and World News/Opinions

War in Afghanistan

by Lucy Kogel

• • •

There is a new poll out stating that 57% of Americans are against the war in Afghanistan. Many people think that 10 years of war is well more than enough. The United States citizens that voted that the war should be over also agree that Afghanistan should be able to "take care of themselves" by 2014. It was said that in 2001, 91% of US citizens voted for our solders to be deployed there, but now the majority want them to come home. Only two of 47 countries wanted to leave troops in Afghanistan.

Statistic Source:
dailytelegraph.com



Greece Bailout

by Jacob Nixon

• • •

Recently, Greece has been on the verge of bankruptcy. If Greece cannot pay their debts, they're likely to stop using the Euro. This could cost the rest of the world quite a bit of money (if all of the Greek Euros are converted to Greek currency). If they choose to print their own money, taxes will need support them. On a world scale, this could mean less money for the government to have for schools, businesses, etc. All the schools will have less funding than the already not-so-good funding at the moment. People will probably have a lower rate of payment, which can possibly end up in a big bank run; possibly the biggest bank run in history! The longer Greece takes to decide, the more and more it will cost the world to support them making their own money. Also, if Greece stops using Euros then other countries might stop also. If other countries follow suit, it will cost the world. This could cost a fair amount of jobs in banking. I hope that this does not happen because of the higher taxes and less money for the rest of the world. This could affect America in an especially large way because of the already struggling economy.



Suspicious Man Taking Pictures

by Jacob Robinson

• • •

A young man has been seen taking pictures of young 12 and 11 year old girls in the neighborhood of Tracy Lee Court. He is between the ages of 20 and 30 and has been seen on several occasions. He has been seen taking pictures of at least 3 girls at around 3 p.m. He is Caucasian, was wearing a black hoodie, had some sort of bandaid on his nose, had black hair and is somewhat tall. He was found in the yard of one of these girls near 9 PM. The neighborhood girls who had spotted him had said that they were painting rocks in their yard when they heard some leaves crunching. The crunch was coming from the man, who then sprinted across the yard and jumped over the fence. The man was also seen following the school bus as it was dropping off students at least 2 times.

He was driving a gray or silver compact car. At the end of October there was a man taking pictures of a local girl after getting off her stop. The young girl saw a man in his car and thought of it as nothing. There was a chance that he was holding a camera, but he was across the street and so she couldn't get a close enough look. She glanced out her window about an hour later and saw the man still there. Maybe he's waiting for someone, she thought. About an hour later, she noticed the man was still there, she texted her mom who said to call the police. When the police arrived the man had gone, she wasn't watching the man when he pulled away. So, she couldn't get the license plate written down. The sighting was near Mcloughlin Blvd, far away from where the first two sightings occurred. She has wished to stay anonymous.



Harry Potter Fan Page



Quidditch World Cup
Adapted from muglenet.com by Caitlin Snyder

November 12-13, 2011
Randall's Island, New York

WHAT: For one reason or another, Quidditch still gets stereotyped as fantasy-fulfillment for chubby nerds. Anyone who still holds this illusion should come to the World Cup and watch D1-level chasers tackle each other head on, experienced beaters peg their opponent in the head from 40 feet away, or seekers eating dirt after an unsuccessful Superman dive for the snitch.

HOW DO THEY PLAY? Adapted by the talented improv comedian, Xander Manshel, the sport has stayed true to its roots. Quidditch players might be confined by a lack of gravity-defying magic, but they are not confined by real numbers. Players will hit the pitch with "numbers" that include fractions, pi, the square root of negative one, and even emoticons or symbols like a heart on the backs of their jerseys. The nerd imagination knows no bounds.

Rowling was so on to something when she created a sport that has more than one ball. Most popular mainstream sports have just one ball, puck, or disk. Real-life quidditch by comparison is a game where at least a quarter of the players are holding a ball at all times. With three dodge-balls flying back and forth, a volleyball passed around the field, and almost no rules about stoppage of play, there is utter mayhem on the pitch and pure, hard-hitting, non-stop action. Throw the snitch into the mix and it's a regular circus. This game makes other sports look like nap time.

Madam Rosmerta's Butter Beer

from mugglenet.com

Ingredients

- 2 12-ounce bottles of Cream Soda (not diet)
- 4 1/2 teaspoons Butterscotch Sundae Topping Syrup
- 1/2 cup Reddi Whip Canned Whip Topping

Directions:

Step 1: Measure 1 1/2 teaspoons Butterscotch Topping Syrup into each of the glasses or mugs (Chilled mugs works great).

Step 2: Add a 1/4 cup of cream soda into each glass and stir with a spoon until butterscotch topping is completely mixed in with the soda. Set aside.

Step 3: For the Foam - Combine the Reddi Whip, the remaining 1 1/2 teaspoons of Butterscotch Syrup, and 1/2 tablespoon of cream soda in a small bowl. Stir until well combined.

Step 4: To Finish - Pour the remaining Cream Soda into the Glass or mug. Spoon the foam mixture slowly into the center of the glass until it reaches the sides of the glass.

What Are They Up To?
Their Lives After Potter
By Katie Schultz

Daniel Radcliffe (Harry Potter) – Broadway musical: How to Succeed in Business Without Really Trying. Movie: The Woman in Black. Movie: The Journey is the Destination.

Emma Watson (Hermione Granger) – Movie: My Week with Marilyn. Movie: The Perks of Being a Wallflower.

Rupert Grint (Ron Weasley) – Movie: Eddie the Eagle. Movie: Comrades. Movie: Gravity.

Tom Felton (Draco Malfoy) – Movie: The Apparation. Movie: Rise of the Planet of the Apes.

Ralph Fiennes (Lord Voldemort) – Shakespeare character: Coriolanus. Movie: Wrath of the Titans.

Michael Gambon (Albus Dumbledore) – Movie: The King's Speech. Movie: Crossmaglen.

Alan Rickman (Severus Snape) – Movie: Gambit.

10 Comebacks to use when Voldemort is about to finish you:

1. "What did I ever do to y...oh, never mind."
2. "Oh, ha ha, you got me!! Am I on Punk'd? Where's the camera guy, huh? Where!?"
3. "Wow, you're even dumber than you look, and that's saying something. What kind of idiot tells their victim what they're about to do?! I'm ready for you now!!" *Prepare yourself by getting into various Matrix positions, beckon him with one finger*
4. "And she's all 'F.Y.I., he's so into me and not you.' and I'm all 'Yeah, right, whatever.' Oh, I'm sorry! Did you say something?"
5. "Why do you have to be so mean?!" *produce fake tears and throw a tantrum*
6. "Uh, I'm not here right now. Please leave a message after the beep. BEEEP!!!" *take off running*
7. *cackle with laughter* "You sound like a girl!
8. "My dear snake-man, I must say your manners are quite poor. I have just the thing!" *put on record and sing along* 'Please - say - please - and - thank you for saying thank you!'
9. "I'm sensing some self-confidence problems. I hear they have an excellent psychiatric ward at St. Mungo's...and while you're there, maybe you could have them do something about your nose."
10. "Oh yeah, and you've told Harry that how many times now? I'm soooooo scared!"

From Mugglenet.com







Dear Carl Advice Column



Cavalier Carl

Dear Carl,

My best friend is going out with a guy who is not nice to her. How do I tell her that he is bad for her without hurting her feelings?



Dear Anonymous,

You can say something like, “I hope you know that you deserve someone who treats you with respect.” If she doesn’t like it then she will still know you tried and you care.

Sincerely,
Carl



Dear Carl,

If you had a boy/girl friend who was always flirting with and hugging other girls/boys, would you be upset?
Sincerely,
Anonymous



Dear Anonymous,

If your significant other was hugging and flirting with other people, I would not jump to being mad. I would confront them to ask about it. Life is too short to go on worrying about little things. It doesn’t necessarily mean anything. Just be open and honest.

Sincerely,
Carl

Entertainment Reviews

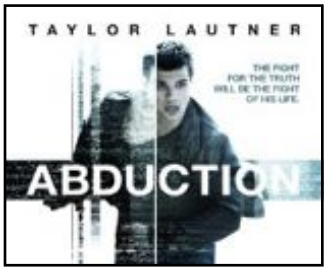
By Brendan Swogger

Unbroken by Demi Lovato



Fresh out of rehab and back in the music biz, Demi Lovato just released her new album, Unbroken, on September 20, 2011. The album sold 96,000 copies in the first week and is Lovato's 3rd studio album. But, is the music an upgrade from the somewhat pre-teen Disney music she has released before? Well, all in all, it is somewhat, but it hasn't been set perfectly. Lovato teamed up with some big name artists, such as Jason Derulo and Iyaz, for a few tracks. The beat is laid nicely and has the makings of a big hit single, but the lyrics are still somewhat lacking. They are what you'd expect for a pre-teen album. So, it seems as if Lovato has attempted to appeal to a wider crowd, but is still pointed in the direction of the 12-year old girls. But, this is only my opinion based on my own taste in music quality. I'm looking for a great track that you can't get out of your head, lyrics that tell a well written story and appeal to a large range of audiences. And Lovato just didn't make this one for me. But, if you're a fan of Selena Gomez and Justin Bieber, you'll probably find some enjoyment in this album. Otherwise, stick to some of the better female artists.

Abduction, starring Taylor Lautner



The teen heartthrob from Twilight stars in the new thriller movie, Abduction, which hit theaters on September 23. The movies plot centers around Nathan, a reckless teen who rides on the windshield of cars going 90 down the highway and falling asleep on some random person's lawn after getting wasted at a party. But things take a turn for the worst when Nathan suddenly finds his face on a missing persons site. The storyline itself was well thought out. It defiantly has the plot of a great thriller movie. The action sequences and stunts are also well done, including explosions, car crashes and gun fights. This very well could've been a great thriller. So what's keeping it from being the #1 movie in America? The script. Simple. You can have as many explosions and plot twists as you want, but if the script and acting stinks, the whole movie pretty much does too. Yes, there are some great actors in the movie. Maria Bello, for instance, who stars in the new show, Prime Suspect. Prime Suspect is a great show, but you put the same great actor in a movie with badly written dialogue, then the actor doesn't matter what so ever. So, to make a long story short, if you like to watch people getting shot, punched in the face and buildings exploding in hazardous mayhem and don't give a four letter word about the dialogue and acting, then go see it or forever hold your peace. But, if you actually have some taste in the writing, skip it and if you're aching to see what I mean, rent it.

Terra Nova, starring Jason O'Mara



Terra Nova, the show that's a mix between Star Trek, Avatar and Jurassic Park. But, that's not a bad thing at all. In fact, the show actually rose above my expectations. The special effects are great, the story line rich and well thought through, and the acting is good. Many of the actors in this new series are not big name, but you may recognize Commander Taylor from another little movie called Avatar. Yes, Stephen Lang, who played the bad guy in Avatar, is one of the main characters in the show. And if you've seen Terra Nova already, who may be having a little déjà vu seeing him once again holding a gun pointed at a strange and terrifying creature while beckoning it to come closer so he can blow its brains out. Now, because of this, it brings up the question if they purposely hired him for this stint because of his performance in Avatar. The answer is no. Actually, Lang was cast for Terra Nova before production on Avatar even started. Back to the review. The story line centers in on The Shannon's, a family whose members include a scientist and a criminal. About 100 years from now, Earth's atmosphere is becoming almost uninhabitable, but luckily scientists have found a way to go back in time to the glorious period when the dinosaurs ruled the world. What occurs is a string of catastrophic events that seem even worse than an uninhabitable atmosphere. But, if everything went perfectly for them and they had no problems at all, it wouldn't be a TV show. Let's just hope they didn't travel to a few years before that meteor hits. So, if you're a big fan of Avatar, Jurassic Park, or violent plot twists, take out that remote and start watching. Even if you didn't enjoy those, give it a try anyway. You may be surprised. So, in short, I 100% recommend this show to any and all viewers. Enjoy!

Science and Health News

The Food You Throw Out Is Linked To Global Warming
By Penelope Provant

People are often embarrassed by what's in their refrigerator-usually because they don't have much or just condiments and junk food.

For me, It's seeing moldy fruits or vegetables or browning meat just sitting there, never consumed. Unfortunately, I'm just another statistic showing that Americans waste a lot of food. As a whole, we Americans waste around 55 million tons of it a year, or 40 percent of the food supply, researchers say.

For us guilt-ridden food wasters, a little company here in Oregon recently found a way to get us to shop a little more prudently. They've done the math to show how greenhouse gasses from production, transport, and disposal of all the food we buy and could eat (but don't) adds up.

CleanMetrics makes software that does life cycle analysis for organizations and companies who want to check and reduce their environmental footprint. Last year, Kumar Vankat, the company's founder and president, was asked by the EWG (Environmental Working Group) to measure the climate impact of meat consumption, which resulted in it's Meat Eater's Guide to Climate Change & Health.

The project got him interested about other emissions associated with food, and wasted food in particular, Venkat told The Salt. So he gathered USDA's guesses of food loss from retail and consumers from 2009. And when he put it in his software, he found that food waste is responsible for 135 million tons of greenhouse gasses every year, or around 1.5% of all emissions.

So how does that go down for a family or an individual? The average family is responsible for somewhere around 1,800 pounds of emissions from food waste, and an individual adds about 440 pounds a year. A typical car generally emits 9,000 pounds a year. The emissions from food waste don't add food eaten in restaurants or the energy used to make the food or packaging wasted food, however.

But all this food that goes and rots isn't evenly distributed across the grocery store. For example, we waste around 35% of the chicken, fish, and fruit we produce, while we only waste about 15% of the nuts and legumes for sale, according to the USDA.

Also, some foods have a much bigger impact on the environment than others. "If you compare beef to tomatoes, beef has a much higher impact," says Venkat. "So if you're going to reduce waste, you need to prioritize."

By the time the the food gets to you, the consumer, a lot of the emissions are already making their way into the atmosphere. Venkat says that almost 80% of the greenhouse gasses come from producing and processing food.

But not only does food waste make a large contribution to global warming--it's also a lot of money. Venkat found that if household food waste could be cut in half, a family of four could save $600 a year. And since there are no regulations which force companies or individuals to reduce their footprints yet, the opportunity to save money is probably the best way to reduce food waste that there is, Venkat says.

But most people will always have a bit of food waste no matter how hard they try to avoid it, so the next best thing we can do is to compost it. That at least, will keep it from a landfill, where huge piles of decomposing materials generates methane, a potent greenhouse gas.
Statistic Source: wastedfood.com

Honey Mushroom
by Lucy Kogel

Did you know that Oregon has a giant fungus called the honey mushroom that is the biggest living organism in the world? Together, it covers more than 1,000 football fields. It started in a large tree rotting from its roots and eventually rotting all over the surrounding area.



Comparing Burgers and Chocolate
Brianna Bliquez
And Katie Schultz

Hershey's Chocolate Bar: 1 bar
Calories: 210
Fat: 13g
Sodium: 35 mg

Did you know a Quarter Pounder w/ cheese has more fat than 2 Hershey's Chocolate Bars?

The list below shows some popular fast food burgers. Each includes at least cheese, lettuce, 1 beef patty, and lists the Total Fat, Sodium, and Calories.

McDonald's Quarter Pounder w/ Cheese
Calories: 740
Sodium: 1,380 mg
Fat: 40 g

Wendy's Hot 'n Juicy Double
Calories: 800
Sodium: 1,530 mg
Fat: 48 g

Carl's Jr. Six Dollar Burger
Calories: 910
Sodium: 2,030 mg
Fat: 54 g



Six Dollar Burger = 910 calories



Hersey's Bar = 210 calories

FW water and sewer demand for Gardiner

From: Rick Givens [rgivens@wbcable.net]
Sent: Wednesday, February 27, 2013 4:15 PM
To: Pete Walter
Cc: Ted Thonstad
Subject: FW: water and sewer demand for Gardiner

Pete,

Here is the information requested by Gordon Munro.

Please schedule this for a hearing ASAP.

Thanks,

Rick Givens

-----Original Message-----
From: Zach Stokes [mailto:ZachStokes@zcsengineering.com]
Sent: Wednesday, February 27, 2013 4:13 PM
To: Rick Givens
Cc: Ted Thonstad
Subject: RE: water and sewer demand for Gardiner

Rick,

Here is the information for Mr. Munro as requested:

Our calculations are based on 8 classrooms with a capacity of 30 students per classroom (240 students total). Actual attendance for next year is anticipated to be 234 students. We have estimated that the water demand is 25 gallons per student per day and that the sewer demand is 80% of the water demand (20 gallons per student). When evaluated based on an 8 hour school day the following values are obtained:

* Water
o 6,000 gpd = 12.5 gpm
* Sewer
o 4,800 gpd = 10 gpm

If you have any questions on this information please feel free to contact me.

Thank you,

Zach Stokes, PE
Structural & Civil Engineering
ZCS Engineering, Inc.

-----Original Message-----
From: Rick Givens [mailto:rgivens@wbcable.net]
Sent: Tuesday, February 26, 2013 4:56 PM
To: Zach Stokes
Cc: Ted Thonstad
Subject: FW: water and sewer demand for Gardiner

Zach,

Can you convert the fixture units for Gordon the way he wants?

Rick

-----Original Message-----
From: Pete Walter [mailto:pwalter@ci.oregon-city.or.us]
Sent: Tuesday, February 26, 2013 3:53 PM
To: rgivens@wbcable.net
Subject: FW: water and sewer demand for Gardiner

_____

From: Gordon Munro [GordonMunro@KennedyJenks.com]
Sent: Tuesday, February 26, 2013 3:45 PM
To: Pete Walter
Subject: RE: water and sewer demand for Gardiner

Hi Peter

These are plumbing plans which the building official would review. What we want the estimate
additional water demand and sewer flow so we can assess if the public lines and service lines
are adequate, something along the lines of:
"There will be an estimated 240 additional people at the school. The additional water demand
is estimated to be 25 gallons per person, which equals 6,000 gallons per day. Or 12.5 gpm over
an eight hour period.
The sanitary sewer flow is estimated to be 80% of the water demand, which is 4,800 gallons per
day or 10 gpm."
That type of thing. There is published data for gallons per day per student for schools, schools
with cafeterias, schools with cafeterias and showers. All they need to do is figure the number
of students and the appropriate rate.
Thanks
Gordon
-----Original Message-----
From: Pete Walter [mailto:pwalter@ci.oregon-city.or.us]
Sent: Tuesday, February 26, 2013 2:57 PM
To: Gordon Munro
Subject: FW: water and sewer demand for Gardiner
Gordon,
please review and let me know if this is adequate.
Thanks
Pete

From: Rick Givens [rgivens@wbcable.net]
Sent: Tuesday, February 26, 2013 2:51 PM
To: Kelly Moosbrugger; Pete Walter
Cc: Zach Stokes; Ted Thonstad
Subject: FW: water and sewer demand for Gardiner
Pete,
I'm forwarding you this e-mail from Zach Stokes. Please pass it on to Gordon Munro and let me
know if it answers his questions.
It is getting to the critical state on this application that we get it scheduled for a hearing by the
Planning Commission. As you know, the District needs to get this building constructed in time to
provide for students being moved to Gardiner next fall. I'd appreciate you doing anything you
can to get an answer as quickly as possible.
Rick
-----Original Message-----
From: Zach Stokes [mailto:ZachStokes@zcsengineering.com]
Sent: Tuesday, February 26, 2013 12:55 PM
To: Rick Givens
Cc: Bill Steen; Ted Thonstad
Subject: FW: water supply
Rick,
Please see attached information from MBS. The plumbing isometrics show the water and sewer
demand along the supply lines. In summary, the water demand for the addition is 253 Fixture
Units and the sewer demand for the addition is 69 Fixture Units. Please let me know if this
provides you with adequate information for Pete.
Thank you,
Zach

FW water and sewer demand for Gardiner

From: Shawn Graham [mailto:sgraham@modernbuildingsystems.com]
Sent: Tuesday, February 26, 2013 12:53 PM
To: Zach Stokes
Cc: Bill Steen; Ken Rasmussen
Subject: RE: water supply

Zach, here are the plumbing plans. The fixture units can be found on the isometrics. My initial calculation of 231 was incomplete. The total for the supply line appears to be 253. Call me if this doesn't work for your needs.

Shawn Graham
Design Dept.
Modern Building Systems Inc - OR
503-749-4949
sgraham@modernbuildingsystems.com<mailto:sgraham@modernbuildingsystems.com>

PS, Be aware that these plans are still in development and have not been through final approval - but they are complete and should be good to go.

From: Zach Stokes [mailto:ZachStokes@zcsengineering.com<mailto:ZachStokes@zcsengineering.com>]
Sent: Tuesday, February 26, 2013 12:06 PM
To: Shawn Graham
Subject: FW: water supply

As discussed.

From: Bill Steen [mailto:bsteen@modernbuildingsystems.com]
Sent: Saturday, February 23, 2013 4:56 PM
To: Shawn Graham
Cc: Ken Mero; Ken Rasmussen; Zach Stokes
Subject: Re: water supply

Shawn,
Thank you for the information I have included ZCS in this email string. However, It is a design build bid from the plumbing contractor. Once we have an executed contract in place the plumber will provide us with the proper water supply line sizing.
Thanks,
Bill

On Fri, Feb 22, 2013 at 8:20 AM, Shawn Graham <sgraham@modernbuildingsystems.com<mailto:sgraham@modernbuildingsystems.com>> wrote:

Bill, you may want to let ZCS and the SD know that we are sizing a 2" water supply carrying 231 FU's with entry in from the east. Depending on the existing main line size and pressure and how far the connection will be from the building, we could need to up size the supply, but the 2" will probably be okay, but, maybe not. Thanks.
SG

--
Thank you,
Bill Steen
Modern Building Systems Inc.
O - 503-749-4949
C- 503-779-8109

Address **176 Hood Street**

Address is approximate



City of Oregon City

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

Staff Report

File Number: PC 13-012

Agenda Date: 4/22/2013

Status: Agenda Ready

To: Planning Commission

Agenda #: 3b

From: Community Development Director Tony Konkol

File Type: Planning Item

SUBJECT:
19370 Pease Road: Request for a Zone Change and approval of an 11-lot subdivision and geologic hazards review. Planning Files ZC 12-01, TP12-04 and US 12-01.

RECOMMENDED ACTION (Motion):
Staff requests the Planning Commission recommend approval with conditions of Planning files TP 12-04, ZC 12-01 and US 12-01 to the City Commission for their consideration at the May 1, 2013 hearing.

BACKGROUND:
The applicant is seeking approval for a Zone Change from "R-10" Single-Family Dwelling District to "R-6" Single-Family Dwelling District as well as an 11-lot subdivision and a Geologic Hazards review for the property located at 19370 Pease Road, Oregon City, Oregon 97045 and identified as Clackamas County Map 3-2E-7B, TL 3300.

The Planning Commission heard testimony on this request at the February 25th and April 8th hearings. City staff has revised the staff report to address new information about stormwater concerns.

BUDGET IMPACT:
Amount:
FY(s):
Funding Source:

TYPE IV APPLICATION
STAFF REPORT AND RECOMMENDATION
Revised April 15, 2013

FILE NO.: TP 12-04: 11-Lot Subdivision
ZC 12-01: Zone Change
US 12-01: Geologic Hazards

OWNER: Icon Construction and Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068

APPLICANT: Rick Givens
11303 Brandow Street
Oregon City, Oregon 97045

REQUEST: The Applicant is seeking approval for a Zone Change from "R-10" Single-Family Dwelling District to "R-6" Single-Family Dwelling District as well as an 11-lot subdivision and a Geologic Hazards review.

LOCATION: 19370 Pease Road, Oregon City, Oregon 97045
Clackamas County Map 3-2E-7B, TL 3300

REVIEWER: Laura Terway, AICP, Planner
Gordon Munro, Development Services

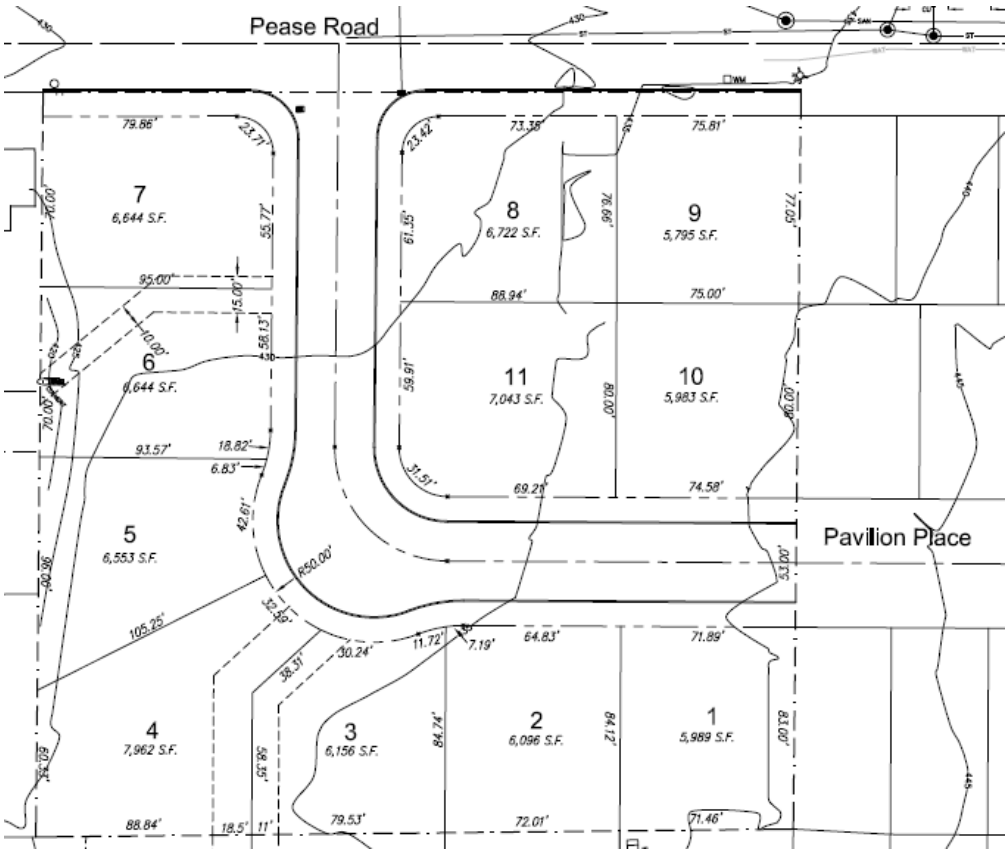
RECOMMENDATION: Staff recommends the Planning Commission recommend approval with conditions of Planning files TP 12-04, ZC 12-01 and US 12-01 to the City Commission for their consideration at the March 20, 2013 hearing.

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.

I. BACKGROUND AND PROPOSED DEVELOPMENT:

The property located at 19370 Pease Road, Oregon City, Oregon 97045 and identified as Clackamas County Map 3-2E-7B, TL 3300 was annexed into Oregon City from Clackamas County in 2008 by Planning file AN 07-07. As with all properties within the "LR" Low Density Residential Comprehensive Plan Designation, the 2.2 acre property was assigned the "R-10" Single-Family Dwelling District zoning designation upon annexation. The Applicant is seeking approval for a Zone Change from "R-10" Single-Family Dwelling District to "R-6" Single-Family Dwelling District as well as an 11-lot subdivision and a Geologic Hazards review.



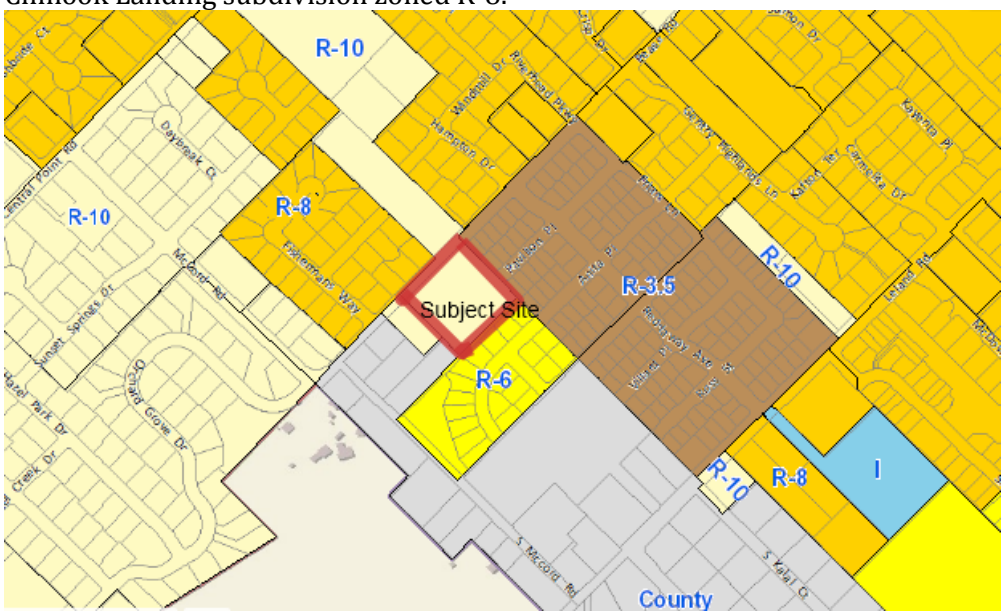
The site contains an existing single-family home and a large shop building which are proposed to be removed to allow development of the site.

The Pavilion Place subdivision abuts the subject site. This application would continue Pavilion Place which currently ends at the property line to provide access to Pease Road. City sewer and water services have been previously located within the alignment of the planned roadway.

The subject property is a rectangular-shaped parcel that is relatively level, sloping gently to the southwest. Fill material was placed on the southwest property line in approximately 1991. A rock retaining wall extends along the fill and there is a drop of approximately 6-8 feet in grade between this parcel and the property to the southwest. A geotechnical report for the property was provided with this application.

Surrounding Uses:
Property northeast of the site is within the "R-3.5" Dwelling District and is developed as the Pavilion Park subdivision. The property southeast of the site is within the "R-6" Single-Family Dwelling District and is also part of the Pavilion Park subdivision. The properties southwest of the site are within the "R-10" Single-Family Dwelling District and in Clackamas County (zoned Low density

residential) while northwest of the site there is the "R-10" Single-Family Dwelling District and the Chinook Landing subdivision zoned R-8.



City/Public Comments:
Notice of the public hearings for this proposal was mailed to property owners within 300 feet of the subject site the neighborhood association and the Citizen Involvement Council. The notice was advertised in the Clackamas Review, Oregon City News and Estacada News and the site was posted with land use notification signs. The notice requested comments and indicated that interested parties could testify at the public hearing or submit written comments prior to or at the hearing. The application was transmitted to the Oregon City Police Department, City Engineer, Public Works Operations Manager, Development Services Manager, Oregon City School District, GIS Coordinator, and the City transportation consultant for comment. Comments from John Replinger, a City consultant for Replinger and Associates, have been incorporated into this staff report.

No other comments were received regarding this application prior to February 11, 2013. Any comments received after February 11, 2013 will be forwarded to the Planning Commission.

II. DECISION-MAKING CRITERIA:

<u>Oregon City Municipal Code Standards and Requirements</u>
Title 16: Land Division:
- Chapter 16.08, Subdivisions-Process and Standards
- Chapter 16.12, Minimum Improvements and Design Standards for Land Divisions

Title 12: Streets, Sidewalks and Public Places:
- Chapter 12.04, Street Design Standards
- Chapter 12.08, Public and Street Trees

Title 13: Public Services
- Chapter 13.12, Stormwater Management

Title 17: Zoning:
- Chapter 17.08, R-10 Single Family Dwelling District
- Chapter 17.12, R-6 Single Family Dwelling District
- Chapter 17.41, Tree Protection
- Chapter 17.44, Geologic Hazards
- Chapter 17.47, Erosion and Sediment Control

Chapter 17.49, Natural Resource Overlay District
Chapter 17.68, Zone Changes and Amendments

III. COMPLIACE WITH APPROVAL CRITERIA

CHAPTER 17.68.020 ZONE CHANGES AND AMENDMENTS

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

Goal 1: Citizen Involvement

Goal 1.2: Ensure that citizens, neighborhood groups and affected property owners are involved in all phases of the comprehensive planning program.

Finding: Complies as Proposed. Chapter 17.50 of the Oregon City Municipal Code includes provisions to ensure that citizens, neighborhood groups, and affected property owners have ample opportunity for participation in zone change applications. The Applicant met with a neighborhood association prior to submitting this application. This meeting provided attendees with information regarding the proposal and the Applicant indicated that they took comments from the neighbors into consideration in preparing this application. Once the application was deemed complete, the City noticed the application to properties within 300 feet and the neighborhood association, posted the application on the City's website. In addition, the Applicant posted signs on the subject site. All interested persons have the opportunity to comment in writing or in person through the public hearing process. By following this process, the requirements of this policy are met.

Goal 2: Land Use

Goal 2.1: Ensure that property planned for residential, commercial, office and industrial uses is used efficiently and that land is developed following principles of sustainable development.

Finding: Complies as Proposed. The Applicant requested a zone change from "R-10" Single-Family Dwelling District to the "R-6" Single-Family Dwelling District. The zone change would allow additional dwellings to be constructed and the property to be utilized in an efficient manner, consistent with the adjacent properties. This standard has been met.

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 Oregon City Comprehensive Plan designates the subject property as within the "LR" Low Density Residential Development designation. The "LR" Low Density Residential Development designation includes the R-10, R-8 and R-6 zoning designations. The Applicant has not proposed to alter the Comprehensive Plan designation of the site. The subject site is located adjacent to R-3.5 and R-6 zoned properties, and thus the density of R-6 development is more appropriate than the existing R-10 designation. This standard has been met.

Goal (5) Natural Resources

Policy 5.4.4: Consider natural resources and their contribution to quality of life as a key community value when planning, evaluating and assessing costs of City actions.

Finding: Complies as Proposed. This policy is implemented by the application of the Natural Resources Overlay District (NROD). The subject property is located within the NROD boundary, but has previously received an exemption from the overlay with Planning file NR 12-04 (Exhibit 5). This standard has been met.

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 proposed R-6 development pattern will be consistent with this policy by creating a more compact land use pattern and reducing the square footage of public street per dwelling, thereby reducing travel by single-occupancy vehicles and increasing use of alternative modes of

transportation. Public sidewalks will be provided on all streets within this project. This standard has been met.

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. This policy is implemented by development standards that require appropriate handling of storm water runoff. Storm runoff from the proposed development will be collected with a storm sewer system, as shown on the preliminary utility plan submitted with this application. The existing storm detention facility within the adjacent Pavilion Park neighborhood has been designed with sufficient capacity to accommodate surface runoff from this project. Please refer to the findings within this report.

Goal 10: Housing
Goal 10.1.3: Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.
Finding: Complies as Proposed. The proposed zone change will maintain the basic land use for this site as Low Density Residential, consistent with the Oregon City Comprehensive Plan. The increased density allowed by the R-6 zoning, as compared with the existing R-10 district will provide for a greater number of single-family homes on this site, thereby increasing the availability of more choices in the marketplace. This standard has been met.

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 with Condition. All public facilities necessary to serve this project are available at adequate levels to meet the proposed R-6 zoning. Sanitary sewer is available from an existing 8-inch line that is installed on the property. Water service is available from a 12-inch City line in Pease Road and from an 8-inch line in Pavilion Place. The service will be extended through the site as shown on the preliminary utility plan. Storm water facilities are also proposed, as shown on the preliminary utility plan. Oregon City Public Schools provide education services and has adequate levels of service available. Police and fire protection are provided by the City of Oregon City. In accordance with the Annexation Agreement (File AN 07-07) that applies to the subject property, a supplemental fee of $3,500 per dwelling unit shall be paid at the time of building permit application for each lot in the subdivision to assure adequate police response times.

Wesley Lynn Park is located approximately a quarter mile southwest of the subject property to meet recreational needs. Please refer to the findings within this report: Chapter 16.08.030 paragraph B. **The Applicant can meet this standard through Conditions of Approval 29.**

Policy 11.1.4: Support development of 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 with Condition. All public facilities necessary to serve this project are available at adequate levels to meet the proposed R-6 zoning. The proposed zone change will maintain the basic land use for this site as Low Density Residential, consistent with the Oregon City Comprehensive Plan. The increased density allowed by the R-6 zoning, as compared with the existing R-10 district. Please refer to the findings within this report. In accordance with the Annexation Agreement (File AN 07-07 that applies to the subject property, a supplemental fee of $3,500 per dwelling unit shall be paid at the time of building permit application for each lot in the subdivision to assure adequate police response times. **The Applicant can meet this standard through Conditions of Approval 29.**

Goal 12: Transportation

Goal 12.6: Develop and maintain a transportation system that has enough capacity to meet users' needs.
Finding: Complies as Proposed. A Traffic Assessment Letter (TAL) was prepared for this project, dated October 9, 2012, under the direction of Todd E. Mobley, PE of Lancaster Engineering (Exhibit 2). The TAL was reviewed by John Replinger of Replinger and Associates, a City transportation consultant, who concluded: "the TAL meets city requirements and provides an adequate basis upon which impacts can be assessed. The subdivision will result in minimal additional traffic and will reinforce the existing local street network and increase connectivity. There are no transportation-related issues associated with this subdivision requiring mitigation" (Exhibit 3). This standard has been met.

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed in the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.
Finding: Complies with Condition. The public facilities and services have been addressed in the discussion of compliance with Goal 11, above and within this report. All the services are available and adequate to meet the needs of this property when developed to levels allowed by the R-6 zoning district. This standard has been met. In accordance with the Annexation Agreement (File AN 07-07 that applies to the subject property, a supplemental fee of $3,500 per dwelling unit shall be paid at the time of building permit application for each lot in the subdivision to assure adequate police response times. **The Applicant can meet this standard through Conditions of Approval 29.**

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.
Finding: Complies as Proposed. The proposed development would maintain the Comprehensive Plan designation of Low Density Residential. The proposed Zone Change would retain the use of the site as for single-family dwellings. A Traffic Assessment Letter (TAL) was prepared for this project, dated October 9, 2012, under the direction of Todd E. Mobley, PE of Lancaster Engineering (Exhibit 2). The TAL was reviewed by John Replinger of Replinger and Associates, a City transportation consultant, who concluded: "the TAL meets city requirements and provides an adequate basis upon which impacts can be assessed. The subdivision will result in minimal additional traffic and will reinforce the existing local street network and increase connectivity. There are no transportation-related issues associated with this subdivision requiring mitigation" (Exhibit 3). This standard has been met.

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.
Finding: Complies as Proposed. The Applicant has addressed statewide planning goals in addition to the Goals and Policies of the Comprehensive Plan as outlined below. This standard has been met.

Statewide Planning Goal 1: Citizen Involvement - OAR 660-015-0000(1)
To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process. The governing body charged with preparing and adopting a comprehensive plan shall adopt and publicize a program for citizen involvement that clearly defines the procedures by which the general public will be involved in the on-going land-use Planning process. The citizen involvement program shall be appropriate to the scale of the planning effort. The program shall provide for continuity of citizen participation and of information that enables citizens to identify and comprehend the issues. Federal, state and regional agencies, and special- purpose districts shall coordinate their planning efforts with the affected governing bodies and make use of existing local citizen involvement programs established by counties and cities.
Finding: Complies as Proposed. Chapter 17.50 of the Oregon City Municipal Code includes provisions to ensure that citizens, neighborhood groups, and affected property owners have ample opportunity for participation in zone change applications. The Applicant met with a neighborhood association prior to submitting this application. This meeting provided attendees with information regarding the proposal and the Applicant indicated that they took comments from the neighbors into consideration in preparing this application. Once the application was deemed complete, the City noticed the application to properties within

300 feet and the neighborhood association, posted the application on the City's website. In addition, the Applicant posted signs on the subject site. All interested persons have the opportunity to comment in writing or in person through the public hearing process. By following this process, the requirements of this policy are met.

Statewide Planning Goal 2: Land Use Planning - OAR 660-015-0000(2)
PART I -- PLANNING
To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and action.
Finding: Complies as Proposed. As demonstrated within this report, the development proposal was reviewed by the Oregon City Planning Division in a public process which concluded that the application will comply with all applicable City Code sections, the City Comprehensive Plan, Statewide Goals, Metro designations, etc. with conditions. The application is being reviewed as a Type IV decision which entails a quasi-judicial process with at least one public hearing by the planning commission and one public hearing by the city commission. The Applicant has been prepared pursuant to the applicable Administration and Procedures codified in OCMC Chapter 17.50 and the process for Zone Changes and Plan Amendments in OCMC 17.68. This standard has been met.

Statewide Planning Goal 6: Air, Water And Land Resources Quality - OAR 660-015-0000(6)
To maintain and improve the quality of the air, water and land resources of the state. All waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards. With respect to the air, water and land resources of the applicable air sheds and river basins described or included in state environmental quality statutes, rules, standards and implementation plans, such discharges shall not (1) exceed the carrying capacity of such resources, considering long range needs; (2) degrade such resources; or (3) threaten the availability of such resources.
Finding: Complies as Proposed. The proposed zone change request will allow for the subject property to be utilized in a more efficient manner than the existing zoning designation. Public facilities are capable of supporting the zone change and the property is exempt from the Natural Resource Overlay District. This standard has been met.

Statewide Goal 10: Housing - OAR 660-015-0000(10)
To provide for the housing needs of citizens of the state.
Buildable lands for residential use shall be inventoried and plans shall encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.
Finding: Complies as Proposed. The proposed zone change will result in the construction of more housing then the existing zoning designation, creating additional housing inventory within the City. This standard has been met.

Statewide Goal 11: Public Facilities and Services - OAR 660-015-0000(11)
To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.
Finding: Complies as Proposed. The subject site will utilize public facilities. Development of the subject site will allow for timely, orderly and efficient use of public services. This standard is met.

Statewide Goal 12: Transportation - OAR 660-015-0000(12)
To provide and encourage a safe, convenient and economic transportation system.
A transportation plan shall (1) consider all modes of transportation including mass transit, air, water, pipeline, rail, highway, bicycle and pedestrian; (2) be based upon an inventory of local, regional and state transportation needs; (3) consider the differences in social consequences that would result from utilizing differing combinations of transportation modes; (4) avoid principal reliance upon any one mode of transportation; (5) minimize adverse social, economic and environmental impacts and costs; (6) conserve energy; (7) meet the

needs of the transportation disadvantaged by improving transportation services; (8) facilitate the flow of goods and services so as to strengthen the local and regional economy; and (9) conform with local and regional comprehensive land use plans. Each plan shall include a provision for transportation as a key facility.
Finding: Complies as Proposed. The Pavilion Place subdivision abuts the subject site. This application would continue Pavilion Place which currently ends at the property line to provide access to Pease Road. A Traffic Assessment Letter (TAL) was prepared for this project, dated October 9, 2012, under the direction of Todd E. Mobley, PE of Lancaster Engineering (Exhibit 2). The TAL was reviewed by John Replinger of Replinger and Associates, a City transportation consultant, who concluded: "the TAL meets city requirements and provides an adequate basis upon which impacts can be assessed. The subdivision will result in minimal additional traffic and will reinforce the existing local street network and increase connectivity. There are no transportation-related issues associated with this subdivision requiring mitigation" (Exhibit 3). This standard has been met.

Statewide Goal 14: Urbanization - OAR 660-015-0000(14)
To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.
Finding: Complies as Proposed. The proposed zone change will maintain the basic land use for this site as Low Density Residential, consistent with the Oregon City Comprehensive Plan. The increased density allowed by the R-6 zoning, as compared with the existing R-10 district will provide for a greater number of single-family homes on this site. All necessary public utilities are available to the site at this time in order to allow for its development to urban densities. For this reason, this application is consistent with an orderly and efficient transition from rural to urban land use. This standard has been met.

CHAPTER 17.12 "R-6" SINGLE-FAMILY DWELLING DISTRICT

17.12.040. A. Minimum lot area, six thousand square feet;
Finding: Complies as Proposed. Chapter 16.12.050 of the Oregon City Municipal Code allows lots that are up to 20% less than the required minimum lot area of the applicable zoning designation provided the subdivision, on average, meets the minimum site area requirement of the underlying zone. In the R-6 zone, the 20% standard would allow lots as small as 4,800 square feet. Lot 9 is the smallest lot proposed and measures 5,795 square feet in area. The average lot size for the entire subdivision is 6,501 square feet. This standard has been met.

Lot Number	Size (Sq. Ft.)
1	5,989
2	6,096
3	6,156
4	7,962
5	6,553
6	6,644
7	6,644
8	6,722
9	5,795
10	5,983
11	7,043

17.12.040. B. Minimum lot width, fifty feet;
Finding: Complies as proposed. As demonstrated below, the proposed lot widths exceed the minimum lot width of 50 feet. This standard has been met.

Lot	Lot Width Ft.
1	71.46

2	72.01
3	79.53
4	64.00
5	72.00
6	70.00
7	70.00
8	76.66
9	75.00
10	74.58
11	80.00

17.12.040. C. Minimum lot depth, seventy feet;
Finding: Complies as Proposed. As demonstrated below, the proposed lot depths exceed the minimum lot depth of 50 feet. This standard has been met.

Lot	Lot Depth Ft.
1	83.00
2	84.12
3	84.74
4	140.00
5	93.57
6	95.00
7	95.00
8	88.94
9	76.66
10	80.00
11	80.00

17.12.040.D. Maximum building height: two and one-half stories, not to exceed thirty-five feet.
Finding: Not Applicable. The Applicant did not propose to construct a structure with the proposed development. Building heights will be reviewed upon submission of a building permit.

17.12.040.E
1. Front yard: ten feet minimum depth.
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-foot minimum setback
7. Rear porch, fifteen-foot minimum setback.
Finding: Complies with Condition. The site contains an existing single-family home and a large shop building which are proposed to be removed to allow development of the site. Prior to final plat, the Applicant shall remove all existing structures onsite. The Applicant did not propose to construct a structure with the proposed development. Setbacks will be reviewed upon submission of a building permit. **The Applicant can meet this standard through Condition of Approval 1.**

17.12.040.F. Garage standards: See Chapter 17.21—Residential Design Standards.
Finding: Complies with Condition. The site contains an existing single-family home and a large shop building which are proposed to be removed to allow development of the site. Prior to final plat, the

Applicant shall remove all existing structures onsite. The Applicant did not propose to construct a structure with the proposed development. Setbacks will be reviewed upon submission of a building permit. **The Applicant can meet this standard through Condition of Approval 1.**

G. Maximum lot coverage: The footprint of all structures two hundred square feet or greater shall cover a maximum of forty percent of the lot area.
Finding: Complies with Condition. The site contains an existing single-family home and a large shop building which are proposed to be removed to allow development of the site. Prior to final plat, the Applicant shall remove all existing structures onsite. The Applicant did not propose to construct a structure with the proposed development. Setbacks will be reviewed upon submission of a building permit. **The Applicant can meet this standard through Condition of Approval 1.**

CHAPTER 16.08 – SUBDIVISIONS PROCESS AND STANDARDS

16.08.010
All subdivisions shall be in compliance with the policies and design standards established by this chapter and with applicable standards in the City's Public Facilities Master Plan and the City Design Standards and Specifications. The evidence contained in this record indicates that the proposed subdivision is in compliance with standards and design specifications listed in this document, subject to the conditions of approval.
Finding: Complies with Conditions. As demonstrated within this staff report the proposed project was reviewed by the appropriate agencies and will comply with the criterion in the Oregon City Municipal Code with the conditions of approval. **The Applicant can meet this standard through all Conditions of Approval.**

16.08.015 *Preapplication conference required.*
Finding: Complies as Proposed. The Applicant held a pre-application conference on April 10, 2012. 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.
Finding: Complies as Proposed. This application was submitted on October 10, 2012, within 6 months of the pre-application conference on April 10, 2012. The application was reviewed and determined to be incomplete on November 9, 2012, and was deemed complete on January 10, 2013 after additional materials were submitted. 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.
Finding: Complies as Proposed. The development application included a preliminary site plan displaying the necessary submittal requirements. This standard is met.

B. *Traffic/Transportation Plan. The applicant's traffic/transportation information shall include two elements: (1) A detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the existing system, circulation patterns and connectivity to existing rights-of-way or adjacent tracts, parking and loading areas and any other transportation facilities in relation to the features illustrated on the site plan; and (2) a traffic impact study prepared by a qualified professional transportation engineer, licensed in the state of Oregon, that assesses the traffic impacts of the proposed development on the existing transportation system and analyzes the adequacy of the proposed internal transportation network to handle the anticipated traffic and the adequacy of the existing system to accommodate the traffic from the proposed development. 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 development application included preliminary site plan as well as a Transportation Analysis Letter, prepared by Todd E. Mobley, PE of Lancaster Engineering (Exhibit 2). This standard 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 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. An exemption to the Natural Resource Overlay District (Planning file NR 12-04) has been previously approved for the site (Exhibit 5). 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.
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. 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;*
Finding: Complies as Proposed. A detailed description of the proposed subdivision including the above listed information, as applicable, was submitted with this development application. This standard has been 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*
Finding: Complies with Condition. There is an existing ductile iron 8-inch Oregon City (City) water main in Pavilion Place and an existing ductile iron 12-inch water main in Pease Road. The Applicant proposed the water line be installed in the proposed street connecting the two existing pipes with an 8-inch pipe.

All new water services shall be constructed with individual copper water laterals a minimum of 1-inch diameter in size connecting the water main to the water meter.

Staff concurs that sufficient water mains are installed. This application was transmitted to Clackamas County Fire District No. 1, though no comments regarding the application were submitted. Prior to final plat, the Applicant shall submit the proposed development to Clackamas County Fire District No. 1 for review. In the event that fire hydrants are required by Clackamas County Fire District No. 1 requirements, staff finds there is adequate area available on the subject property for such installation. The Applicant has proposed a water system that appears to meet City code requirements with a few modifications. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. **The Applicant can meet this standard through Conditions of Approval 2, 3, 4, and 5.**

2. *Sanitary Sewer*

Finding: Complies with Condition. There are existing 8-inch gravity sanitary sewer mains in Pavilion Place that extends through the proposed development. A new public sanitary sewer main is not required. The Applicant has proposed to provide sanitary sewer laterals to all of the lots in the proposed development.

The proposed sanitary sewer system will meet City code requirements with a few modifications. All new sanitary sewer laterals shall be constructed with individual laterals connecting to the sanitary sewer main. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. **The Applicant can meet this standard through Conditions of Approval 2, 3, and 6.**

3. Storm Sewer and Storm Water Drainage

Finding: Complies with Condition. The subject site is located off of Pease Road and at the existing dead end of Pavilion Place. A storm water management report was completed as part of the original Pavilion Park subdivision which included the land in Pavilion Park II. Both treatment and detention facilities were constructed as part of Pavilion Park, which were sized to accommodate Pavilion Park II. There are two discharge points for the storm water and the majority of the drainage flows through the northern of the two.

Southern Discharge Point:

The southern discharge point will receive additional storm drainage from a portion of the proposed new street and the frontage along Pease Road for lots 7, 8, and 9 under Pavilion Park II. This discharge point releases to a natural open drainage way that crosses private property. The private property owner has indicated that erosion of the stream banks and flooding of her backyard occurrs due to the existing storm drainage. The additional storm drainage from the Pavilion Park II subdivision may increase the storm flow on the private property.

To address this issue the Applicant has proposed backyard infiltrators for the three lots (7, 8 and 9) that discharge to the southern discharge point. These facilities will provide detention for a portion of the storm water flow and prevent additional storm water flow from these lots to the natural open drainage way that crosses private property. However, the Applicant has not proposed detention for the storm water flow from the portion of the new street and the frontage along Pease Road for lots 7, 8 and 9 that flows to the southern discharge point. The Applicant shall update the storm drainage report to address the storm drainage flow to the natural channel at the southern edge of the property.

Additional improvements including, but not limited to, storm detention, low impact development storm drainage practices, downstream improvements to the natural channel or a combination will be required to mitigate the impact of additional storm drainage flow or prevent additional storm water flow to the natural channel. Although the Applicant has not quantified the amount of runoff from new street and frontage along Pease Road for lots 7, 8, and 9, in City staff's experience, the Applicant's combination of the above listed improvements will likely provide the mitigation required to minimize the downstream impacts due to increased storm water flow. The Applicant's updated storm drainage report will be reviewed by the City during the design of the subdivision.

Overall Storm Sewer System:

There is an existing storm drainage collection pipe in portions of the proposed subdivision described as follows:

- A 12-inch pipe enters the site between lots 3 and 4, and then is located in Pavilion Place moving to the east in front of lots 1, 2, 10 and 11.

- A second 12 inch pipe that begins at Pease Road and runs diagonally through the proposed subdivision to the south.
- At the southerly edge of the proposed subdivision there is an outfall to a natural drainage way. The Applicant has proposed to realign a portion of the pipe such that it is parallel with Pavilion Place, then runs between lots 6 and 7, and finally connects to the existing pipe that cuts diagonally across a portion of lot 6. The discharge point near an existing rock retaining wall along the property line would remain.

Storm sewer improvements will be necessary for the proposed development. Storm sewer will be designed to collect and convey on-site drainage. Each lot shall drain to Pavilion Place if possible or an alternate location approved during construction plan review. The new storm sewer system shall be designed in accordance with the City of Oregon City Public Works Stormwater and Grading Design Standards.

Public storm sewer improvements shall be designed and constructed to collect and convey on-site and off-site storm drainage. The proposed storm sewer system will meet City code requirements with a few modifications that can be addressed during design. The existing storm drainage easement on Lots 6 and 7 will be rewritten to reflect the new location and property owners. The width of the storm drainage easement may need to be adjusted based upon the actual depth of the pipe.

The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through Conditions of Approval 2, 3, 7, 8, and 28.**

4. Parks and Recreation
Finding: Complies as Proposed. The closest park to the subject property is Wesley Lynn Park. It is located approximately one quarter mile to the southeast of the subject property on the southeast side of Leland Road. Park System Development Charges will be paid at the time building permits are issued for each lot in the subdivision. This standard is met.

5. Traffic and Transportation
Finding: Complies as Proposed. A Transportation Analysis Letter was prepared for the site in October 2012 under the direction of Todd Mobley, PE of Lancaster Engineering (Exhibit 2). In a letter dated February 6, 2013, John Replinger, the City's Traffic Consultant Engineer found the analysis meets the essential City requirements and does not require off-site mitigation measures to address transportation impacts (Exhibit 3). Mr. Replinger concluded "I find that the TAL meets city requirements and provides an adequate basis upon which impacts can be assessed. The subdivision will result in minimal additional traffic and will reinforce the existing local street network and increase connectivity. There are no transportation-related issues associated with this subdivision requiring mitigation" (Exhibit 3). This standard is met.

6. Schools
Finding: Complies as Proposed. The Oregon City School District provides education services for the children of future residents. School funding is provided through a variety of sources including property taxes and surcharges that will be assessed with future building permits for the homes. This standard is met.

7. Fire and Police Services
Finding: Complies with Condition. Clackamas County Fire District No. 1 will provide fire services to the subject site. There are no noted concerns about fire services and property taxes will be paid by future property owners to fund fire protection services thereby ensuring funding for protection services. In order to assure adequate protection new fire hydrants shall be located and installed as required per Clackamas

County Fire District No. 1. Staff concurs that sufficient water mains are installed. In the event that fire hydrants are required by Clackamas County Fire District No. 1 requirements, staff finds there is adequate area available on the subject property for such installation.
The City of Oregon City Police Department will provide police services to the subject site. In accordance with the Annexation Agreement (File AN 07-07 that applies to the subject property, a supplemental fee of $3,500 per dwelling unit shall be paid at the time of building permit application for each lot in the subdivision to assure adequate police response times. **The Applicant can meet this standard through Conditions of Approval 29 and 5.**

B. Where adequate capacity for any of these public facilities and services is not demonstrated to be currently available, the Applicant shall describe how adequate capacity in these services and facilities will be financed and constructed before recording of the plat;
Finding: Not Applicable. As described above, all public facilities and services are available. Therefore, this standard does not apply to this application.

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.

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 with Condition. The Applicant included draft CC&R's in the application submittal. A preliminary review of the draft CC&Rs reveals a conflict with the maximum fence height permitted in the front yard of the dwellings with the standard identified in OCMC 17.54.100. Prior to final plat the Applicant shall submit revised CC&Rs that do not conflict with the standards of the Oregon City Municipal Code. **The Applicant can meet this standard through Condition of Approval 9.**

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. This standard has been met.

F. Overall density of the subdivision and the density by dwelling type for each.
Finding: Complies as Proposed. The subdivision proposed eleven lots which would subsequently be developed with single family homes. The site area is 2.2 acres, for a gross density of 5.05 units per acre. The site measures 95,031 sq. ft. in area and proposed rights-of-way total 23,520 sq. ft. Subtracting street area, the net site area is 71,511 square feet, or 1.642 acres. The average lot size is 6,501 square feet and the net density is 6.7 units per acre, consistent with the proposed R-6 zoning for the site. This standard has been met.

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 Section 17.50, the city shall provide notice of the application in accordance with requirements of Section 17.50 applicable to Type II decisions.
Finding: Complies as Proposed. The application was deemed complete and notice was transmitted for comment in accordance with Section 17.50. 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.

Finding: Complies as Proposed. This staff report contains findings and conditions of approval to assure that the applicable approval criteria are met. These findings are supported by substantial evidence which includes preliminary plans, a Transportation Analysis Letter, and other written documentation. 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.

Finding: Complies as Proposed. As shown in the preliminary plans, each proposed lot's street frontage is in excess of twenty feet. 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.

Finding: Not Applicable. No flag lots are proposed.

CHAPTER 16.12 – MINIMUM IMPROVEMENTS AND DESIGN STANDARDS FOR LAND DIVISIONS

Chapter 16.12.015 - Street Design-Generally

Street design standards for all new development and land divisions shall comply with Chapter 12.04—Street Design Standards.

Finding: Please refer to the analysis in Chapter 12.04 of this report.

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 proposed subdivision provides for the completion of Pavilion Place through the site and back out to Pease Road, providing for connectivity and avoiding a dead-end street. This pattern provides for improved pedestrian, bicycle and motor vehicular circulation in this area. There is no bus service in this area. There is no need for street stubs to adjoining properties because of pre-existing development patterns and constraints imposed by grade differential and a seasonal stream corridor offsite to the south west. The proposed street pattern provides for adequate building site size, as demonstrated by the site plan submitted with this application.

16.12.025 Blocks-Length

Block lengths for local streets and collectors shall not exceed five hundred feet between through streets, as measured between nearside right-of-way lines.

Finding*:* Complies as Proposed. The block length between Reddaway Avenue, to the northeast, and the proposed intersection of Pavilion Place with Pease Road measures approximately 425 feet.

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 proposed development results in a formation of a new block which provides two tiers of lots.

16.12.035 Blocks-Pedestrian and Bicycle Access
Finding: Complies as Proposed. The proposal includes a fully contiguous street system that minimizes out-of-direction travel by pedestrians and bicyclist with installation of sidewalks and a street system. Separate pedestrian and bicycle access ways are neither proposed nor required. 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.
Finding: Complies as Proposed. The buildings sites proposed are appropriate in size, width, shape, and orientation for low-density residential development, exceeding the minimum lot size, lot depth and lot width and similar to other development within the "R-6" Single-Family Dwelling District. The Applicant is not requesting a variance to any dimensional standard. This standard is met.

16.12.045 Building Sites--Minimum Density
All subdivision layouts shall achieve at least 80% of the maximum density of the base zone for the net developable area as defined in Section 17.04.
Finding: Complies as Proposed. The subject site is approximately 2.2 acres in size. Subtracting street area, the net site area for the proposed subdivision is 71,511 square feet. Dividing this net area by the 6,000 square foot minimum lot size of the R-6 zone yields a maximum density of 11.91 units. The minimum density allowable would be 80 percent of the maximum, or 9.5 units. The proposed density of 11 units meets this standard.

16.12.050 Calculations of Lot Area.
A subdivision in the R-10, R-8, R-6, R-3.5 and R-2 Dwelling District may include lots that are up to 20% 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.
Finding: Complies as Proposed. This standard allows lots within 20 percent of the 6,000 square foot minimum lot size (4,800 square feet). In the R-6 zone, the 20% standard would allow lots as small as 4,800 square feet. The smallest lot proposed is Lot 9 and it measures 5,795 sq. ft. in area. The average lot size for the entire subdivision is 6,501 square feet. This standard is met.

16.12.055 Building Sites -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.
Finding: Not Applicable. The Applicant did not propose a through lot.

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 of Chapter 17.47.
Finding: Complies with Condition. The Applicant provided a preliminary grading plan demonstrating compliance with the City's Public Works requirements for grading standards if a few modifications are provided. The Applicant shall submit an erosion control plan and obtain an erosion control permit and field installation for review by the Public Works Department prior to start of construction.

The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements.

The Applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval. The Applicant shall provide a Preliminary Residential Lot Grading Plan to the City for review prior to the approval of construction plans. 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. If significant grading is required for the lots due to its location or the nature of the site, rough grading shall be required of the developer prior to the acceptance of the public improvements. There shall not be more than a maximum grade differential of two (2) feet at all subdivision boundaries. Grading shall in no way create any water traps, or create other ponding situations. The plan shall show the existing and proposed swales. **The Applicant can meet this standard through Conditions of Approval 2 and 10.**

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. The purpose of this standard is to provide a safe, convenient and aesthetically pleasing environment for pedestrians and bicyclists by orienting front yards to collector and minor arterial roads, and to design the most architecturally significant elevation of the primary structure to face the neighborhood collector street. Lots 7, 8, and 9 abut Pease Road which is designated as a neighborhood collector in the Transportation System Plan. Lots 7, 8, and 9 shall orient the front setback and the most architecturally significant elevation face Pease Road. In addition, if access to lots 8 and 9 is taken from Pease Road, the lots shall combine their access into a single driveway to the right-of-way. **Staff has determined that it is likely and reasonable that the Applicant can meet this standard through Condition of Approval 11.**

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: Not Applicable. No lots have been proposed which are capable of redivision in accordance with this chapter.

16.12.080 Protection of trees.
Protection of trees shall comply with the provisions of Chapter 17.41--Tree Protection.
Finding: Please refer to the analysis in chapter 17.41 of this report.

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. The Applicant proposed public utility easements (PUE's) along all street frontages. The easement for the public storm sewer shall be revised for the modified location and properties impacted. Ten-foot public utility easements along all street frontages and all easements required for the final engineering plans shall be dedicated to the public on the final plat. All existing and proposed utilities and easements shall be indicated on the construction plans. Any off-site utility easements required for this project shall be obtained and submitted to the City prior to approval of the construction plans.

The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. **The Applicant can meet this standard through Conditions of Approval 2, 8 and 12.**

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. There are no watercourses traversing or bounding the site.

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: Not Applicable. There are no access easements proposed or required with this development.

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. There are no identified significant natural features that require resource protection pursuant to this section.

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 with Condition. The Applicant indicated that construction plans for all required improvements will be presented to the city for review and approval prior to the commencement of any construction activities on the site. Inspection will be provided for as required by this standards and city policy. Erosion control measures will be provided and are depicted in conceptual form on the attached preliminary grading plans. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. **The Applicant can meet this standard through Conditions of Approval 2 and 3.**

16.12.095 Same--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 Proposed. A Transportation Analysis Letter was prepared for the site in October 2012 under the direction of Todd Mobley, PE of Lancaster Engineering (Exhibit 2). John Replinger, the City's Traffic Consultant Engineer, reviewed the analysis and concluded "I find that the TAL meets city requirements and provides an adequate basis upon which impacts can be assessed. The subdivision will result in minimal additional traffic and will reinforce the existing local street network and increase connectivity. There are no transportation-related issues associated with this subdivision requiring mitigation" (Exhibit 3). This standard is met.

B. *Stormwater Drainage System. Applicants shall design and install drainage facilities within land divisions and shall connect the development's drainage system to the appropriate downstream storm drainage system as a minimum requirement for providing services to the applicant's development. The applicant shall obtain county or state approval when appropriate. All applicants shall execute a binding agreement to not remonstrate*

against the formation of a local improvement district for stormwater drainage improvements that benefit the applicant's property. Applicants are responsible for extending the appropriate storm drainage system to the development site and for providing for the connection of upgradient properties to that system. The applicant shall design the drainage facilities in accordance with city drainage master plan requirements, Chapter 13.12 and the Public Works Stormwater and Grading Design Standards.
Finding: Complies with Condition. Refer to section 16.08.030.B.3 of this report for a discussion of storm water. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through Conditions of Approval 2, 3, 7, 8, and 28.**

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: Complies with Condition. There are existing 8-inch gravity sanitary sewer mains in Pavilion Place that extends through the proposed development. A new public sanitary sewer main is not required. The Applicant has proposed to provide sanitary sewer laterals to all of the lots in the proposed development.

The proposed sanitary sewer system will meet City code requirements with a few modifications. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. **The Applicant can meet this standard through Conditions of Approval 2, 3, and 6.**

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: Complies with Condition. There is an existing ductile iron 8-inch Oregon City (City) water main in Pavilion Place and an existing ductile iron 12-inch water main in Pease Road. The Applicant proposed the water line be installed in the proposed street connecting the two existing pipes with an 8-inch pipe.

All new water services shall be constructed with individual copper water laterals a minimum of 1-inch diameter in size connecting the water main to the water meter.

Staff concurs that sufficient water mains are installed. In the event that fire hydrants are required by Clackamas County Fire District No. 1 requirements, staff finds there is adequate area available on the subject property for such installation. The Applicant has proposed a water system that appears to meet City code requirements with a few modifications. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the property and

assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. **The Applicant can meet this standard through Conditions of Approval 2, 3, 4, and 5.**

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 with Condition. Pavilion Place is classified as a local street in the Oregon City Transportation System Plan, which requires a right-of-way width of 42 to 54 feet. The proposed right-of-way is 53-feet.

A Local Street in the Oregon City Transportation System Plan identifies a pavement width of 20 to 32 feet, a 5 foot planter strip on both sides and a 5-foot sidewalk on both sides. The Applicant has proposed 32 feet of pavement, 5 feet planter strips including the curb, and 5 feet sidewalks. The Applicant has also proposed an eyebrow where Pavilion Place will have a 90-degree turn. The improvements as proposed comply with the code requirements.

Pease Road is classified as a Neighborhood Collector street in the Oregon City Transportation System Plan, requiring a right-of-way width of 52 to 81 feet. Currently Pease Road in this location is approximately 28 feet wide with a curb, landscape strip and sidewalk on the north side. The Applicant has proposed to dedicate right-of-way to provide 30 feet from the centerline of Pease Road. A Neighborhood Collector Street in the Oregon City Transportation System Plan requires a pavement width of 30 to 59 feet, a 5 foot planter strip on both sides and a 5-foot sidewalk on both sides. The Applicant proposed to provide a half street improvement that includes 10-feet of pavement west of the centerline line, 19 feet of pavement east of the centerline, 5 foot planter strip including the curb, and 5 foot sidewalk. The pavement width west of the centerline includes an 11 foot travel lane and an 8 foot parking lane.

Immediately north of the proposed project the east side of Pease Road has 24 feet of pavement and is striped with parking, a bike lane and a travel lane. The centerline of the street has been striped such that the centerline shifts 5-feet to the east moving from the north end to the south end of the proposed development. In order to provide continuity with the bike lane and continue the bike lane in front of the proposed development, it must be restriped such that there is no parking in front of the proposed development and the bike lane is against the curb.

The Applicant has proposed a street system that will meet City requirements with a few modifications. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. **The Applicant can meet this standard through Conditions of Approval 2, 3, 13, 14 and 15.**

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: Please refer to the analysis in chapter 12.04 of this report.

G. *Street Name Signs and Traffic Control Devices. The applicant shall pay the city and the city installs street name signs at all street intersections. The applicant shall install 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. The Applicant indicated compliance with this section. 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.*
Finding: Complies with Condition. As required in this criterion, the Applicant shall install street lights along the frontage of the project.

The Applicant has proposed a street system that will meet City requirements with a few modifications. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. **The Applicant can meet this standard through Conditions of Approval 2, 13, 14 and 15.**

I. *Street Trees.*
Finding: Please refer to Chapter 12.08, Street Trees.

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 Applicant indicated compliance with this section. 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.*
Finding: Complies as Proposed. The Applicant indicated compliance with this section. 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.*
Finding: Complies as Proposed. The Applicant indicated compliance with this section. 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.*
Finding: Complies with Condition. The Applicant provided a preliminary rough grading plan that indicates the Applicant will be able to meet the City's Public Works erosion control standards. Further, the Applicant indicated that it will comply with this section by submission of its erosion control plan to the Public Works Department to ensure the erosion control will meet meets the Public Works requirements. The Applicant shall provide an Erosion Prevention and Sedimentation Control Plan suitable to the Public Works Department to meet the Public Works requirements for erosion control. The Applicant shall provide a Preliminary Residential Lot Grading Plan to the City for review prior to the approval of construction plans. 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. If significant grading is required for the lots due to its location or the nature of the site, rough grading shall be required of the developer prior to the acceptance of the public improvements. There shall not be more than a maximum grade differential of two (2) feet at all subdivision boundaries. Grading shall in no way create any water traps, or create other ponding situations. The plan shall show the existing and proposed swales. **The Applicant can meet this standard through Condition of Approval 10**.

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.
Finding: Please refer to the findings in chapter 12.04 within this report.

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 as Proposed. The Applicant indicated compliance with this section by completing all public improvements prior to final plat or guaranteeing the construction improvements in a manner acceptable to the City Engineer. This standard is met.

16.12.110 *- Minimum improvements—Financial guarantee.*
When conditions of permit approval require a permitee 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 permitee shall be required to provide a performance guarantee as follows:
1. After Final Approved Design by the City: A permitee 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 permit tee'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 permitee 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 permitee. 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 permitee complete the improvement. Once constructed and approved by the city, any remaining funds shall be refunded to the permitee. 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 as Proposed. The Applicant indicated compliance with this section and will submit the required performance guarantees or will perform the improvements required for this application. This standard is met.

CHAPTER 12.04 – STREETS, SIDEWALKS AND PUBLIC PLACES

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. Where location is not shown in the development plan, 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. Access control in accordance with section 12.04.200 shall be required to preserve the objectives of street extensions.

Finding: Complies as Proposed. The location, widths, and grades of the proposed street network provide connectivity for future development of adjacent properties, a convenient street system, and for the safety of all modes of travel, including pedestrian and bicycle to, from, and through the subject site. This standard is met.

12.04.180 *Street design--Minimum right-of-way.*

All development shall provide adequate right-of-way and pavement width. Adequate right-of-way and pavement width shall be provided by:

A. Complying with the Street Design Standards contained in the table provided in chapter 12.04. The Street Design Standards are based on the classification of streets that occurred in the Oregon City Transportation System Plan (TSP), in particular, the following TSP figures provide the appropriate classification for each street in Oregon City: Figure 5-1: Functional Classification System and New Roadway Connections; Figure 5-3: Pedestrian System Plan; Figure 5.6: Bicycle System Plan; and Figure 5.7: Public Transit System Plan. These TSP figures from the Oregon City Transportation System Plan are incorporated herein by reference in order to determine the classification of particular streets.

Table 12.04.020 STREET DESIGN STANDARDS		
Type of Street	*Maximum Right-of-way Width*	*Pavement Width*
Major arterial	*124 feet*	*98 feet*

Minor arterial	*114 feet*	*88 feet*
Collector street	*86 feet*	*62 feet*
Neighborhood Collector street	*81 feet*	*59 feet*
Local street	*54 feet*	*32 feet*
Alley	*20 feet*	*16 feet*

B. The applicant may submit an alternative street design plan that varies from the Street Design Standards identified above. An alternative street design plan may be approved by the City Engineer if it is found the alternative allows for adequate and safe traffic, pedestrian and bicycle flows and transportation alternatives and protects and provides adequate multi-modal transportation services for the development as well as the surrounding community.

Finding: Complies with Condition. Pavilion Place is classified as a local street in the Oregon City Transportation System Plan, which requires a right-of-way width of 42 to 54 feet. The proposed right-of-way is 53-feet.

A Local Street in the Oregon City Transportation System Plan identifies a pavement width of 20 to 32 feet, a 5 foot planter strip on both sides and a 5-foot sidewalk on both sides. The Applicant has proposed 32 feet of pavement, 5 feet planter strips including the curb, and 5 feet sidewalks. The Applicant has also proposed an eyebrow where Pavilion Place will have a 90-degree turn. The improvements as proposed comply with the code requirements.

Pease Road is classified as a Neighborhood Collector street in the Oregon City Transportation System Plan, requiring a right-of-way width of 52 to 81 feet. Currently Pease Road in this location is approximately 28 feet wide with a curb, landscape strip and sidewalk on the north side. The Applicant has proposed to dedicate right-of-way to provide 30 feet from the centerline of Pease Road. A Neighborhood Collector Street in the Oregon City Transportation System Plan requires a pavement width of 30 to 59 feet, a 5 foot planter strip on both sides and a 5-foot sidewalk on both sides. The Applicant proposed to provide a half street improvement that includes 10-feet of pavement west of the centerline line, 19 feet of pavement east of the centerline, 5 foot planter strip including the curb, and 5 foot sidewalk. The pavement width west of the centerline includes an 11 foot travel lane and an 8 foot parking lane.

Immediately north of the proposed project the east side of Pease Road has 24 feet of pavement and is striped with parking, a bike lane and a travel lane. The centerline of the street has been striped such that the centerline shifts 5-feet to the east moving from the north end to the south end of the proposed development. In order to provide continuity with the bike lane and continue the bike lane in front of the proposed development, it should be striped such that there is no parking in front of the proposed development and the bike lane is against the curb.

The Applicant has proposed a street system that will meet City requirements with a few modifications. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. **The Applicant can meet this standard through Conditions of Approval 2, 3, 13, 14 and 15.**

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: Not Applicable. There is no street that dead ends at the boundary of the development, and no half street dedication. The proposed development will extend an existing dead end street.

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 ten 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 proposed street centerline alignments meet the City requirements. This standard is met.

12.04.195 *Street design—Minimum Street Intersection Spacing.*
A. All new development and redevelopment shall meet the following public street intersection spacing standards:

Table 12.04.040—Public Street Intersection Spacing Standards

	Distance in Feet between Streets of Various Classifications								
	Between Arterial & Arterial	*Between Arterial & Collector*	*Between Arterial & Nbhd Collector*	*Between Arterial & Local Street*	*Between Collector Street & Collector Street*	*Between Collector Street & Nbhd Collector*	*Between Collector & Local Street*	*Between Nbhd Collector & Local Street*	*Between two adjacent Local Streets*
Measured along an Arterial Street	*1320*	*800*	*600*	*300*	*600*	*300*	*150*	*150*	*150*
Measured along a Collector Street	*800*	*800*	*600*	*300*	*600*	*300*	*150*	*150*	*150*
Measured along a Nbhd Collector Street	*800*	*600*	*300*	*300*	*300*	*150*	*150*	*150*	*150*
Measured along a Local Street	*600*	*600*	*300*	*300*	*300*	*150*	*150*	*150*	*150*
Note: With regard to public intersection spacing standards, the same distances apply to both major arterial and minor arterial streets. In this table, the term "arterial" applies to both major arterial and minor arterial streets.									

or
B. A lesser distance between intersections may be allowed, provided appropriate mitigation, in the judgment of the city engineer, is provided to ensure that the reduction in intersection spacing will not pose a safety hazard.

Finding: Complies as Proposed. The distance between two local street intersections measured along a neighborhood collector street is 150-feet. The proposed street intersection on Pease Road is more than 150-feet from the intersection to the north and south. This standard is met.

12.04.200 *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	*30 to 40 feet*	*20 to less than 32 feet*

Finding: Complies as Proposed. There are no proposed constrained streets or right-of-ways.

12.04.205 *Intersection Level of Service Standards.*
When approving land use actions, the City of 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.
Finding: Complies as Proposed. A Transportation Analysis Letter was prepared for the site in October, 2012 by Lancaster Engineering. The report concluded that there were no safety concerns and that there is minimal impact to existing traffic. The report was reviewed by John Replinger of Replinger and Associates, a City consultant, who concurred with the report (Exhibit X). 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.
Finding: Complies as Proposed. All proposed street intersections in the subdivision have intersection angles of approximately 90-degrees and meet the 50-foot tangent requirement for local streets**.** 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.

Finding: Complies as Proposed. The existing streets abutting the proposed development meet the City standards. This standard 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 as described in 12.04.200 may be required to preserve the objectives of half streets.
Finding: Complies as Proposed. Pease Road in this section is an existing half street improvement. The applicant will complete the street adjacent to the proposed development. This standard is met.

12.04.225 *Street Design—Cul-de-sacs and Dead-End Streets*
The City discourages the use of cul-de-sacs and permanent dead-end streets except where construction of a through street is found by the decision maker to be impracticable due to topography or some significant physical constraint such as unstable soils, wetland, natural or historic resource areas, dedicated open space, existing development patterns, or arterial access restrictions. When permitted, cul-de-sacs and permanent dead-end streets shall have a maximum length of three hundred fifty feet, as measured from the right-of-way line of the nearest intersecting street to the back of the cul-de-sac curb face, and include pedestrian/bicycle accessways as provided in Section 17.90.220 of this code and Chapter 12.24. This section is not intended to preclude the use of curvilinear eyebright-of-way widening of a street where needed to provide adequate lot coverage.

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. The Applicant has not proposed to construct a new cul-de-sac or dead end street.

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: Not Applicable. The Applicant has not proposed a new street name with the development proposal.

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. (Prior code §9-4-1)
Finding: Complies as Proposed. The Applicant indicated that the proposed street will be designed to conform to City standards. The Applicant has satisfied this standard as proposed**.** 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.
Finding: Complies with Conditions. The proposed development abuts a neighborhood collector street. Screen plantings, walls or other protective devices have not been used on Pease Road. To stay in character with the existing street, no protective devises are recommended. However, if access is taken from Pease Road for Lots 8 and 9, the access shall be combined to a single accessway. **The Applicant can meet this standard through Conditions of Approval 11.**

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 Applicant has not proposed additional protective measures at the intersection of Pavilion Place and Pease Road. This intersection is a "T" intersection with a stop sign. The section of Pavilion Place leading up to the intersection is short such that vehicles will not be able to pick up speed before they have to slow down to stop. There is no pedestrian crossing of Pease Road in this location. 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. (Prior code §9-4-3)
Alleys shall be provided in commercial and industrial districts, unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker.
Finding: Not Applicable. No alleys are proposed or required.

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 Tri-Met where the application impacts transit streets as identified on Figure 5.7: Public Transit System Plan of the Oregon City Transportation System Plan. Pedestrian/bicycle access ways shall be provided as necessary in conformance with the requirements in Section 17.90.220 of this Code and Chapter 12.24 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: Not Applicable. The subject site does not abut a transit street.

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.
Finding: Complies with Conditions. The Applicant proposed to construct an 5-foot planter strip along the Pavilion Place and Pease Road frontage. The Applicant shall construct half-street improvements for Pease Road. The improved street portion the Applicant is required to provide includes, but is not to limited to, base rock, paved street width of 19 feet on the Applicant's side of the centerline of right-of-way plus 10 feet on the opposing side of the centerline, curb and gutter, 5-foot landscape strip including curb width, 5-foot concrete sidewalk, curb return radii, centerline monumentation in monument boxes, traffic control devices, street trees, and street lights. The curb line should match the existing curb line north of the property on Pease

Road. This includes a bike lane and symbols striped to establish a transition from the existing location at the north end of the property (between the parking and travel lane) to curb tight such that there is no parking lane. The transition should follow the existing painted centerline. Right of way should be dedicated to provide 30-feet from centerline.

The Applicant shall construct improvements on Pavilion Place that include dedication of 53-feet of right-of-way, and improvements that include, but is not to limited to, base rock, paved street width of 32 feet, curb and gutter, 5-foot landscape strip including curb width, 5-foot concrete sidewalk (curb, landscape strip and sidewalk on both sides of the street), curb return radii, centerline monumentation in monument boxes, traffic control devices, street trees, and street lights.

The Applicant shall dedicate sufficient right-of-way to provide an eyebrow on Pavilion Place with a radius of 50-feet. The pavement shall be wider in this section. **The Applicant can meet this standard through Conditions of Approval 13, 14 and 15.**

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. The Applicant indicated compliance with this section. All rights-of-way will be within the City jurisdiction. 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.
Finding: Complies with Condition. The Applicant proposed to construct a 5-foot planter strip including curb width along the Pease Road frontage and a 5-foot planter strip along the Pavilion Place frontage. The Applicant submitted a tree mitigation and connectivity plan including 30 total street trees spaced evenly throughout the frontage of the site. The plan did not identify the location of street lights, fire hydrants, or

power lines or the size of the proposed street trees. Furthermore, the plan included two street trees within 20 feet from the intersection of Pease Road and Pavilion Place. Prior to final plat the Applicant shall submit a revised Street Tree Plan in accordance with OCMC chapter 12.08. **The Applicant can meet this standard through Conditions of Approval 16.**

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 indicated that the street trees would be a species identified on an approved Oregon City List but did not identify a specific species. Prior to final plat the Applicant shall submit a final Street Tree Plan for the frontage of the properties in accordance with OCMC chapter 12.08. **The Applicant can meet this standard through Conditions of Approval 16.**

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.
Finding: Not Applicable. There are no existing street trees proposed to be removed with this development.

Chapter 17.41 TREE PROTECTION STANDARDS

17.41.010-040 *Tree Protection.*
New development shall be designed in a manner that preserves trees to the maximum extent practicable. As a requirement of any Type II land use application, the siting of structures, roadways and utility easements shall provide for the protecion of tree resources to the maximum extent practicable. This applies to all subdivision, partition and site plan and design review applications.
Finding: Applicable. The Applicant has proposed a subdivision. Compliance with this section is detailed below.

17.41.050 *Same--Compliance options.*
Applicants for review shall comply with these requirements through one 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; or
B. Option 2 -- Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to Section 17.41.080, or
C. Option 3 -- Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to Section 17.41.090.
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, dying 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.
Farm or forest resources. An applicant for development may claim that the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use prior to

development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning set out in ORS 30.930. "Farming practice" as used in this subsection shall have the meaning set out in ORS 30.930. "Farm use" as used in this subsection shall have the meaning set out in ORS 215.203. In this case, the applicant may propose an alternative mitigation plan to be approved by the community development director.
Finding: Complies with Condition. The subject site contains a total of seventeen trees that are subject to the provisions of this section. Four of these trees are proposed to remain while 13 trees are proposed to be removed. The Applicant did not identify the size of three deciduous trees located on lot 9. Prior to final plat, the Applicant shall submit a tree mitigation plan in accordance with OCMC 17.41. **The Applicant can meet this standard through Conditions of Approval 17.**

17.41.060 *Tree removal and replanting--Mitigation (Option 1).*
Regulated trees that are removed outside of the construction area, if removed shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated 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

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"	*5*	*2*
19 to 24"	*8*	*3*
25 to 30"	*10*	*4*
31 and over"	*15*	*5*

Finding: Complies with Condition. The subject site contains a total of seventeen trees that are subject to the provisions of this section. Four of these trees are proposed to remain while 13 trees are proposed to be removed. The Applicant did not identify the size of three deciduous trees located on lot 9, and thus the mitigation cannot be identified. Prior to final plat, the Applicant shall submit a tree mitigation plan in accordance with OCMC 17.41. **The Applicant can meet this standard through Conditions of Approval 17.**

17.41.070 *Planting area priority for mitigation (Option 1).*
Development applications which opt for removal or trees with subsequent replanting pursuant to Section 17.41.050A. and shall be required to mitigate for tree cutting by complying with the following priority for replanting standards C.1.--4. below:
First Priority. Replanting on the development site. First priority for replacement tree locations shall be planting on-site.
Finding: Complies with Condition. The Applicant indicated a tree mitigation plan will be prepared and submitted prior to final plat approval. Prior to final plat, the Applicant shall submit a tree mitigation plan in accordance with OCMC 17.41**. The Applicant can meet this standard through Conditions of Approval 17.**

17.41.075 –125 *Tree Mitigation Options*
These code sections provide a variety of compliance options for land use applications, including preservation and mitigation of trees, the use of flexible lots sizes and setbacks, on-site density transfer, preservation tracts, and fee-in-lieu of planting.
Finding: Not Applicable. The Applicant did not seek compliance based on these options.

17.41.130. Regulated Tree Protection Procedures During Construction.
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 OCMC 17.41.130(B). No trees designated for removal shall be removed without prior written approval from the Community Development Director.

Finding: Complies as Proposed. The Applicant indicated that the required procedures and arborist recommendations will be followed throughout the period of construction activities on the site. Changes in soils hydrology and site drainage within tree protection areas will be avoided.

Stormwater Conveyance, Quantity and Quality in Chapter 13.12

13.12.050 *Pursuant to each of the subsections below, proposed activities may be required to meet the performance standards for stormwater conveyance, stormwater quantity or stormwater quality.*

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: Complies with Condition. Refer to section 16.08.030.B.3 of this report for a discussion of storm water. **The Applicant can meet this standard through Conditions of Approval 2, 3, 7, 8 and 28.**

13.12.050.B. *Stormwater Quantity Control. The stormwater quantity control requirements of this chapter shall apply to the following proposed activities, uses or developments:*

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 seven-year period;

Finding: Not applicable. The development is not in a Natural Resource Overlay District.

2. Activities that create more than two thousand square feet of impervious surface, cumulated over any given seven year period; or

Finding: Complies with Condition. Refer to section 16.08.030.B.3 of this report for a discussion of storm water. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through Conditions of Approval 2, 3, 7, 8, and 28.**

3. Redevelopment of a commercial or industrial land use that will disturb more than five thousand square feet of existing impervious surface. This five thousand square foot measurement cumulates over any given seven year period;

Finding: Not Applicable. The proposed work is not redevelopment.

4. An exemption to the stormwater quantity control requirements of this chapter will be granted in the following circumstances:

a. The development site discharges to a stormwater quantity control facility approved by the city engineer to receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater, or,

b. The development site discharges to one of the following receiving bodies of water: 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

Finding: Not Applicable. Exemption not required.

13.12.050.C. *Stormwater Quality Control. The stormwater quality control requirements of this chapter shall apply to the following proposed activities, uses or developments:*

1. Category A. Activities subject to general water quality requirements of this chapter:

a. The construction of four or more single-family residences;
b. 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 seven year period; or
c. Activities that create more than eight thousand square feet of new impervious surface for other than a single-family residential development. This eight thousand square foot measurement will be considered cumulative for any given seven year period;
d. An exemption to the stormwater quantity control requirements of this subsection will be granted if the development site discharges to a stormwater quality control facility approved by the city engineer to receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater.
Finding: Complies with Condition. Refer to section 16.08.030.B.3 of this report for a discussion of storm water. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through Conditions of Approval 2, 3, 7, 8, and 28.**

2. Category B. 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 contained in the Public Works Stormwater and Grading Design Standards:
a. Fuel dispensing facilities;
b. Bulk petroleum storage in multiple stationary tanks;
c. Solid waste storage areas for commercial, industrial or multi-family uses;
d. Loading and unloading docks for commercial or industrial uses; or
e. Covered vehicle parking for commercial or industrial uses.
Finding: Not Applicable. The proposed work does not include these elements.

3. Category C. Clackamas River Watershed. In addition to any other applicable requirements of this chapter, any development that creates new waste discharges and whose stormwater runoff may directly or indirectly flow into the Clackamas River is subject to additional requirements associated with Oregon Administrative Rules (OAR) 340-41-470 (Thee Basin Rule).
Finding: Not Applicable. No new waste discharges or new stormwater flow will occur with this development.

CHAPTER 17.44 GEOLOGIC HAZARDS

***17.44.025** When required; regulated activities; permit and approval requirements.*
No person shall engage in any of the following regulated activities within the adopted Oregon City Geologic Hazards Overlay Zone as defined in section 17.04.515 of the Oregon City Municipal Code without first obtaining permits or approvals as required by this chapter:
A. Installation or construction of an accessory structure greater than 500 square feet in area;
B. Development of land, construction, reconstruction, structural alteration, relocation or enlargement of any building or structure for which permission is required pursuant to the Oregon City Municipal Code;
C. Tree removal on slopes greater than 25 percent where canopy area removal exceeds 25 percent of the lot.
D. Excavation which exceeds two feet in depth, or which involves twenty-five or more cubic yards of volume;
The requirements of this chapter are in addition to other provisions of the Oregon City Municipal Code. Where the provisions of this chapter conflict with other provisions of the Oregon City Municipal Code, the provisions that are the more restrictive of regulated development activity shall govern.
Finding: Complies with Condition. The proposed removal of undocumented fill exceeding two feet in depth and exceeding 25 yards of volume under the future homes will require permits for each home or one permit for the subdivision project construction. The Applicant shall obtain geotechnical fill permits for each home or one permit for the subdivision prior to construction. **The Applicant can satisfy this section by complying with Condition of Approval 18.**

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

17.44.050 *Development—Application requirements and review procedures and approvals.*
Except as provided by subsection B. of this section, the following requirements apply to all development proposals subject to this chapter:
A. A geological assessment and geotechnical report that specifically includes, but is not limited to:
1. Comprehensive information and data regarding the nature and distribution of underlying geology, the physical and chemical properties of existing soils and groundwater; an opinion of site geologic stability, and conclusions regarding the effect of geologic conditions on the proposed development. In addition to any field reconnaissance or subsurface investigation performed for the site, the following resources, as a minimum, shall be reviewed to obtain this information and data:
a. The State of Oregon Department of Geology and Mineral Industries (DOGAMI) in Bulletin 99, Geology and Geological Hazards of North Clackamas County, Oregon (1979), or in any subsequent DOGAMI mapping for the Oregon City area;
b. Portland State University study entitled "Environmental Assessment of Newell Creek Canyon, Oregon City, Oregon" (1992);
c. Portland State University study, "Landslides in the Portland, Oregon, Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation" (Burns and others, 1998);
d. DOGAMI Open File Report O-06-27, "Map of Landslide Geomorphology of Oregon City, Oregon, and Vicinity Interpreted from LIDAR Imagery and Aerial Photographs" (Madin and Burns, 2006);
e. "Preliminary Geologic Map of the Oregon City Quadrangle, Clackamas County, Oregon" (Madin, in press);
2. Information and recommendations regarding existing local drainage, proposed permit activity impacts on local drainage, and mitigation to address adverse impacts;
3. Comprehensive information about site topography;
4. Opinion as to the adequacy of the proposed development from an engineering standpoint;
5. Opinion as to the extent that instability on adjacent properties may adversely affect the project;
6. Description of the field investigation and findings, including logs of subsurface conditions and laboratory testing results;
7. Conclusions regarding the effect of geologic conditions on the proposed development, tree removal, or grading activity;
8. Specific requirements and recommendations for plan modification, corrective grading, and special techniques and systems to facilitate a safe and stable site;
9.Recommendations and types of considerations as appropriate for the type of proposed development:
a. General earthwork considerations, including recommendations for temporary and permanent cut and fill slopes and placement of structural fill;
b. Location of residence on lot;

c. Building setbacks from slopes;
d. Erosion control techniques applicable to the site;
e. Surface drainage control to mitigate existing and potential geologic hazards;
f. Subdrainage and/or management of groundwater seepage;
g. Foundations;
h. Embedded/retaining walls;
i. Management of surface water and irrigation water; and
j. Impact of the development on the slope stability of the lot and the adjacent properties.
10. Scaled drawings that describe topography and proposed site work, including:
a. Natural physical features, topography at two or ten-foot contour intervals locations of all test excavations or borings, watercourses both perennial and intermittent, ravines and all existing and manmade structures or features all fully dimensioned, trees six-inch caliper or greater measured four feet from ground level, rock outcroppings and drainage facilities;
b. All of the features and detail required for the site plan above, but reflecting preliminary finished grades and indicating in cubic yards whether and to what extent there will be a net increase or loss of soil.
c. A cross-section diagram, indicating depth, extent and approximate volume of all excavation and fills.
11. For properties greater than one acre, a preliminary hydrology report, prepared by a suitably qualified and experienced hydrology expert, addressing the effect upon the watershed in which the proposed development is located; the effect upon the immediate area's stormwater drainage pattern of flow, the impact of the proposed development upon downstream areas and upon wetlands and water resources; and the effect upon the groundwater supply.
B. Review procedures and approvals require the following:
1. Examination to ensure that:
a. Required application requirements are completed;
b. Geologic assessment and geotechnical report procedures and assumptions are generally accepted; and
c. All conclusions and recommendations are supported and reasonable.
2. Conclusions and recommendations stated in an approved assessment or report shall then be directly incorporated as permit conditions or provide the basis for conditions of approval for the regulated activity.
3. All geologic assessments and geotechnical reports shall be reviewed by an engineer certified for expertise in geology or geologic engineering and geotechnical engineering, respectively, as determined by the city. The city will prepare a list of prequalified consultants for this purpose. The cost of review by independent review shall be paid by the applicant.
C. The city engineer may waive one or more requirements of subsections A and B of this section if the city engineer determines that site conditions, size or type or development of grading requirements do not warrant such detailed information. If one or more requirements are waived, the city engineer shall, in the staff report or decision, identify the waived provision(s), explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority.

Finding: Complies with Conditions. The proposed project submitted a report titled Geotechnical Fill Evaluation Pease Road Subdivision – Lots 4-7, Oregon City, Oregon by GeoPacific Engineering Inc dated September 26, 2012 written by James Imbrie, GE, CEG and Benjamin Anderson, EIT. This report satisfies subsection A. 1, and 3-8. The Applicant's Geotech Engineer shall address subsection A. 9-11 in a special addendum to the original report and address appropriate construction items on the subdivision plans. The City Engineer waives subsection B. 3 as appropriate conditions of approval are contained in this decision document. Subsection B. 1 and 2 are satisfied in the report. **The Applicant can satisfy this section by complying with Condition of Approval 19.**

17.44.060 *Development standards.*
Notwithstanding any contrary dimensional or density requirements of the underlying zone, the following standards shall apply to the review of any development proposal subject to this chapter. Requirements of this chapter are in addition to other provision of the Oregon City Municipal Code. Where provision of this chapter conflict with other provision of the Oregon City Municipal Code, the provisions that are more restrictive of regulated development activity shall govern.

A. All developments shall be designed to avoid unnecessary disturbance of natural topography, vegetation and soils. To the maximum extent practicable as determined by the review authority, tree and ground cover removal and fill and grading for residential development on individual lots shall be confined to building footprints and driveways, to areas required for utility easements and for slope easements for road construction, and to areas of geotechnical remediation.
Finding: Complies with Conditions. The applicant proposes performing geotechnical remediation of existing undocumented fill and does not change natural topography, vegetation or soils any more than any other subdivision. **The Applicant can satisfy this section by complying with Condition of Approval 21 and 22.**

B. All grading, drainage improvements, or other land disturbances shall only occur from May 1 to October 31. Erosion control measures shall be installed and functional prior to any disturbances. The city engineer may allow grading, drainage improvements or other land disturbances to begin before May 1 (but no earlier than March 16) and end after October 31 (but no later than November 30), based upon weather conditions and in consultation with the project geotechnical engineer. The modification of dates shall be the minimum necessary, based upon the evidence provided by the applicant, to accomplish the necessary project goals. Temporary protective fencing shall be established around all trees and vegetation designed for protection prior to the commencement of grading or other soil disturbance.
Finding: Complies with Condition. The proposed project's geotechnical remediation shall only occur from May 1 to October 31 unless they petition the City Engineer for exceptions to extend the dates to March 16 thru November 30 per this section. **The Applicant can satisfy this section by complying with Condition of Approval 20.**

C. Designs shall minimize the number and size of cuts and fills.
Finding: Complies as Proposed. The proposed project's geotechnical remediation will minimize the number of cuts and fills to what is required to allow home construction.

D. Cut and fill slopes, such as those for a street, driveway accesses, or yard area, greater than seven feet in height (as measured vertically) shall be terraced. Faces on a terraced section shall not exceed five feet. Terrace widths shall be a minimum of three feet and shall be vegetated. Total cut and fill slopes shall not exceed a vertical height of fifteen feet. Except in connection with geotechnical remediation plans approved in accordance with the chapter, cuts shall not remove the toe of any slope that contains a known landslide or is greater than twenty-five percent slope. The top of cut or fill slopes not utilizing structural retaining walls shall be located a minimum of one-half the height of the cut slope from the nearest property line.
Finding: Complies as Proposed. The proposed project will not create any further cut or fill slopes. Undocumented fill is being geotechnically remediated under the foundation areas. This standard is met.

E. Any structural fill shall be designed by a suitably qualified and experienced civil or geotechnical engineer licensed in Oregon in accordance with standard engineering practice. The applicant's engineer shall certify that the fill has been constructed as designed in accordance with the provisions of this chapter.
Finding: Complies with Condition. The Applicant shall follow the Geotechnical report for placing structural fill. **The Applicant can satisfy this section by complying with Condition of Approval 21.**

F. Retaining walls shall be constructed in accordance with the Oregon Structural Specialty Code adopted by the State of Oregon.
Finding: Not Applicable. The proposed project does not propose to build any retaining walls.

G. Roads shall be the minimum width necessary to provide safe vehicle and emergency access, minimize cut and fill and provide positive drainage control. The review authority may grant a variance from the city's required road standards upon findings that the variance would provide safe vehicle and emergency access and is necessary to comply with the purpose and policy of this chapter.
Finding: Complies as Proposed. The development does not propose any streets in any areas that would require minimizing width. The Applicant shall follow the Geotechnical report as to removing undocumented

fill under street areas. **The Applicant can satisfy this section by complying with Condition of Approval 22.**

H. Density shall be determined as follows:
1. For those areas with slopes less than twenty-five percent between grade breaks, the allowed density shall be that permitted by the underlying zoning district;
2. For those areas with slopes of twenty-five to thirty-five percent between grade breaks, the density shall not exceed two dwelling units per acre except as otherwise provided in subsection I of this section;
3. For those areas with slopes over thirty-five percent between grade breaks, development shall be prohibited except as otherwise provided in subsection I.4. of this section.
Finding: Complies as Proposed. The proposed subdivision does not propose to construct on slopes nor modify any existing slopes.

I. For properties with slopes of twenty-five to thirty-five percent between grade breaks:
1. For those portions of the property with slopes of twenty-five to thirty-five percent, the maximum residential density shall be limited to two dwelling units per acre; provided, however, that where the entire site is less than one-half acre in size, a single dwelling shall be allowed on a lot or parcel existing as of January 1, 1994 and meeting the minimum lot size requirements of the underlying zone;
2. An individual lot or parcel with slopes between twenty-five and thirty-five percent shall have no more than fifty percent or four thousand square feet of the surface area, whichever is smaller, graded or stripped of vegetation or covered with structures or impermeable surfaces.
3. No cut into a slope of twenty-five to thirty-five percent for the placement of a housing unit shall exceed a maximum vertical height of fifteen feet for the individual lot or parcel.
4. For those portions of the property with slopes over thirty-five percent between grade breaks:
a. Notwithstanding any other city land use regulation, development other than roads, utilities, public facilities and geotechnical remediation shall be prohibited; provided, however, that the review authority may allow development upon such portions of land upon demonstration by an applicant that failure to permit development would deprive the property owner of all economically beneficial use of the property. This determination shall be made considering the entire parcel in question and contiguous parcels in common ownership on or after January 1, 1994, not just the portion where development is otherwise prohibited by this chapter. Where this showing can be made on residentially zoned land, development shall be allowed and limited to one single-family residence. Any development approved under this chapter shall be subject to compliance with all other applicable city requirements as well as any applicable state, federal or other requirements;
b. To the maximum extent practicable as determined by the review authority, the applicant shall avoid locating roads, utilities, and public facilities on or across slopes exceeding thirty-five percent.
Finding: Not Applicable. The proposed subdivision does not propose to construct on slopes nor modify any existing slopes.

J. The geotechnical engineer of record shall review final grading, drainage, and foundation plans and specifications and confirm in writing that they are in conformance with the recommendations provided in their report.
Finding: Complies with Condition. The Applicant's Geotechnical Engineer shall review final grading, drainage, and foundation plans and specifications, perform special inspections, and confirm in writing that they are in conformance with the recommendations provided in their report. **The Applicant can satisfy this section by complying with Condition of Approval 23.**

K. At the city's discretion, peer review shall be required for the geotechnical evaluation/investigation report submitted for the development and/or lot plans. The peer reviewer shall be selected by the city. The applicant's geotechnical engineer shall respond to written comments provided by the city's peer reviewer prior to issuance of building permit.
Finding: Complies as Proposed. The City Engineer does not require this project to have peer review.

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

Finding: Complies as Proposed. The City Engineer has determined that this project's geotechnical remediation is feasible and adequate to prevent landslides or damage to property and safety.

17.44.070 *Access to property.*

A. Shared private driveways may be required if the city engineer or principal planner determines that their use will result in safer location of the driveway and lesser amounts of land coverage than would result if separate private driveways are used.

B. Innovations in driveway design and road construction shall be permitted in order to keep grading and cuts or fills to a minimum and to achieve the purpose and policy of this chapter.

C. Points of access to arterials and collectors shall be minimized.

D. The city engineer or principal planner shall verify that adequate emergency services can be provided to the site.

Finding: Complies with Condition. The proposed subdivision layout includes frontage on Lots 8 and 9 along Pease Road. As a neighborhood collector, access to Pease Road shall be limited to ensure greater safety. If access for lots 8 and 9 is obtained from Pease Road, access shall be combined into one driveway. **The Applicant can satisfy this section by complying with Condition of Approval 11.**

17.44.080 *Utilities.*

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

Finding: Complies with Condition. The proposed project's utility plans call for most utilities in the right-of-way. However, a relocation of a public stormwater line is proposed thru the remediation area. Full depth select fill shall be placed during the stormwater line relocation. **The Applicant can satisfy this section by complying with Condition of Approval 24.**

17.44.090 *Stormwater drainage.*

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

Finding: Complies with Conditions. See section 13.12.

17.44.100 *Construction standards.*

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

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

Finding: Complies with Condition. The proposed subdivision does not modify the existing slope. Any noxious weeds and invasive plant cleanup shall provide proper erosion control and reseeding/replanting. **The Applicant can satisfy this section by complying with Condition of Approval 25.**

B. No grading, clearing or excavation of any land shall be initiated prior to approval of the grading plan, except that the city engineer shall authorize the site access, brush to be cleared and the location of the test pit digging prior to approval of such plan to the extent needed to complete preliminary and final engineering and surveying. The grading plan shall be approved by the city engineer as part of the city's review under this chapter. The developer shall be responsible for the proper execution of the approved grading plan.
Finding: Complies with Condition. The proposed subdivision plans shall include a grading plan as part of the construction plans and a separate erosion control plan submitted to the City's Erosion Control Officer for approval. **The Applicant can satisfy this section by complying with Condition of Approval 26.**

C. Measures shall be taken to protect against landslides, mudflows, soil slump and erosion. Such measures shall include sediment fences, straw bales, erosion blankets, temporary sedimentation ponds, interceptor dikes and swales, undisturbed buffers, grooving and stair stepping, check dams, etc. The applicant shall comply with the measures described in the Oregon City Public Works Standards for Erosion and Sedimentation Control (Ordinance 99-1013).
Finding: Complies as Proposed. The proposed project does not require any earthwork on the slope.

D. All disturbed vegetation shall be replanted with suitable vegetation upon completion of the grading of the steep slope area.
Finding: Complies with Condition. The proposed subdivision does not modify the existing slope. Any noxious weeds and invasive plant cleanup shall provide proper erosion control and reseeding/replanting. **The Applicant can satisfy this section by complying with Condition of Approval 25.**

E. Existing vegetative cover shall be maintained to the maximum extent practicable. No grading, compaction or change in ground elevation, soil hydrology and/or site drainage shall be permitted within the drip line of trees designated for protection, unless approved by the city.
Finding: Complies with Condition. The proposed subdivision does not modify the existing slope. Any noxious weeds and invasive plant cleanup shall provide proper erosion control and reseeding/replanting. **The Applicant can satisfy this section by complying with Condition of Approval 25.**

F. Existing perennial and intermittent watercourses shall not be disturbed unless specifically authorized by the review authority. This includes physical impacts to the stream course as well as siltation and erosion impacts.
Finding: Not Applicable. The proposed project does not require any disturbance to the watercourse.

G. All soil erosion and sediment control measures shall be maintained during construction and for one year after development is completed, or until soils are stabilized by revegetation or other measures to the satisfaction of the city engineer. Such maintenance shall be the responsibility of the developer. If erosion or sediment control measures are not being properly maintained or are not functioning properly due to faulty installation or neglect, the City may order work to be stopped.
Finding: Complies with Condition. The proposed subdivision plans shall include a grading plan as part of the construction plans and a separate erosion control plan submitted to the City's Erosion Control Officer for approval. **The Applicant can satisfy this section by complying with Condition of Approval 26.**

H. All newly created lots, either by subdivision or partition, shall contain building envelopes with a slope of thirty-five percent or less.
Finding: Complies as Proposed. The proposed lots will meet this criterion.

I. The applicant's geotechnical engineer shall provide special inspection during construction to confirm that the subsurface conditions and assumptions made as part of their geotechnical evaluation/investigation are

appropriate. This will allow for timely design changes if site conditions are encountered that are different from those anticipated.
Finding: Please refer to the analysis in 17.44.060 J.

J. Prior to issuing an occupancy permit, the geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations.
Finding: Complies with Condition. This section requires a geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations. Prior to issuing an occupancy permit the Applicant shall provide a geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations to the City Building Division. **The Applicant can satisfy this section by complying with Condition of Approval 27.**

17.44.110 *Approval of development.*
The city engineer shall review the application and verify, based on the applicant's materials and the land use record, whether the proposed development constitutes a hazard to life, property, natural resources or public facilities. If, in the city engineer's opinion, a particular development poses such a hazard, the city engineer shall recommend to the review authority permit conditions designed to reduce or eliminate the hazard. These conditions may include, but are not limited to, prohibitions on construction activities between November 1st and March 31st.
Finding: Complies with Conditions. The City Engineer has written Conditions of Approval to be met allowing this project to be constructed. **The Applicant can satisfy this section by complying with Condition of Approval 18-21.**

IV. CONCLUSION AND DECISION:
In conclusion, the proposed zone change, geological hazards review, and 11-lot subdivision located at 19370 Pease Road and identified as Clackamas County Map 3-2E-7B, Tax Lot 3300, can meet the approval standards outlined in this Staff Report, subject to the Applicant's proposal and attached Conditions of Approval contained in this report. Therefore, the Community Development Director recommends approval of the application with Conditions.

V. EXHIBITS
The following exhibits are attached to this staff report.
1. Vicinity Map
2. Applicant's Submittal
3. Comments from John Replinger of Replinger and Associates
4. Engineering Policy EP 11-01
5. Planning File NR 12-04 Staff Report for Natural Resource Exemption

PROPOSED CONDITIONS OF APPROVAL
TP 12-04

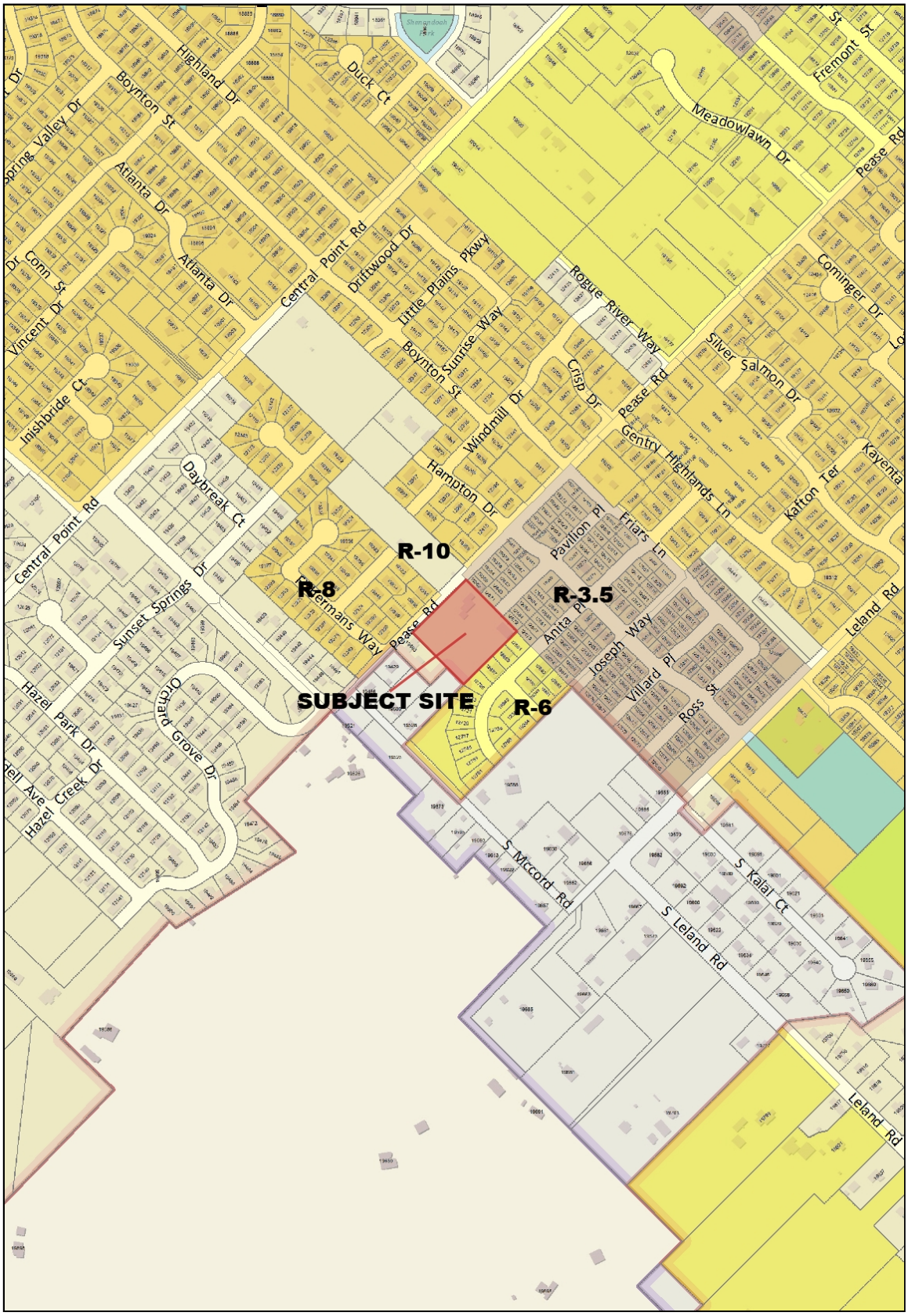
1. Prior to final plat approval, the Applicant shall remove all existing structures onsite. *(P)*
2. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements. *(DS)*
3. Prior to final plat approval, the Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. *(DS)*
4. All new water services shall be constructed with individual copper water laterals a minimum of 1-inch diameter in size connecting the water main to the water meter. *(DS)*

5. Prior to final plat, the Applicant shall submit the proposed development to Clackamas County Fire District No. 1 for review. In the event that fire hydrants are required by Clackamas County Fire District No. 1 requirements, staff finds there is adequate area available on the subject property for such installation. *(F)*
6. All new sanitary sewer laterals shall be constructed with individual laterals connecting to the sanitary sewer main. *(DS)*
7. Public storm sewer improvements shall be designed and constructed to collect and convey on-site and off-site storm drainage in a manner suitable to the Public Works Department. *(DS)*
8. The existing storm drainage easement on Lots 6 and 7 will be rewritten to reflect the new location and property owners. The width of the easement will be adjusted based upon the depth of the pipe. *(DS)*
9. Prior to final plat approval the Applicant shall submit revised CC&Rs that do not conflict with the standards of the Oregon City Municipal Code. *(P)*
10. Prior to final plat approval, the Applicant shall provide an Erosion Prevention and Sedimentation Control Plan suitable to the Public Works Department to meet the Public Works requirements for erosion control. The Applicant shall provide a Preliminary Residential Lot Grading Plan to the City for review prior to the approval of construction plans. 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. If significant grading is required for the lots due to its location or the nature of the site, rough grading shall be required of the developer prior to the acceptance of the public improvements. There shall not be more than a maximum grade differential of two (2) feet at all subdivision boundaries. Grading shall in no way create any water traps, or create other ponding situations. The plan shall show the existing and proposed swales. *(DS)*
11. Lots 7, 8, and 9 shall orient the front setback and the most architecturally significant elevation face Pease Road. In addition, if access to lots 8 and 9 is taken from Pease Road, the lots shall combine their access into a single driveway to the right-of-way. *(P)*
12. Ten-foot public utility easements along all street frontages and all easements required for the final engineering plans shall be dedicated to the public on the final plat. All existing and proposed utilities and easements shall be indicated on the construction plans. Any off-site utility easements required for this project shall be obtained and submitted to the City prior to approval of the construction plans. *(DS)*
13. The Applicant shall construct half-street improvements for Pease Road. The improved street portion the Applicant is required to provide includes, but is not to limited to, base rock, paved street width of 19 feet on the Applicant's side of the centerline of right-of-way plus 10 feet on the opposing side of the centerline, curb and gutter, 5-foot landscape strip including curb width, 5-foot concrete sidewalk, curb return radii, centerline monumentation in monument boxes, traffic control devices, street trees, and street lights. The curb line should match the existing curb line north of the property on Pease Road. This includes a bike lane and symbols striped such that it transitions from the existing location at the north end of the property (between the parking and travel lane) to curb tight such that there is no parking lane. The transition should follow the existing painted centerline. Right of way should be dedicated to provide 30-feet from centerline. The Applicant shall provide non-vehicular access (NVA) strips along all curb returns. Some modification of the NVA locations may be allowed as approved by the City on a case-by-case basis at time of plat review. *(DS)*
14. The Applicant shall construct improvements on Pavilion Place that include dedication of 53-feet of right-of-way, and improvements that include, but is not to limited to, base rock, paved street width of 32 feet, curb and gutter, 5-foot landscape strip including curb width, 5-foot concrete sidewalk (curb, landscape strip and sidewalk on both sides of the street), curb return radii, centerline monumentation in monument boxes, traffic control devices, street trees, and street lights. *(DS)*
15. The Applicant shall dedicate sufficient right-of-way to provide an eyebrow on Pavilion Place with a radius of 50-feet. The pavement shall be wider in this section. *(DS)*
16. Prior to final plat approval the Applicant shall submit a revised Street Tree Plan in accordance with OCMC Chapter 12.08. *(P)*
17. Prior to final plat approval the Applicant shall submit a tree mitigation plan in accordance with OCMC 17.41. *(P)*

18. The Applicant shall obtain geotechnical fill permits for each home or one permit for the subdivision prior to construction. *(DS)*
19. The Applicant's Geotech Engineer shall address subsection A. 9-11 in a special addendum to the original report and address appropriate construction items on the subdivision plans. *(DS)*
20. The proposed project's geotechnical remediation shall only occur from May 1 to October 31 unless the Applicant petitions the City Engineer for exceptions to extend the dates to March 16 thru November 30 per section 17.44.060.B. *(DS)*
21. The Applicant shall follow the Geotechnical report for placing structural fill. *(DS)*
22. The Applicant shall follow the Geotechnical report as to removing undocumented fill under street areas. *(DS)*
23. The Applicant's Geotechnical Engineer shall review final grading, drainage, and foundation plans and specifications, perform special inspections, and confirm in writing that they are in conformance with the recommendations provided in their report. *(DS)*
24. Full depth select fill shall be placed during the stormwater line relocation. *(DS)*
25. Any noxious weeds and invasive plant cleanup shall provide proper erosion control and reseeding/replanting. *(DS)*
26. The proposed subdivision plans shall include a grading plan as part of the construction plans and a separate erosion control plan submitted to the City's Erosion Control Officer for approval. *(DS)*
27. Prior to issuing an occupancy permit the Applicant's geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations to the City Building Division. *(DS)*
28. The applicant shall update the storm drainage report to address the storm drainage flow to the natural channel at the southern edge of the property. The report will address the proposed Pavilion Park II development storm flow separately from the original Pavilion Park subdivision. If additional storm flow is shown to be discharged to the southern discharge point, then mitigating improvements will be required, in accordance with Oregon City Municipal Code Section 13.12.090. The mitigating improvements include, but are not limited to, storm detention, low impact development practices, downstream improvements to the natural channel or a combination. The applicant's updated storm drainage report will be reviewed by the City during the design of the subdivision. (DS)
29. Police fee. In accordance with the Annexation Agreement (File AN 07-07) that applies to the subject property, a supplemental fee of $3,500 per dwelling unit shall be paid at the time of building permit application for each lot in the subdivision to assure adequate police response times.

(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.
(F) = Verify that condition of approval has been met with the Clackamas County Fire Department.

TP 12-04 11-lot Subdivision, ZC 12-01 Zone Change, US 12-01 Geologic



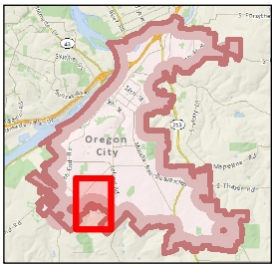
Legend

- Taxlots
- Zoning
  - R-10 - Single Family Dwelling
  - R-8 - Single Family Dwelling
  - R-6 - Single Family Dwelling
  - RC-4 - McLoughlin Conditiona
  - RD4-MDP - Manufactured Dw
  - R-3.5 - Medium Density Resic
  - R-2 - Multi-Family Dwelling
  - C - General Commercial
  - MUC-2 - Mixed Use Corridor
  - MUC-1 - Mixed Use Corridor
  - LO - Limited Office
  - NC - Neighborhood Commerc
  - HC - Historic Commercial
  - MUD - Mixed Use Downtown
  - MUE - Mixed Use Employmer
  - GI - General Industrial
  - CI - Campus Industrial
  - I - Institutional
  - FU-10 - County Zoning
  - County
- City Limits
- UGB

Notes

The applicant is seeking approval for a Zone Change from "R-10" Single-Family Dwelling District to "R-6" Single-Family Dwelling District as well as an 11-lot subdivision and a Geologic Hazards review.

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.

N

0 625 Feet

1: 7,503

19370 Pease Road

Map created 1/15/2013

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
	❑ 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: Preliminary plat approval for an eleven lot subdivision, zone change from R-10 to R-6, and Geologic Hazards Review due to the presence of fill on the property.

Project Name: Pavilion Park 2 Number of Lots Proposed (If Applicable): 11

Physical Address of Site: 19370 Pease Road

Clackamas County Map and Tax Lot Number(s): 3-2E-07B 03300

Applicant(s):

Applicant(s) Signature: _____

Applicant(s) Name Printed: Icon Construction & Development, LLC Date: Oct. 8, 2012

Mailing Address: 1980 Willamette Falls Drive, Suite 200, West Linn, OR 97068

Phone: (503) 657-0406 Fax: (503) 655-5991 Email: handris@aol.com

Property Owner(s):

Property Owner(s) Signature: Same as Applicant

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

Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

Representative(s):

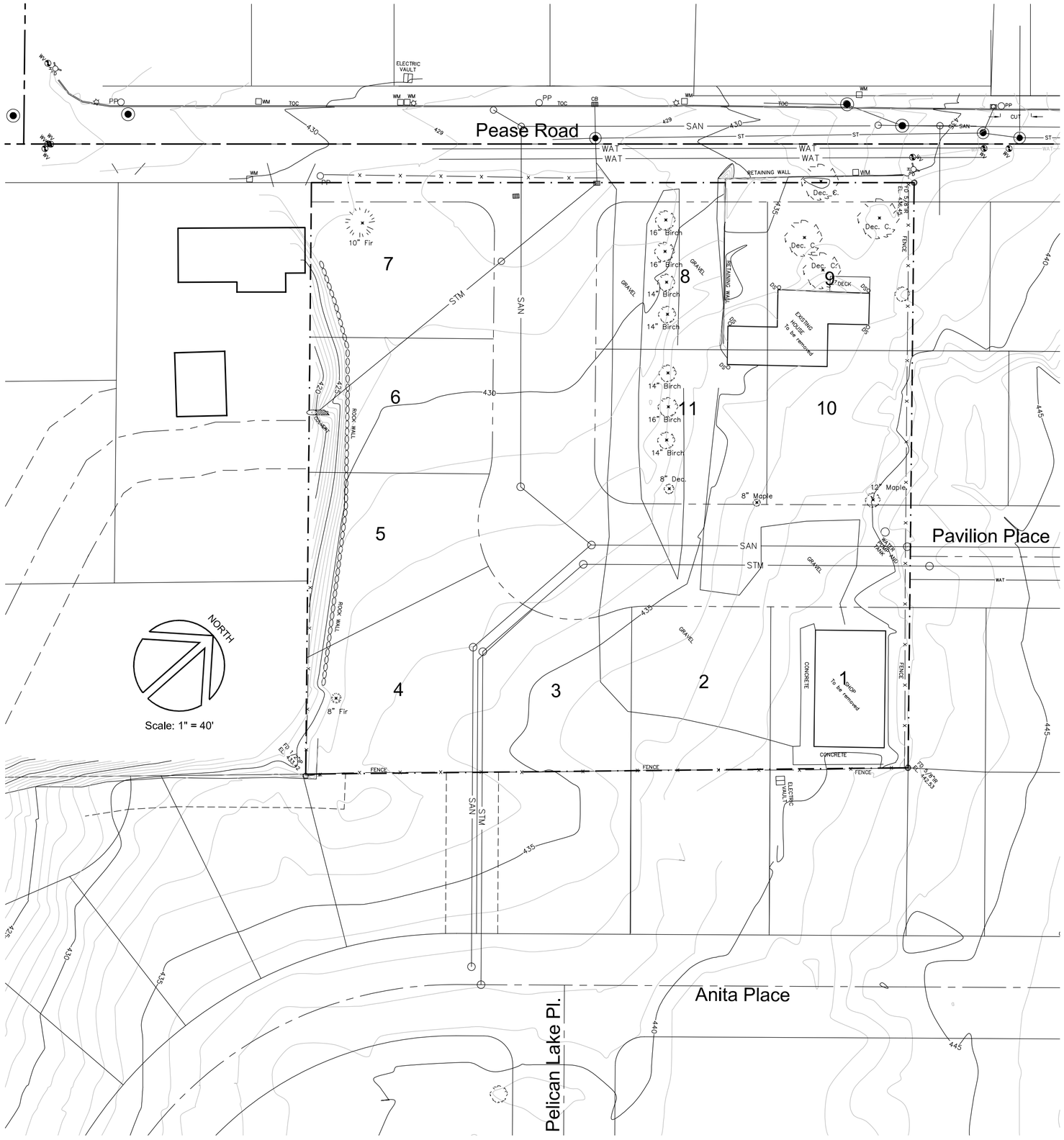
Representative(s) Signature: _____

Representative (s) Name Printed: Rick Givens Date: Oct. 8, 2012

Mailing Address: 11303 Brandow St., Oregon City, OR 97045

Phone: 503-479-0097 Fax: 503-479-0097 Email: rgivens@wbcable.net

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.



Owner/Applicant:
Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Legal: 3 2E 07B TL 3300

Water: City of Oregon City

Sewer: City of Oregon City

Contours: Field Survey by Centerline Concepts, Inc.

Site Area: 2.21 Acres

Engineer:
Theta Engineering, Inc.
4260 Country Woods Ct.
Lake Oswego, OR 97035
PH: (503) 481-8822

Zoning: Existing - R-10, Zone Change to R-6 Proposed

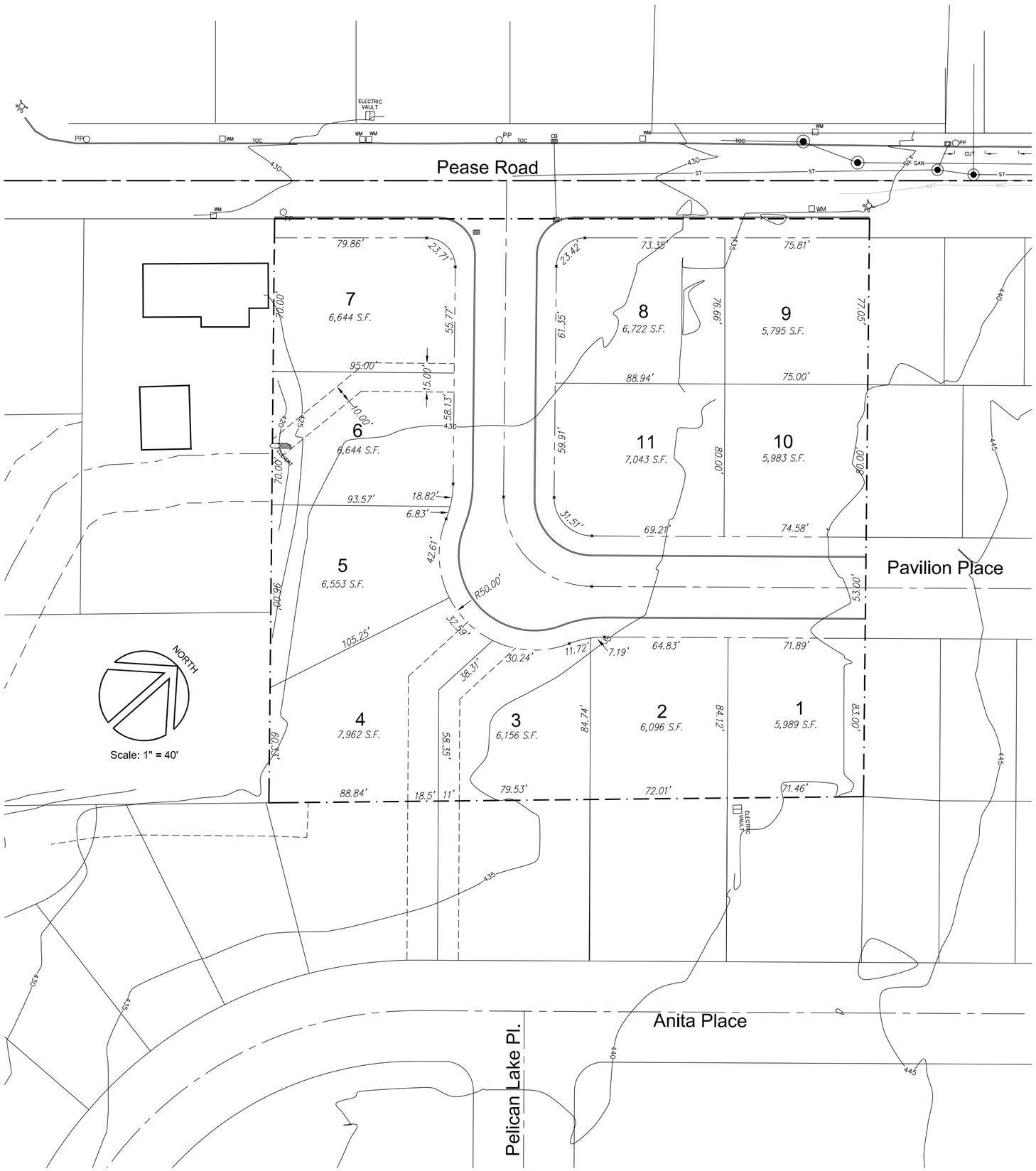
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DRAWN:	REG			
SCALE:	1" = 40'			
DATE:	October 2012			
FILE:	12-ICN-100	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
11303 Brandow St.
Oregon City, OR 97045
PH: (503) 479-0097

APPLICANT: Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Pavilion Park II
Existing Conditions

SHEET: 2/3





Vicinity Map

Owner/Applicant:
Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Legal: 3 2E 07B TL 3300

Water: City of Oregon City

Sewer: City of Oregon City

Contours: Field Survey by Centerline Concepts, Inc.

Site Area: 2.18 Acres

Engineer:
Theta Engineering, Inc.
4260 Country Woods Ct.
Lake Oswego, OR 97035
PH: (503) 481-8822

Zoning: Existing - R-10, Zone Change to R-6 Proposed

DESIGNED:	REG			
DRAWN:	REG			
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Pavilion Park II
Preliminary Plan

SHEET: 1/3

Pease Road

McCord Rd.

Pavilion Place

Anita Place

Pelican Lake Pl.

Ephemeral stream corridor

SEASONAL STREAM

EXISTING HOUSE To be removed

Dec. C.

16" Birch

14" Birch

10" Fir

8" Fir

8" Dec.

8" Maple

12" Maple

FENCE

RETAINING WALL

ROCK WALL

CONCRETE

GRAVEL

DECK

WATER TANK AND VAULT

ELECTRIC VAULT

STORM MANHOLE

CB

PP

WM

WAT

SAN

STM

ST

TOC

CUT

BRIDGE

PHONE RISER

PHONE PEDESTAL

BLUE FLAGGING

ORANGE FLAGGING

Proposed Street Tree
Species to be from approved City list.

Trees to be removed.

Mitigation to be via planting of equal number of trees in rear yard areas.

NORTH

Scale: 1" = 40'

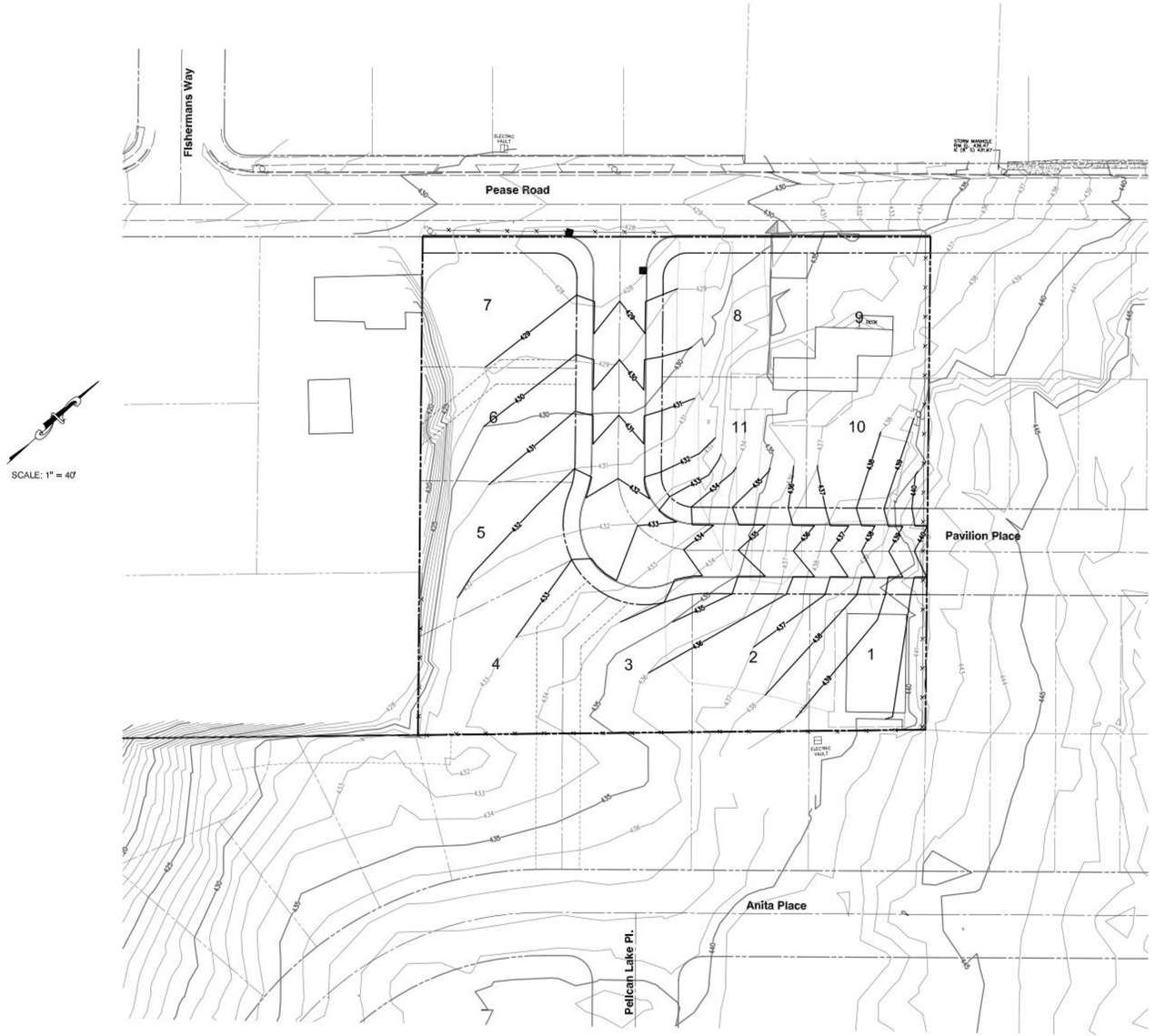
DESIGNED:	REG			
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APPLICANT: Icon Construction & Development, LLC
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West Linn, OR 97068
PH: (503) 657-0406

Pavilion Park II
Tree Mitigation & Connectivity

SHEET: 3/3



SCALE: 1" = 40'

PRELIMINARY GRADING PLAN

2012-76

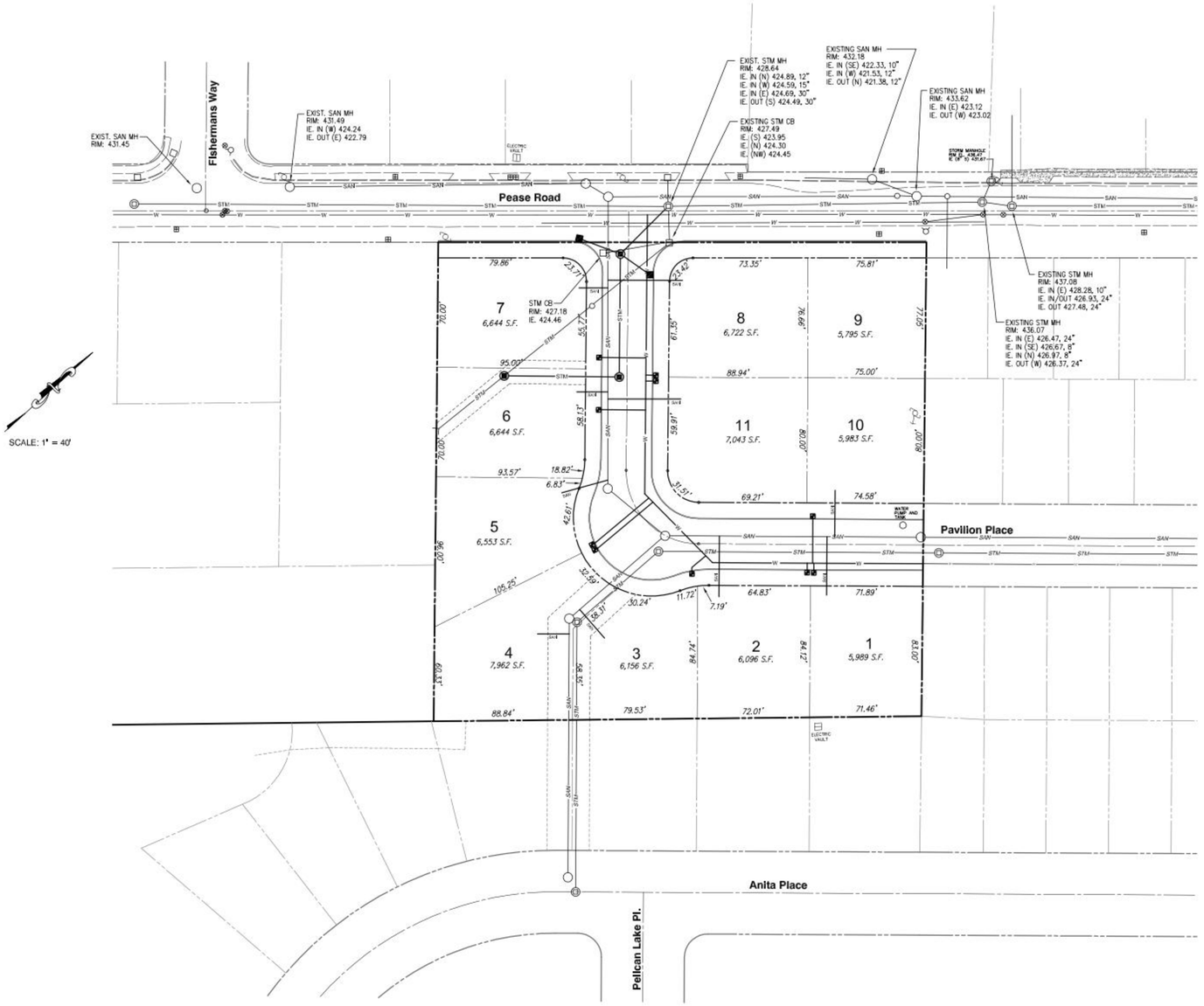
DESIGNED:	BDG			
DRAWN:	BJS			
SCALE:	1" = 40'			
DATE:	August, 2012			
FILE:	Pavilion Park Civil	DATE	NO.	REVISION

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-8822
email: thetaeng@comcast.net

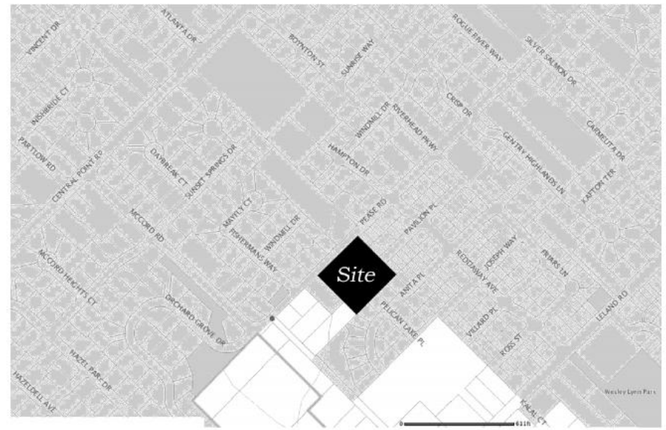
APPLICANT: Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Pavilion Park II
19370 Pease Road, Oregon City, OR

SHEET: 2/2



SCALE: 1" = 40'



NOTE:
THE DEVELOPED STORM WATER FROM THIS PROPOSED SUBDIVISION WAS ACCOUNTED FOR IN THE STORM REPORT BY HARPER HOUF PETERSON RIGHELLIS, FEBRUARY 2009.

Owner/Applicant:
Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Legal: 3 2E 07B TL 3300

Water: City of Oregon City

Sewer: City of Oregon City

Contours: Field Survey by Centerline Concepts, Inc.

Site Area: 2.21 Acres

Engineer:
Theta Engineering, Inc.
4260 Country Woods Ct.
Lake Oswego, OR 97035
PH: (503) 481-8822

Zoning: Existing - R-10, Zone Change to R-6 Proposed

LEGEND

EXISTING CONIFEROUS TREE	EXISTING PROPERTY LINE
EXISTING DECIDUOUS TREE	EXISTING RIGHT-OF-WAY
EXISTING UTILITY POLE	EXISTING PROPERTY BOUNDARY
EXISTING STORM MANHOLE	EXISTING CENTERLINE
EXISTING CATCH BASIN	EXISTING FENCE LINE
EXISTING SANITARY MANHOLE	EXISTING STORM DRAINAGE LINE
EXISTING WATER VALVE	EXISTING SANITARY MAIN
EXISTING WATER METER	EXISTING WATER LINE
EXISTING FIRE HYDRANT	NEW STORM DRAINAGE LINE
NEW STORM MANHOLE	NEW SANITARY MAIN
NEW CATCH BASIN	NEW WATER LINE
NEW WATER METER	NEW RIGHT-OF-WAY
	NEW PROPERTY LINE
	NEW CURB LINE

2012-76

PRELIMINARY UTILITY PLAN

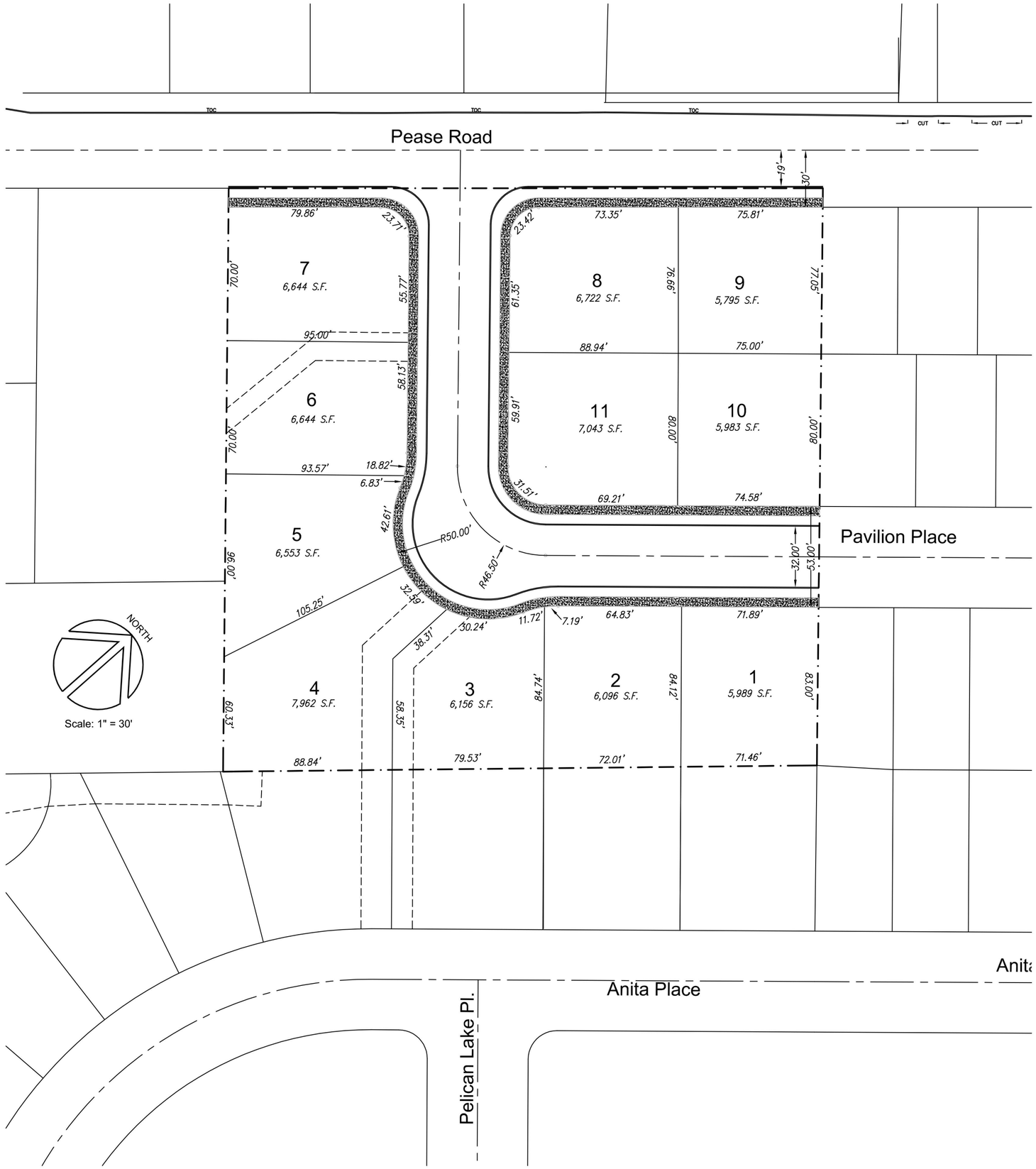
DESIGNED:	BDG			
DRAWN:	BJS			
SCALE:	1" = 40'			
DATE:	August, 2012			
FILE:	Pavilion Park Civil	DATE	NO.	REVISION

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345, Lake Oswego, Oregon 97035
503/481-8822
email: thetaeng@comcast.net

APPLICANT: Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Pavilion Park II
19370 Pease Road, Oregon City, OR

SHEET: 1/2





Vicinity Map

Owner/Applicant:
Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Legal: 3 2E 07B TL 3300

Water: City of Oregon City

Sewer: City of Oregon City

Contours: Field Survey by Centerline Concepts, Inc.

Site Area: 2.18 Acres

Engineer:
Theta Engineering, Inc.
4260 Country Woods Ct.
Lake Oswego, OR 97035
PH: (503) 481-8822

Zoning: Existing - R-10, Zone Change to R-6 Proposed

Impervious Areas: Sidewalks - 4,927 sq. ft., Street - 15,923 sq. ft.

No pathways other than sidewalks are proposed nor are any bicycle paths proposed or necessary.

DESIGNED: REG	11-16-2012	1	Revised sidewalks & dimensions.	
DRAWN: REG				
SCALE: 1" = 40'				
DATE: August 2012				
FILE: 12-ICN-100	DATE	NO.	REVISION	

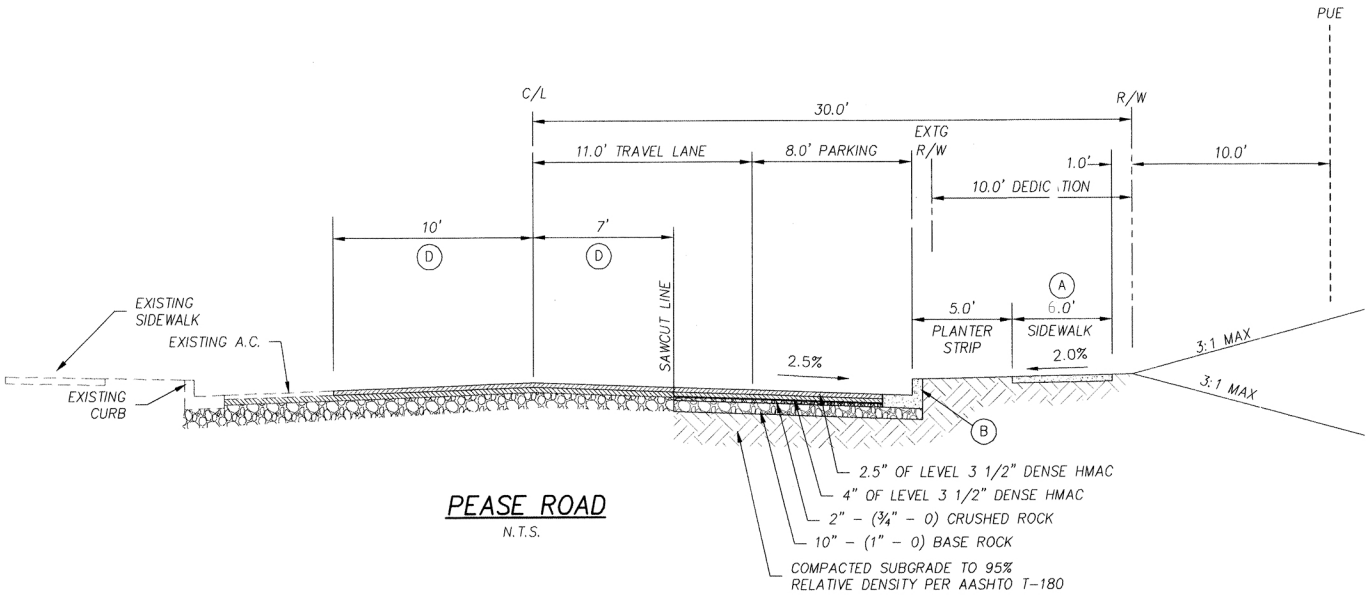
Richard E. Givens, Planning Consultant
11303 Brandow St.
Oregon City, OR 97045
PH: (503) 479-0097

APPLICANT: Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

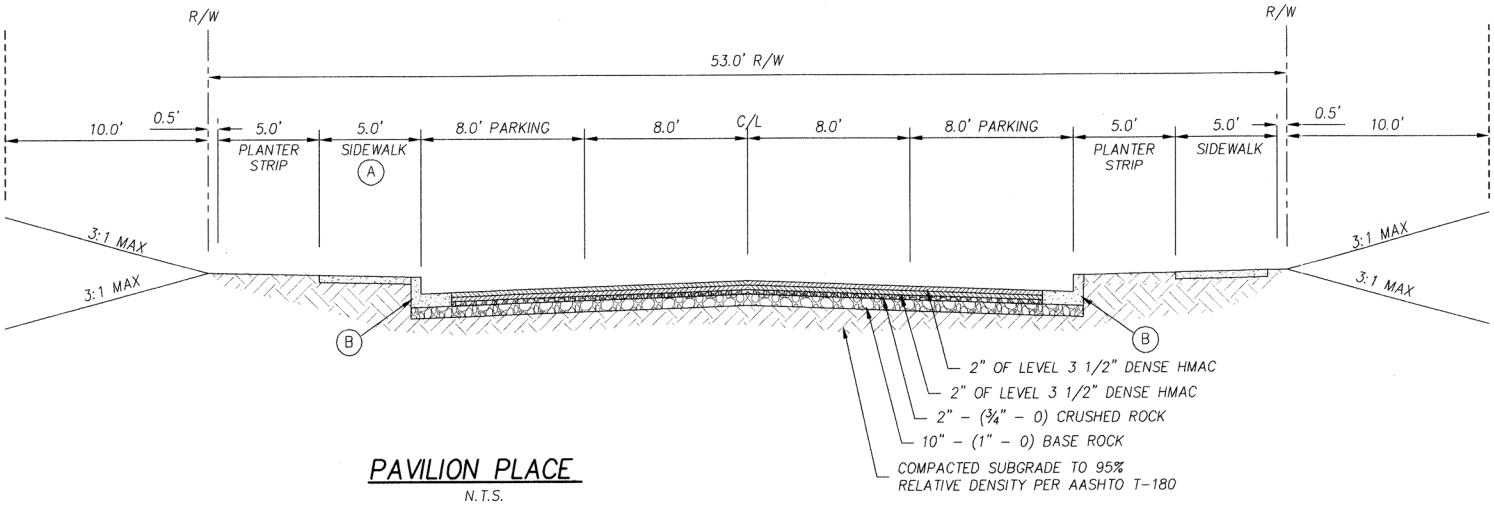
Pavilion Park II
Preliminary Plan

SHEET: 1/1

Pavilion Park No. 2
Street Sections



PEASE ROAD
N.T.S.



PAVILION PLACE
N.T.S.

SCHOTT & ASSOCIATES
Ecologists & Wetlands Specialists

21018 NE Hwy 99E • P.O. Box 589 • Aurora, OR 97002 • (503) 678-6007 • FAX: (503) 678-6011

August 7, 2012

Mark Handris
ICON Construction
1980 Willamette Falls Dr., Ste. 200
West Linn, OR 97068

Re: 19370 Pease Road – Drainage

Dear Mark:

Rick Givens asked me to look at the property located at 19370 Pease Road for wetlands and waterways. He was particularly concerned with a drainage located northwest of the northwest property line. The drainage starts from a culvert that ends at the toe of an old fill slope, which appears to end on the property line. Oregon City's maps show the drainage coming from the east, but how far the culvert extended to the east was not determined.

The southeastern half of the site is essentially developed with a house, shop and gravel parking area. The northwest half of the site is undeveloped, but much of the area has been filled. The northwest edge of the site has steep slopes (approximately 2:1). The sloped area appears to be an engineered fill slope. The fill is believed to be over 20 years old. There are two catchment basins in the eastern most portion of the site. The catchment basins drain to a culvert that crosses the northern portion of the site, where the fill is the thickest. The culvert and drainage drains to the west.

The vegetation on the undeveloped portion of the site was relatively sparse, due to the compacted fill. It consisted of Orchard grass, cat's ear, perennial ryegrass, colonial bentgrass, and Queen Anne's lace. The vegetation on the fill slope was primarily Himalayan blackberry. The vegetation is not dominated by hydrophytic species. The vegetation gets thicker the further away from Pease Road you go. Review of aerial photographs indicated that the property owner has kept the site mowed, probably to reduce fire danger.

a soil sample was not obtainable in the fill area due to compaction, gravel and the dry conditions. The soil survey had Cottrell and Bornstedt soils mapped on the site. Neither soil is listed as hydric. However, since much of the site consists of fill neither soil was verified as being on-site.

There was no evidence of wetland hydrology on the site, even though there were two catchment basins in the northern corner of the site.

No wetlands were observed on the site. The drainage started at the property line and headed to the west. At the time of the site visit the catchment basins and the drainage were observed to be dry.

Pavilion Park No. 2
Tower Vista Neighborhood Association
Meeting of Sept. 12, 2012

The applicant's representative, Rick Givens, was invited to attend the September 12, 2012 meeting of the Tower Vista Neighborhood Association to present the project and to take questions and comments from the audience. Mr. Givens made use of a site plan of the project to explain that the property in question is proposed to be rezoned from R-10 to R-6 and that a subdivision of eleven lots is planned for the property. He discussed site features and explained that the proposed development is consistent with surrounding development patterns and that all lots would be used for construction of single-family homes.

After completion of his presentation, Mr. Givens took questions and comments from the audience. The following questions were addressed:

1. Was the property annexed to the city? Mr. Givens explained that the annexation was completed last summer and that the property is now within the city limits and that the usual annexation process was used to bring the property into the city.
2. Why was the property zoned R-10? Mr. Givens explained that the Oregon City Municipal Code applies R-10 zoning by default upon annexation to properties that are designated for Low Density Residential Development. The zone change process is required to change the zone in order to increase density to match adjacent development patterns.
3. How many more lots per acre are allowed by R-6 zoning vs. R-10. Mr. Givens stated that allowable density would increase from about 4 units per acre to around 6 units per acre.
4. What will the impact upon city finances be? Mr. Givens stated that greater property taxes would be generated and that system development charges would also be paid to the City to help offset future capital improvement needs. He explained that the developer would pay for all improvements on the site associated with the project.
5. Are sewer & water services adequate to meet the needs of the increased density? Oregon City Public Works Director, John Lewis, who was at the meeting on another matter, noted that city services are available and adequate to serve the proposed development.
6. Concerns were expressed about street trees causing problems with sidewalks in many developments within the city. Mr. Givens explained that the City's newer street standards provide for wider planter strips than were used in the past and that street trees would be selected from approved lists that have fewer problems with roots lifting sidewalks.

This concluded the comments and questions on the proposal. No objections were raised to the proposed zone change or subdivision.

October 9, 2012

LANCASTER
ENGINEERING

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

Icon Construction & Development, LLC
Attn: Mark Handris
1980 Willamette Falls Drive #200
West Linn, OR 97068

RE: 19370 Pease Road Subdivision
Transportation Analysis Letter

Dear Mark,

We have completed our transportation analysis for the proposed subdivision at 19370 Pease Road in Oregon City. Based on available information including the 11 lot preliminary subdivision layout provided by Rick Givens, Section 3.1 of the City of Oregon City's *Guidelines for Transportation Impact Analyses* indicates that a Transportation Analysis Letter (TAL) is the required level of analysis for this project. This letter addresses all points specified by Section 5.0 of those guidelines.

Location and Project Description

The site is located on the southeast side of Pease Road between Hampton Drive and S McCord Road. The proposed subdivision layout includes right of way dedications along the southeast frontage of Pease Road to meet the city's right of way requirements for future public street improvements. The subdivision layout also includes an extension of a public road—Pavilion Place—from the current dead-end through the subdivision and out to Pease Road. This will include right of way dedication on both frontages to meet city standards for future public improvements. Lots 1–6 and lots 10–11 will take access to the extended Pavilion Place, while lots 7–9 will take access to either the extended Pavilion Place or to Pease Road.

All of the streets mentioned above are under the jurisdiction of the City of Oregon City. Hampton Drive and Pavilion Place are classified as Local Streets by the Oregon City Transportation System Plan (TSP), Pease Road is classified as a Neighborhood Collector, and S McCord Road is classified as a collector.

Figure 1 shows the vicinity of the site, and a copy of the project site plan is included in the Technical Appendix of this report. Several figures that follow show various views of the project site.





Figure 1: Aerial view of the site and nearby vicinity (Image from Google Earth).

Trip Generation & Distribution

To estimate the trips generated by the construction of 11 single family homes associated with the proposed subdivision, trip rates from the manual *TRIP GENERATION*, Eighth Edition, published by the Institute of Transportation Engineers (ITE) were used. The land-use code utilized was #210, *Single-Family Detached Housing*, with trip rates based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision with 11 single-family homes will generate a total of 8 trips during the morning peak hour with 2 trips entering the site and 6 trips exiting the site. During the evening peak hour a total of 11 trips are to be expected with 7 trips entering the site and 4 exiting. A weekday total of 106 trips are expected with half entering and half exiting the site. The following table offers a summary of the trip generation calculations and detailed trip generation calculations are included in the technical appendix of this report.

TRIP GENERATION								
Morning Peak Hour			**Evening Peak Hour**			**Weekday**		
In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
2	6	8	7	4	11	53	53	106

It is expected that the majority of the new trips will be added to Pease Road and connect to the greater network via Leland Road to the northeast, with the remaining trips connecting out to the greater network via S McCord Street to the southwest. With the minimal number of trips associated with the proposed project, none of the surrounding transportation facilities are expected to see a significant increase in traffic or change in operation.



Figure 2: View of the site proposed for subdivision from the present end of Pavilion Drive

Intersection Spacing & Access Width

The proposed site plan calls for extending Pavilion Place to the southwest of its current dead end, then northwest to Pease Road as shown in the preliminary plat included in the technical appendix to this letter. This new street will intersect with Pease Road approximately 280 feet to the northeast of the intersection with Fisherman's way, which is classified as a local street according to the Oregon City TSP. The intersection is approximately 400 feet to the southwest of the nearest street in the opposite direction, Hampton Drive, which is also classified as a local street. Access spacing standards are specified in Table 5-7, *Minimum City Street Intersection Spacing Standards,* of the

Oregon City TSP. The minimum allowable distance between two local street intersections is 150 feet, so the intersection created with the construction of this subdivision will be in conformance with Oregon City's intersection spacing standards. No other intersections in close proximity of the site are in violation of these intersection standards.

City of Oregon City Street Design Standards allow for a 25-foot maximum width and a 12-foot minimum width for standard residential driveways (Standard Drawing No. 504). Oregon City does not have spacing standards regarding the minimum distance between private driveways, however for a driveway near an intersection, a minimum distance of 40 feet to the curb return is preferred. There are two lots that are adjacent to the proposed intersection of Pavilion Way at Pease Road (lots 7 and 8). As seen in the plat appended to this letter, both of these lots will have adequate frontage on both Pease Road and Pavilion Drive for the standards to be met with an access on either street. Thus, all driveways constructed as part of the project will be designed to meet the requirements of the city's TSP when constructed.

Two to three lots are proposed to take direct access to Pease Road. These accesses are not expected to cause operational or safety problems along the roadway. The posted speed is 25 mph, traffic volumes are low, and sight distance is favorable. There are many homes with direct access to Pease Road in the vicinity, and these driveways are consistent with the character of the roadway. Further, there is adequate continuous stopping sight distance along Pease Road so that drivers can see vehicles backing out of residential driveways and slow or come to a complete stop if necessary.



Figure 3: View of the site, looking southwest along Pease Road.

Street Configuration and Improvements

The proposed extension of Pavilion Drive will be 32 feet in width, which is consistent with the existing roadway as well as the requirements outlined in Oregon City's TSP. There will be an additional 12 feet of right-of-way on each side of the proposed extension of right-of-way dedication. Pease Road is 24 feet in width. Pease Road is striped, while Pavilion Drive is not. There are three private driveways opposite the proposed site on Pease Road, including one directly opposite the planned intersection with Pavilion Drive, and the extended Pavilion Way will contain driveways on both sides. Since each residence in this area contains ample storage for vehicles, little if any parking is expected on the street, and no cars were observed parked on the street during a midday site visit. Thus, the additional accesses will not present an operational issue.

The proposed project site includes frontage improvements and sidewalks the site's frontage on Pease Road as well as the extended Pavilion Drive. All proposed street improvements are shown to meet the city's standard for local streets including two way travel lanes, on street parking, curbs, gutters, landscaping, and sidewalks.



Figure 4: Site of the proposed subdivision looking northeast on Pease Road. The location of the three-legged intersection with the extended Pavilion Drive drive can be seen; the road will be constructed in front of the trees toward the center of this photo.

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 the speed of traffic on the major street and the sight distance measurements are based on an eye height of 3.5 feet and an approaching driver's eye height of 3.5 feet above the road, with the driver's eye 15 feet behind the edge of the near-side travel lane.

All of the existing and future streets have a statutory speed limit of 25 mph and require a minimum sight distance of 280 feet. Intersection sight distance was examined at the location of the planned intersection of Pavilion Place at Pease Road described above. Sight distance along Pease Road to the southwest of the location of the new intersection was measured to be in excess of 500 feet. Sight distance to the northeast is currently obstructed by a retaining wall and vegetation that will be removed as part of the planned development. Removing these will create more than 500 feet of sight distance in the northeastern direction as well.

Conclusions

The impact to the existing infrastructure created by the trips generated as a result of the proposed subdivision and eventual construction of 11 single family residences will be minimal and is not expected to significantly alter the operation of the existing facilities.

Intersection spacing and street sections adjacent to the site all either meet the applicable standards or are acceptable in their current configuration. No safety issues arise due to the subdivision of the site. No revisions or mitigations are recommended as part of the proposed preliminary subdivision plan.

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

With Best Regards,

Brian Davis
Transportation Analyst

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 11

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**2**	**6**	**8**

PM PEAK HOUR

Trip Rate: 1.01

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**7**	**4**	**11**

WEEKDAY

Trip Rate: 9.57

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**53**	**53**	**106**

SATURDAY

Trip Rate: 10.08

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**55**	**55**	**110**

Source: TRIP GENERATION, Eighth Edition

After Recording, Return to:
ICON Construction & Development, LLC
2008 Willamette Falls Drive
West Linn, OR 97068

DRAFT

DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS FOR PAVILION PARK II

TABLE OF CONTENTS

RECITALS
ARTICLE 1 DEFINITIONS
ARTICLE 2 PROPERTY SUBJECT TO THIS DECLARATION
- 2.1 Development
- 2.2 No Right to Annex Additional Property

ARTICLE 3 OWNERSHIP AND EASEMENTS
- 3.1 Nonseverability
- 3.2 Ownership of Lots
- 3.3 Easements
  - 3.3.1 Easements on Plat
  - 3.3.2 Additional Utility Easements

ARTICLE 4 LOTS AND HOMES
- 4.1 Structures Permitted
- 4.2 Residential Use
- 4.3 Construction; Exterior Materials and Finishes
- 4.4 Landscaping
- 4.5 Maintenance of Lots and Homes
- 4.6 Rental of Homes
  - 4.6.1 Written Rental Agreements Required
  - 4.6.2 Minimum Rental Period
  - 4.6.3 Tenant must be Given Documents
- 4.7 Animals
- 4.8 Nuisance
- 4.9 Parking
- 4.10 Vehicles in Disrepair
- 4.11 Signs
- 4.12 Rubbish and Trash
- 4.13 Fences and Hedges
- 4.14 Service Facilities
- 4.15 Antennas and Satellite Dishes
- 4.16 Exterior Lighting or Noise-making Devices
- 4.17 Basketball Hoops
- 4.18 Grades, Slopes, and Drainage
- 4.19 Damage or Destruction to Home and/or Lot
- 4.20 Ordinances and Regulations
- 4.21 Temporary Structures

4.22 Declarant Exemptions
ARTICLE 5 ARCHITECTURAL REVIEW COMMITTEE
5.1 Architectural Review
5.2 Architectural Review Committee, Appointment, and Removal
5.3 Majority Action
5.4 Duties
5.5 ARC Decision
5.6 ARC Discretion
5.7 Nonwaiver
5.8 Effective Period of Consent
5.9 Determination of Compliance
5.10 Noncompliance
5.11 Liability
5.12 Estoppel Certificate
5.13 Declarant and Successor Exempt from ARC
ARTICLE 6 DECLARANT'S SPECIAL RIGHTS
6.1 General
6.2 Marketing Rights
6.3 Additional Improvements

ARTICLE 7 GENERAL PROVISIONS
7.1 Records
7.2 Indemnification of Directors, Officers, Employees, and Agents
7.3 Enforcement; Attorney Fees
7.4 Severability

DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS FOR PAVILION PARK II

THIS DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS FOR PAVILION PARK II ("Declaration") is made by ICON CONSTRUCTION & DEVELOPMENT, LLC

RECITALS

Declarant is the owner of all the real property and improvements thereon located in Clackamas County, Oregon, described as follows (the "Property"):

Lots 1 through 6, inclusive, and as shown on the plat map of filed for record on _____, Book _____, Pages _____, in the plat records of Clackamas County, Oregon.

Declarant desires to impose these mutually beneficial covenants, conditions, restrictions, easements, assessments, and liens on the Property for the benefit of all Lots in Pavilion Park II.

Declarant desires that this Declaration not be subject to the Oregon Planned Community Act, although certain of the terms of this Declaration make reference to such law.

NOW THEREFORE, Declarant declares that the Property shall be held, transferred, sold, conveyed, and occupied subject to the following covenants, conditions, restrictions, easements, charges, and liens, which shall run with the land, which shall be binding on all parties having or acquiring any right, title, or interest in the Property or any part thereof, and which shall inure to the benefit of the Association and of each Owner.

ARTICLE 1
DEFINITIONS

1.1 *Architectural Review Committee* or "ARC" shall refer to that committee constituted and acting pursuant to Article 6 of this Declaration.

1.2 *Pavilion Park II* shall mean Lots 1 through 11 of the Property

1.3 *Declaration* shall mean the covenants, conditions, restrictions, and all other provisions set forth in this Declaration.

1.4 *Declarant* shall mean and refer to Icon Construction & Development, LLC, and their successors or assigns, or any successor or assign to all or the remainder of its interest in the Property.

1.5 *General Plan of Development* shall mean Declarant's general plan of development of the Property, as approved by appropriate governmental agencies, as may be amended from time to time.

1.6 *Home* shall mean and refer to any portion of a structure situated on a Lot and designed and intended for use and occupancy as a residence by a single family or household.

1.7 *Lot* shall mean and refer to each and any of Lots 1 through 11.

1.8 *Occupant* shall mean and refer to the occupant of a Home, whether such person is an Owner, a lessee, or any other person authorized by the Owner to occupy the Home.

1.9 *Owner* shall mean and refer to the record owner, whether one or more persons or entities, of the fee simple title to any Lot or a purchaser in possession of a Lot under a land sale

contract. The foregoing does not include persons or entities who hold an interest in any Lot merely as security for the performance of an obligation.

1.10 *Plat* shall mean and refer to the Plat of Pavilion Park II recorded in the Plat Records of Clackamas County, Oregon, at Book _____, Pages _____, on _____, 2012.

1.11 *Property* shall have the meaning attributed to such term in the Recitals of this Declaration.

1.12 *Rules and Regulations* shall mean and refer to the documents containing rules and regulations and policies adopted by the Board or the Architectural Review Committee, as may be from time to time amended.

ARTICLE 2
PROPERTY SUBJECT TO THIS DECLARATION

2.1 Development. The development of Pavilion Park II of the Property, which shall be held, transferred, sold, conveyed, and occupied subject to this Declaration. There will be no common areas at the Property.

2.2 No Right to Annex Additional Property or to Withdraw Property. Declarant reserves no right to annex additional property to or to withdraw property from Pavilion Park II.

ARTICLE 3
OWNERSHIP AND EASEMENTS

3.1 Each of the easements granted or reserved herein shall be deemed to be established upon the recordation of this Declaration and shall thenceforth be deemed to be covenants running with the land for the use and benefit of the Owners and their Lots and shall be superior to all other encumbrances applied against or in favor of any portion of Pavilion Park II.

3.2 Ownership of Lots. Title to each Lot in shall be conveyed in fee to an Owner. IF more than one person and/or entity owns an undivided interest in the same Lot, such persons and/or entities shall constitute one Owner.

3.3 Easements. Individual deeds to Lots may, but shall not be required to, set forth the easements specified in this Article.

3.3.1 Easements on Plat. The Lots are subject to the easements and rights-of-way shown on the Plat.

3.3.2 Additional Easements; Notwithstanding anything expressed or implied to the contrary, this Declaration shall be subject to all easements granted by Declarant for the installation and maintenance of utilities and drainage facilities necessary for the development of Pavilion Park II. No structure, planting, or other material that may damage or interfere with the installation or maintenance of utilities, that may change the direction of flow of drainage channels in the easements, or that may obstruct or retard the flow of water through drainage channels in the easement areas shall be placed or permitted to remain within any easement area.

ARTICLE 4
LOTS AND HOMES

4.1 Structures Permitted. No structures shall be erected or permitted to remain on any Lot except one single-family structure containing a dwelling unit and structures normally accessory thereto. No dwelling unit shall have (i) an area of less than 800 square feet on the main

entry level, or (ii) a total living space area (not including garage) of less than 1,600 square feet (exclusive of porches or garages) for one story dwellings and 2000 square feet for multi-story dwellings. Exceptions to such footage requirements shall be permitted only with approval of the Architectural Review Committee, which approval shall be in the sole discretion of the ARC and shall not in any event permit more than a 5% reduction of the foregoing square footage requirements. No dwelling shall be more than 2-1/2 stories. The foregoing provision shall not exclude construction of a private greenhouse, cabana, pool equipment house, retaining walls, fenced gate, private swimming pool, play structure, sport court, or structure for the storage of a boat and/or camping trailer for personal use, provided the location of such structure is in conformity with the applicable governmental regulations, is compatible in design and decoration with the dwelling structure constructed on such Lot, and has been approved by the Architectural Review Committee. Each dwelling shall have a garage for not less than two (2) car. The ARC shall be permitted to authorize exceptions to the square footage provisions of this Section 4.1, upon a determination of the ARC, in its sole discretion, that architectural design enhancements will provide an overall appearance and value in conformance with the balance of the Property. In no event shall any such exception permit a reduction of square footage for any dwelling of more than 5% of the minimum area set forth in this Section 4.1.

4.2 Residential Use. Lots shall only be used for residential purposes. Except with the Board's consent no trade, craft, business, profession, commercial, or similar activity of any kind shall be conducted on any Lot, and no goods, equipment, vehicles, materials, or supplies used in connection with any trade, service, or business shall be kept or stored on any Lot. Nothing in this Section 4.2 shall be deemed to prohibit (a) activities relating to the sale of residences, (b) the right of Declarant or any contractor or homebuilder to construct residences on any Lot, to store construction materials and equipment on such Lots in the normal course of construction, and to use any residence as a sales office or model home for purposes of sales in Pavilion Park II, and (c) the right of the Owner of a Lot to maintain such Owner's personal business or professional library, keep such Owner's personal business or professional records or accounts, handle such Owner's personal business or professional telephone calls, or confer with business or professional associates, clients, or customers in such Owner's residence.

4.3 Construction, Exterior Materials and Finishes. Each dwelling shall be constructed using conventional double walled wood framing. Exterior siding materials shall be either wood material, masonry products with simulated wood grain, masonry brick, stone, or stucco. No plywood, masonite style hardboard, hardboard or other pressed wood material shall be permitted, except for board and batten siding which is permitted. Roofing material shall be either cedar shingle or shake, concrete or clay tile, or synthetic tiles. Composition roofing material will be permitted provided it meets a minimum standard of 30 years. Exterior colors for any structure built on any Lot shall be solid or semi transparent earth tone colors. Trim colors shall be complimentary earth tones. White, and subdued yellows, greens and blues will be permitted. No bright pastels will be permitted. The ARC shall have final determination of acceptable colors.

4.4 Landscaping. Each Owner other than Declarant shall obtain the ARC's prior approval of all landscaping plans for front yards before commencing installation of any landscaping in front yards. Landscaping for all portions of the Lot shall commence within 60 days after final building inspection by the local government jurisdiction and shall be completed

within six months after such inspection. This Section 4.4 shall apply to Lots with finished Homes being held for sale as well as to other Lots.

4.5 Maintenance of Lots and Homes. Each Owner shall maintain such Owner's Lot and all improvements thereon in a clean and attractive condition, in good repair, and in such fashion as not to create a fire hazard. Such maintenance shall include, without limitation, maintenance of windows, doors, garage doors, walks, patios, chimneys, and other exterior improvements and glass surfaces. All repainting or restraining and exterior remodeling shall be subject to prior review and approval by the ARC. Each Owner shall repair damage caused to such Owner's Lot or improvements located thereon by fire, flood, storm, earthquake, riot, vandalism, or other causes within a reasonable period.

4.6 Rental of Homes. An Owner may rent or lease such Owner's Home or a portion thereof, provided that the following conditions are met:

4.6.1 Written Rental Agreements Required. The Owner and the tenant enter into a written rental or lease agreement specifying that (i) the tenant shall be subject to all provisions of the Declaration, Bylaws, and Rules and Regulations, and (ii) a failure to comply with any provision of the Declaration, Bylaws, and Rules and Regulations shall constitute a default under the rental or lease agreement;

4.6.2 Minimum Rental Period. The period of the rental or lease is not less than 30 days;

4.6.3 Tenant Must be Given Documents. The Owner gives each tenant a copy of the Declaration, Bylaws, and Rules and Regulations.

4.7 Animals. No animals, livestock, or poultry of any kind, other than a reasonable number of household pets that are not kept, bred, or raised for commercial purposes and that are reasonably controlled so as not to be a nuisance, shall be raised, bred, kept, or permitted within any Lot. Owners whose pets cause any inconvenience or unpleasantness to other Owners shall take all steps reasonably necessary to prevent recurrence thereof and Owners whose pets damage other Owners' Lots or personal property shall reimburse such other Owners for reasonable costs actually incurred by such other Owners in repairing such damage. An Owner shall ensure that such Owner's dog is leashed when on the Property and outside of such Owner's Lot.

4.8 Nuisance. No noxious, harmful, or offensive activities shall be carried out on any Lot. Nor shall anything be done or placed on any Lot that interferes with or jeopardizes the enjoyment of, or that is a source of annoyance to, the Owner or other Occupants.

4.9 Parking. Boats, trailers, motorcycles, commercial vehicles, mobile homes, campers, and other recreational vehicles or equipment, regardless of weight, shall not be parked on any streets on or adjacent to the Property for more than twelve hours or such other period as may be permitted by the Association Rules and Regulations. Parking of boats, trailers, motor homes, motorcycles, trucks, truck-campers, and like equipment shall not be allowed on any part of said property nor public right of way adjacent thereto excepting only the confines of an enclosed garage, storage port, or behind a screening fence or shrubbery which shall in no event project beyond the front walls of any dwelling. The height of such screening fence shall be compatible with the structure and shall be constructed to afford the best reasonable screening of such vehicles from the street view of the residence.

4.10 Vehicles in Disrepair. No Owner shall permit any vehicle that is in a state of disrepair or that is not currently licensed to be abandoned or to remain parked on any street on or adjacent to the Property at any time and may not permit them on a Lot for a period in excess of 48 hours

4.11 Signs. No signs shall be erected or maintained on any Lot except that not more than one "For Sale" or "For Rent" sign placed by the Owner or by a licensed real estate agent, not exceeding 24 inches high and 36 inches long, may be temporarily displayed on any Lot. The restrictions contained in this Section 4.11 shall not prohibit the temporary placement of "political" signs on any Lot by the Owner or Occupant. Provided, however, political signs shall be removed within three days after the election day pertaining to the subject of the sign. Real estate signs shall be removed within three days after the sale closing date.

4.12 Rubbish and Trash. No Lot shall be used as a dumping ground for trash or rubbish of any kind. All garbage and other waste shall be kept in appropriate containers for proper disposal and out of public view. Yard rakings, dirt, and other material resulting from landscaping work shall not be dumped onto streets or any other Lots.

4.13 Fences and Hedges. As used herein, fencing shall mean any wall or barrier. No fence, plantings or site obscuring fences exceeding four (4) feet in height may be located in the front yard or side Lot lines forward of the building line with the greatest setback on the Lot or adjoining Lot. Exception to this provision shall be any perimeter fencing and entry signs constructed by the Declarant and in the case of corner lots, where the height restriction shall apply only to the front yard of the dwelling and a fence may extend from the front building line to the side yard sidewalk to enclose a side and back yard.

The maximum height of a fence located on the remainder of the Lot shall be six (6) feet.

All fences as may herein be constructed shall be constructed of suitable natural fencing materials and shall be approved by the Architectural Control Committee and shall not detract from the appearance of the dwelling located on the Lots or the dwellings located on adjacent Lots. No chain link fencing shall be allowed. Fence posts may be of steel material, but reasonable efforts shall be made to maintain natural fencing material to the exterior viewed portion of all fences. Vinyl fencing shall be allowed with the written consent of the architectural review committee.
.

4.14 Service Facilities. Service facilities (garbage containers, fuel tanks, clotheslines, etc.) shall be screened so that such facilities are not visible at any time from the street or a neighboring property. All telephone, electrical, cable television, and other utility installations shall be placed underground in conformance with applicable law and subject to approval by the ARC.

4.15 Antennas and Satellite Dishes. Except as otherwise provided by law or this section, no exterior antennas, satellite dishes, microwave, aerial, tower, or other devices for the transmission or reception of television, radio, or other forms of sound or electromagnetic radiation shall be erected, constructed, or placed on any Lot. Exterior satellite dishes or antennas with a surface diameter of one meter or less and antennas designed to receive television broadcast signals only may be placed on any Lot if they are not visible from the street. The Board or ARC may adopt reasonable rules and regulations governing the installation, safety, placement, and screening of such antennas, satellite dishes, and other transmission devices. Such rules shall not unreasonably delay or increase the cost of installation, maintenance, or use or preclude reception of a signal of acceptable quality. (The ARC, in its sole discretion, may determine what constitutes a signal of acceptable quality.) Such rules may prohibit installation of exterior satellite dishes or antennas if signals of acceptable quality can be received by placing antennas inside a Home without causing an unreasonable delay or cost increase.

4.16 Exterior Lighting or Noise-making Devices. Except with the consent of the ARC, no exterior lighting or noise-making devices, other than security and fire alarms, shall be installed or maintained on any Lot.

4.17 Basketball Hoops. No Owner may install a permanent basketball hoop on any Lot without the ARC's prior approval. The ARC may, in its discretion, prohibit such basketball hoops.

4.18 Grades, Slopes, and Drainage. There shall be no interference with the established drainage patterns or systems over or through any Lot within Pavilion Park II so as to affect any other Lot or any real property outside Pavilion Park II unless adequate alternative provision is made for proper drainage and is approved by the ARC. The term *established drainage* shall mean the drainage swales, conduits, inlets, and outlets designed and constructed for Pavilion Park II.

4.19 Damage or Destruction to Home and/or Lot. If all or any portion of a Lot or Home is damaged by fire or other casualty, the Owner shall either (a) restore the damaged improvements or (b) remove all damaged improvements, including foundations, and leave the Lot in a clean and safe condition. Any restoration proceeding under (a) above must be performed so that the improvements are in substantially the same condition in which they existed before the damage, unless the owner complies with the provisions of Article 6. The Owner must commence such work within 60 days after the damage occurs and must complete the work within six months thereafter.

4.20 Ordinances and Regulations. The standards and restrictions set forth in this Article 4 shall be the minimum required. To the extent that local governmental ordinances and regulations are more restrictive or provide for a higher or different standard, such local governmental ordinances and regulations shall prevail.

4.21 Temporary Structures. No structure of a temporary character or any trailer, basement, tent, shack, garage, barn, or other outbuilding shall be used on any Lot as a residence, either temporarily or permanently.

4.22 Declarant Exemptions. Declarant shall be exempt from the application of Section 4.11.

ARTICLE 5
ARCHITECTURAL REVIEW COMMITTEE

5.1 Architectural Review. No improvement shall be commenced, erected, placed, or altered on any Lot until the construction plans and specifications showing the nature, shape, heights, materials, colors, and proposed location of the improvement have been submitted to and approved in writing by the ARC. This Article's purpose is to assure quality of workmanship and materials and harmony between exterior design and the existing improvements and landscaping and as to location with respect to topography and finished grade elevations. The ARC shall not be responsible for determining compliance with structural and building codes, solar ordinances, zoning codes, or other governmental regulations, all of which are the applicant's responsibility. The procedure and specific requirements for review and approval of construction shall be set forth in design guidelines and standards adopted from time to time by the ARC. The provisions of this Article shall apply in all instances in which this Declaration requires the ARC's consent.

5.2 Architectural Review Committee, Appointment and Removal. Declarant reserves the right to appoint all members of the ARC and all replacements thereto until Pavilion

Park II is 100% built out. The ARC shall consist of no fewer than three members and no more than five members. Each ARC member shall serve for one year. The ARC shall be dissolved after the completion of the final house in Pavilion Park II.

5.3 Majority Action. Except as otherwise provided in this Declaration, a majority of the members of the ARC shall have the power to act on behalf of the ARC, without the necessity of a meeting and without the necessity of consulting the remaining member or members of the ARC. The ARC may render its decision only by written instrument setting forth the action taken by the members consenting thereto.

5.4 Duties. The ARC shall consider and act on the proposals and/or plans submitted pursuant to this Article. The ARC, from time to time and at its sole discretion, may adopt architectural rules, regulations, and guidelines ("Architectural Standards").

5.5 ARC Decision. The ARC shall render its written decision approving or denying each application submitted to it within 15 working days after its receipt of all materials required with respect to such application. If the ARC fails to render such written decision within 30 days of its receipt of all required materials or request an extension, the application shall be deemed approved. The ARC shall be entitled to request one or more extensions of time, not to exceed 45 days. In the event of such extension requests, if the ARC does not render a written decision within 15 days after the expiration of the extension(s), the application shall be deemed approved. Provided, however, the applicant may agree to further extensions to allow the applicant to complete or supplement the application.

5.6 ARC Discretion. The ARC, at its sole discretion, may withhold consent to any proposed work if the ARC finds the proposed work would be inappropriate for the particular Lot or incompatible with the design standards that the ARC intends for Pavilion Park II. The ARC may consider siting, shape, size, color, design, height, solar access, or other effect on the enjoyment of other Lots, and any other factors that it reasonably believes to be relevant in determining whether or not to consent to any proposed work.

5.7 Nonwaiver. Consent by the ARC to any matter proposed to it or within its jurisdiction shall not be deemed to constitute precedent or waiver impairing its right to withhold approval as to any similar matter thereafter proposed or submitted to it for consent.

5.8 Effective Period of Consent. The ARC's consent to any proposed work shall automatically expire three months after issuance unless construction of the project has been commenced or the Owner has applied for and received an extension of time from the ARC.

5.9 Determination of Compliance. The ARC may inspect, from time to time, all work performed and determine whether it is in substantial compliance with the approval granted. If the ARC finds that the work was not performed in substantial conformance with the approval granted, or if the ARC finds that the approval required was not obtained, the ARC shall notify the Owner in writing of the noncompliance. The notice shall specify the particulars of noncompliance and shall require the Owner to remedy the noncompliance.

5.10 Noncompliance. If the ARC determines that an Owner has not constructed an improvement consistent with the specifications of an ARC approval or has constructed an improvement without obtaining ARC approval, sends a notice of noncompliance to such Owner, and such Owner fails to commence diligently remedying such noncompliance in accordance with such notice, then, effective at 5:00 p.m. on the third day after issuance of such notice, the ARC shall provide notice of a hearing to consider the Owner's continuing noncompliance. The hearing shall be set not more than 30 days from the date on which the notice of noncompliance was issued. At the hearing, if the ARC finds that there is no valid reason for the continuing

noncompliance, the ARC shall determine the estimated costs of achieving compliance and may issue a fine against the noncomplying Owner for such amount. The ARC also shall require the Owner to remedy such noncompliance within 10 days after the date of the ARC's determination. If the Owner does not comply with the ARC's ruling within such period or any extension thereof granted by the ARC, at its sole discretion, the ARC may remove the noncomplying improvement, remedy the noncompliance, and/or record a notice of noncompliance in the county deed records. The costs of any such action shall be assessed against the Owner as a Reimbursement Assessment either before or after any remedial action is taken.

5.11 Liability. Neither the ARC nor any member thereof shall be liable to any Owner, Occupant, or builder for any damage, loss, or prejudice suffered or claimed on account of any action or failure to act of the ARC or a member thereof, provided only that the ARC or the member has, in accordance with its or his or her actual knowledge, acted in good faith.

5.12 Estoppel Certificate. Within 15 working days after the ARC's receipt of a written request from an Owner and the ARC's receipt of payment of a reasonable fee fixed by the ARC to cover costs, the ARC shall provide such Owner with a certificate executed by the Chairperson or other authorized member of the ARC certifying with respect to any Lot owned by the Owner, that, as of the date thereof either (a) all improvements made or done upon such Lot comply with this Declaration, or (b) such improvements do not so comply, in which event, the certificate shall also identify the noncomplying improvements and set forth with particularity the nature of such noncompliance. The Owner and such Owner's heirs, devisees, successors, and assigns shall be entitled to rely on the certificate with respect to the matters set forth therein.

5.13 Declarant and Successor Exempt from ARC. The Declarant or a successor to all of the unsold Lots shall be exempt from the requirement to submit and have plans approved by the ARC. However, the Declarant and its successor shall not be exempt from the provisions of Article 4 of the Declaration, except as set forth in Section 4.23.

ARTICLE 6
DECLARANT'S SPECIAL RIGHTS

6.1 General. Declarant is undertaking the work of developing Lots and other improvements, including construction of homes on some or all Lots within Pavilion Park II. The completion of the development work and the marketing and sale of the Lots is essential to the establishment and welfare of the Property as a residential community. Until the Homes on all Lots on the Property have been constructed, fully completed, and sold, with respect to each Lot on the Property, Declarant shall have the special rights set forth in this Article 9.

6.2 Marketing Rights. Declarant shall have the right to maintain a sales office and model on one or more of the Lots that Declarant owns. Declarant and prospective purchasers and their agents shall have the right to use and occupy the sales office and models during reasonable hours any day of the week. Declarant may maintain a reasonable number of "For Sale" signs at reasonable locations on the Property.

6.3 Additional Improvements. Declarant has no obligation to build any improvements except as specifically set forth in this Declaration.

ARTICLE 7
GENERAL PROVISIONS

7.1 Terms. These Covenants are to run with the land and shall be binding on all parties and all persons claiming under them amended or revoked in the manner provided herein. So long as Declarant, or declarant's affiliates, own any property within the plat, or any future contiguous plats, or any future contiguous plats annexed hereto, any change or amendment must first have prior approval of the declarant. These Covenants can be terminated and revoked or amended only by duly recording an instrument which contains an agreement providing for termination and revocation or amendment, and which is signed by the owners of a majority of the platted lots.

7.2 Enforcement. Should any person violate or attempt to violate any of the provisions of the Covenants, any person or persons owning any real property embraced within the plat, including the Declarant or Declarant's affiliates, as its or their option, shall have full power and authority to prosecute any proceeding in law or equity against the person or persons violating or attempting to violate any of said Covenants, either to prevent the doing of such, or to recover damages sustained by reason of such violation. Failure by any owner to enforce any covenants or restriction herein contained shall in no event be deemed a waiver of the right to do so thereafter.

7.3 Expenses and Attorney's Fees. In the event any person or persons owning any real property embraced within the plat, including the Declarant or Declarant's affiliates, shall bring any suit or action to enforce these Covenants, the prevailing party shall be entitled to recover all costs and expenses incurred by him/her in connection with such suit or action, including amounts as the court may deem to be reasonable attorney's fees at trail and upon any appeal thereof.

7.4 Severability. Invalidation of any one of these Covenants by judgment or court order shall in no way affect any other provision which shall remain in force and effect.

IN WITNESS WHEREOF, Declarant has executed this instrument this __ day of _____, 2012 by Mark Handris, managing member of ICON Construction & Development, LLC.

by _____
Mark Handris
Managing Member, ICON Construction & Development, LLC

STATE OF OREGON)
) ss.
County of _____)

This instrument was acknowledged before me on _____, 2012, by Mark Handris, managing member of ICON Construction & Development, LLC

_____

Notary Public for Oregon
My commission expires: _____

Real-World Geotechnical Solutions
Investigation • Design • Construction Support

September 26, 2012
Project No. 12-2750

Icon Construction
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
Phone: 503-657-0406
Fax: 503-655-5991

CC: Rick Givens (rgivens@wbcable.net)

SUBJECT: GEOTECHNICAL FILL EVALUATION
PEASE ROAD SUBDIVISION – LOTS 4-7
OREGON CITY, OREGON

This report presents the results of a geotechnical fill evaluation conducted by GeoPacific Engineering, Inc. (GeoPacific) for the proposed Pease Road Subdivision, located in Oregon City, Oregon. The purpose of this study was to evaluate suitability of the existing fill for structural support of foundations and improvements. The scope of our evaluation included exploratory test pits, field and laboratory density testing, and preparation of this report. Our work was performed in accordance with GeoPacific proposal P-4256, dated August 28, 2012.

SITE DESCRIPTION AND PROPOSED CONSTRUCTION

The subject site is an undeveloped grass field, measuring approximately 130 feet by 210 feet. The site is bordered by Pease Road to the northwest, private residences to the northeast and southwest, and undeveloped land to the southeast. The site is nearly level. An existing fill slope/boulder wall runs along the southwestern property line. It is our understanding that 4 lots exist on the site and that new single family residences are planned on those lots.

SUBSURFACE CONDITIONS

On September 17, 2012, GeoPacific explored subsurface conditions at the site by excavating four exploratory test pits with a trackhoe to depths ranging between 4 and 5 feet below the ground surface (bgs) at the approximate locations shown on Figure 1. A GeoPacific staff engineer continuously monitored the field exploration program and logged the test pits. Soils observed in the explorations were classified in accordance with the Unified Soil Classification System. During exploration, our engineer also performed in-place moisture and density testing and noted geotechnical conditions such as soil consistency, moisture, and groundwater conditions. Logs of the test pits are attached to this report.

The following report sections provide a summary of the earth materials encountered during test pit exploration at the site.

Undocumented Fill: Compacted fill was encountered in all of the exploratory test pits. The compacted fill consists primarily of gravelly SILT (ML) with occasional cobbles to silty GRAVEL (GM) with occasional cobbles. In test pits, this fill material is well-graded with little or no open voids. Some wood debris, gravel, and asphalt concrete were observed in TP-3 and TP-4.

Moisture contents were generally damp. The total thickness of fill encountered at the site ranged between 1.5 and 4 feet. Table 1 presents a summary of fill thickness at each test pit.

Table 1: Thickness of Existing Fill in Test Pits

Test Pit	Fill Thickness *
TP-1	3.5 feet
TP-2	3.5 feet
TP-3	4 feet
TP-4	2.5 feet

Native Soil: Underling the fill material is native soil consisting of boulders in a silt, gravel, and cobble matrix. Native soil was encountered in all of the test pits. The native soil generally has a dense consistency. Pocket penetrometer field measurements indicate that the silt component has an approximate unconfined compressive strength greater than of 4.5 tons per square foot. The native boulder material extends below the maximum depth explored of 5 feet.

Laboratory Testing

One Standard Proctor laboratory test (moisture-density relationship) was performed on soil samples collected at the site on September 17, 2012. The tests were conducted in accordance with test procedures specified by ASTM D698. Moisture content is expressed as a percentage of the mass of water lost during oven drying to the soil dry weight. Table 2 presents a summary of laboratory Proctor Test results.

Table 2: Laboratory Proctor Test Results

Material Source	Material	Maximum Dry Density (psf)	Optimum Moisture Content
TP-1 + TP-2	Gravelly Silt	93.3	26.1%

Field Density Testing

Density testing of the fill was performed on September 17, 2012 at the approximate locations indicated on Figure 1. Table 3 presents the results of our density testing using 95 percent of ASTM D698 (Standard Proctor).

Table 2: Results, location, and depths of Density Testing.

Test Pit	Depth (ft)	Field Dry Density (pcf)	Max. Dry Density (pcf)	Compaction Result	Pass/Fail
TP-1	0.5	86.3	93.3	92.5	Fail
TP-1	2	88.2	93.3	94.5	Fail
TP-2	0.5	91.6	93.3	98.2	Pass
TP-2	2	82.3	93.3	84.0	Fail
TP-3	0.5	90.7	93.3	97.2	Pass
TP-4	0.5	96.5	93.3	+100	Pass
TP-4	2	75.7	93.3	81.1	Fail

CONCLUSIONS AND PRELIMINARY RECOMMENDATIONS

Our evaluation indicates that the compaction of the existing fill along the southwestern property line is variable. The results of our test pits and density testing indicate that much of the fill on the subject site does not meet the compaction requirements of 95 percent relative compaction compared to the maximum dry density obtained from test method ASTM D698 (Standard Proctor).

The extent of fill removal (depth and overall volume) is very dependant upon the final grading plan (prepared by the civil engineer), the finished floor elevation of the building and the type of foundation. In areas of buildings, the existing fill should be either removed and reconstructed beneath the entire building area or selectively beneath footings and one foot horizontally beyond footing edges. With selective removal, granular replacement fill is likely to be most effective. Table 1 indicates the depth of fill and buried topsoil encountered in our explorations. Once this work is performed, the site should be suitable for support of conventional spread foundations provided that the following preliminary recommendations are incorporated into the design and construction phases of the project. GeoPacific Engineering should review construction activities, including the foundation excavations, to verify subgrade bearing strength.

In areas of pavement, the upper foot of fill should be removed and replaced. After removal of the upper foot, the subgrade should be proofrolled and soft spots identified and corrected.

The existing undocumented fill consisting of gravelly SILT (ML) and silty GRAVEL (GM) is suitable for use as engineered fill, if desired.

Engineered Fill

If the existing undocumented fill is to be removed and reconstructed as engineered fill, all grading for the proposed development should be performed as engineered grading in accordance with the applicable building code at time of construction with the exceptions and additions noted herein. Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill.

Imported fill material must be approved by the geotechnical engineer prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

Engineered fill should be compacted in horizontal lifts not exceeding 8 inches using standard compaction equipment. We recommend that engineered fill be compacted to at least 95% of the maximum dry density determined by ASTM D698 (Standard Proctor) or equivalent. Field density testing should conform to ASTM D2922 and D3017, or D1556. All engineered fill should be observed and tested by the project geotechnical engineer or his representative. 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.

UNCERTAINTY AND LIMITATIONS

We have prepared this report for the client, for use on this project only. The 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.

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, express 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.

Sincerely,

GEOPACIFIC ENGINEERING, INC.

REGISTERED PROFESSIONAL ENGINEER
14743PE
OREGON
JAN. 23, 1990
JAMES D. IMBRIE

EXPIRES: 06/30/2013

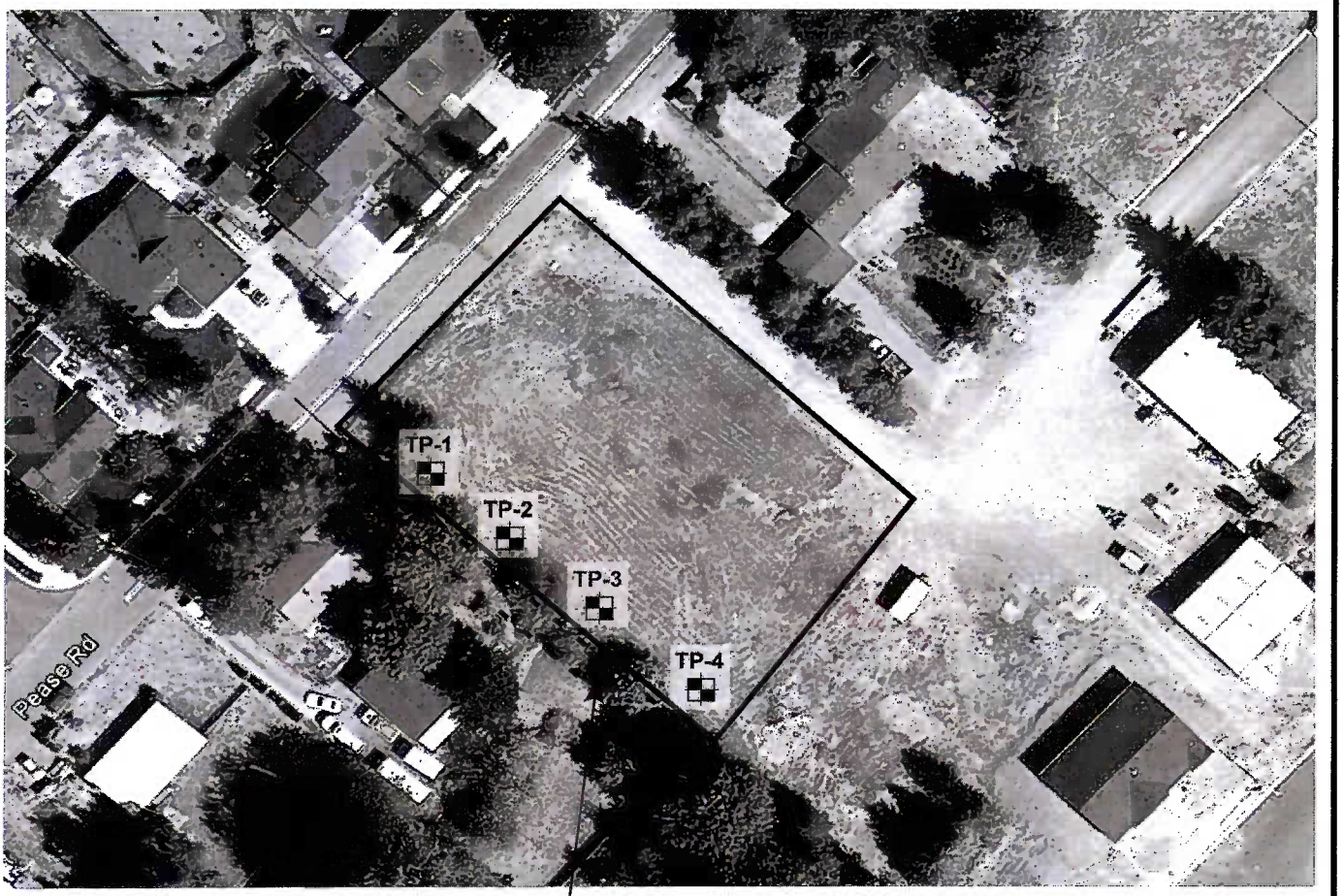
Benjamin G. Anderson, E.I.T.
Geotechnical Staff

James D. Imbrie, G.E., C.E.G.
Principal Geotechnical Engineer

Attachments: Figure 1 - Site Plan with Explorations
Test Pit Logs (4 pages)
Laboratory Proctor Test Report

GeoPacific Engineering, Inc.
14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

SITE PLAN AND EXPLORATION LOCATIONS



Existing Fill Slope/Boulder Wall

North

Legend

TP-1
Test Pit Designation and Approximate Location

No Scale

Date: 09/26/12
Drawn by: BGA

Project: Pease Road Sub. Lots 4-7 Oregon City, Oregon	Project No. 12-2750	FIGURE 1

GeoPacific Engineering, Inc.
14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Pease Road Subdivision
Oregon City, Oregon

Project No. 12-2750

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						Stiff, gravelly SILT (ML) with occasional cobbles, light brown, dry (Fill)
2						Grades to moist
3						
4	>4.5					Very stiff, Reddish brown clayey silt (Native)
5						Test Pit Terminated at 4 Feet.
6						
7						Note: No seepage or groundwater encountered
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: 9/17/12
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: Pease Road Subdivision
Oregon City, Oregon

Project No. 12-2750

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						Medium dense, silty GRAVEL (GM) with occasional cobbles, light brown, dry (Fill)
2						Grades to moist
3						
4						Dense GRAVEL and BOULDERS with reddish brown silt matrix, moist (Native)
5						Test Pit Terminated at 5 Feet.
6						Note: No seepage or groundwater encountered.
7						
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: 9/17/12
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: Pease Road Subdivision
Oregon City, Oregon

Project No. 12-2750

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						Medium dense, silty GRAVEL (GM) with occasional cobbles, light brown, dry (Fill)
2						Grades to moist Asphalt concrete debris (3"x2'x1' pieces)
3						Wood debris, angular gravel, some fine roots
4						Dense GRAVEL and BOULDERS with reddish brown silt matrix, moist (Native)
5						Test Pit Terminated at 4 Feet.
6						Note: No seepage or groundwater encountered.
7						
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14						
15						
16						
17						

LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 9/17/12
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: Pease Road Subdivision
Oregon City, Oregon

Project No. 12-2750

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						Medium stiff, gravelly SILT (ML) with occasional cobbles, light brown, dry (Fill)
2						Grades to moist Asphalt concrete debris (3"x2'x1' pieces)
3						Very stiff, Reddish brown clayey silt (Native)
4						Dense GRAVEL and BOULDERS with reddish brown silt matrix, moist
5						Test Pit Terminated at 4 Feet.
6						Note: No seepage or groundwater encountered.
7						
8						
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LEGEND



Bag Sample



Bucket Sample


Shelby Tube Sample

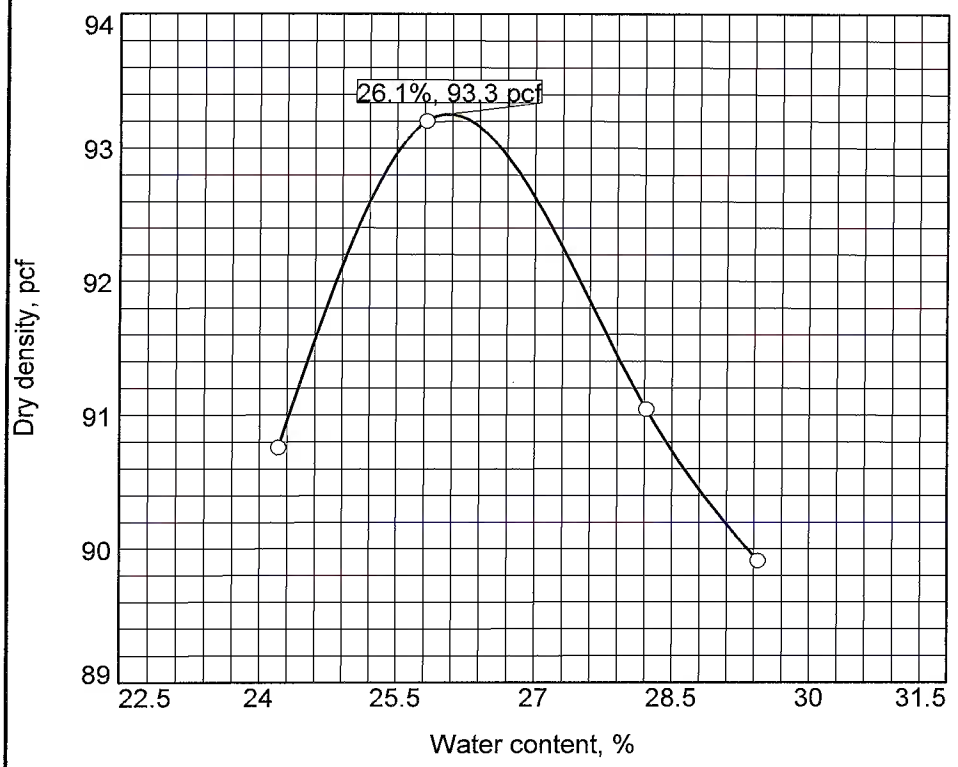

Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 9/17/12
Logged By: BGA
Surface Elevation:

COMPACTION TEST REPORT



Curve No.

Test Specification:
AASHTO T 99 Method D Standard

Preparation Method _____
Hammer Wt. 5.5 lb.
Hammer Drop 12 in.
Number of Layers three
Blows per Layer 56
Mold Size 0.075 cu. ft.
Test Performed on Material Passing 3/4 in. **Sieve**

NM _____ **LL** _____ **PI** _____
Sp.G. (ASTM D 854) _____
%>3/4 in. _____ **%<No.200** _____
USCS _____ **AASHTO** _____
Date Sampled 9.17.2012 BGA
Date Tested 9.19.2012
Tested By JTI

TESTING DATA

	1	2	3	4	5	6
WM + WS	9357.2	9511.7	9493.6	9481.6		
WM	5522.3	5522.3	5522.3	5522.3		
WW + T #1	4329.7	4495.9	4480.6	4460.1		
WD + T #1	3586.3	3678.3	3607.9	3562.0		
TARE #1	515.0	512.1	515.3	511.6		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	24.2	25.8	28.2	29.4		
DRY DENSITY	90.8	93.2	91.0	89.9		

TEST RESULTS

Maximum dry density = 93.3 pcf

Optimum moisture = 26.1 %

Material Description

Brown Gravelly Silt

Remarks:

Project No. 12-2750 **Client:** Icon Construction
Project: Pease Road Lots 4 through 7

Checked by:
Title:

GEOPACIFIC ENGINEERING, INC.

Figure

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

February 6, 2013

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

SUBJECT: REVIEW OF TRANSPORTATION ANALYSIS LETTER – PAVILION PARK II SUBDIVISION – TP12-04

Dear Ms. Moosbrugger:

In response to your request, I have reviewed the Transportation Analysis Letter (TAL) submitted for the proposed 11-lot Pavilion Park II subdivision at 19730 Pease Road. The site is located to the southeast side of Pease Road between Hampton Drive and S McCord Road. The TAL, dated October 9, 2012, was prepared under the direction of Todd E. Mobley, PE of Lancaster Engineering.

The proposal would create a new 11-lot subdivision by infilling within developed areas. The subdivision includes a proposal to extend Pavilion Place from its current dead end terminus to connect with Pease Road approximately 280 feet north east of the intersection of Pease Road with Fisherman's Way.

Overall

I find the TAL addresses the city's requirements and provides an adequate basis to evaluate impacts of the proposed street extension.

Comments

1. ***Trip Generation.*** The TAL presents information on trip generation from the construction of 11 single family dwellings. The trip generation rates were taken from the Institute of Transportation Engineers' *Trip Generation.* The subdivision is predicted to produce 8 AM peak hour trips; 11 PM peak hour trips; and 106 weekday trips.

2. ***Access Locations.*** In the TAL, the engineer explains that eight lots will take access from Pavilion Place and three could take access from either Pease Road or Pavilion Place.

   The engineer notes that two or three lots could take direct access to Pease Road. He states that accesses are not expected to cause operational or safety problems along the roadway. He argues that the posted speed is 25 mph, traffic volumes are low, and sight distance is favorable. There are many homes with direct access to Pease Road in the vicinity, and these driveways are consistent with the character of the roadway. Further, there is adequate continuous stopping sight distance along Pease Road so that drivers can see vehicles backing out of residential

driveways and slow or come to a complete stop if necessary. I concur with his observations and conclusion.

3. ***Driveway Width.*** The TAL does not indicate any impediments to meeting driveway width standards and states that all driveways should meet city requirements when constructed. He suggests that spacing between driveways and intersections should be a minimum of 40 feet from the intersection curb return. I concur.

4. ***Intersection Spacing.*** The proposal will result in the extension of Pavilion Place. As a part of the subdivision, an intersection of Pease Road and Pavilion Place will be created approximately 280 feet northeast of the intersection of Pease Road and Fisherman's Way. The spacing between these intersections meets the city's spacing standard of 150 feet minimum along local streets.

5. ***Sight Distance.*** The engineer measured sight distance at the proposed intersection of Pease Road and Pavilion Place. He found both locations provide sight distance in excess of 280 feet, the distance appropriate for a 25 mph local street. He noted the only impediments to sight distance were vegetation and a retaining wall that will be removed in the course of development of the subdivision. He did not recommend mitigation and I concur.

6. ***Safety Issues.*** The engineer states that no safety issues arise due to the subdivision of the site. Due to the minimal number of trips, the impact on operations and safety is expected to be minimal. I concur with the engineer's conclusion with respect to safety issues.

7. ***Consistency with the Transportation System Plan (TSP).*** The engineer noted that the streets would be developed in accordance with city standards and would be consistent with the TSP.

Conclusion and Recommendations

I find that the TAL meets city requirements and provides an adequate basis upon which impacts can be assessed. The subdivision will result in minimal additional traffic and will reinforce the existing local street network and increase connectivity. There are no transportation-related issues associated with this subdivision requiring mitigation.

If you have any questions or need any further information concerning this review, please contact me at replinger-associates@comcast.net.

Sincerely,

John Replinger

John Replinger, PE
Principal

Oregon City\2012\TP12-04

CITY OF OREGON CITY

ENGINEERING POLICY 00-01
Guidelines for Development

EFFECTIVE: April 10, 2000

PREPARED BY

PUBLIC WORKS DEPARTMENT

625 Center Street

Post Office Box 3040

Oregon City, Oregon 97045-0304

Telephone: (503) 657-0891

Development Services Division

Applicability. This policy applies to applicants for land use decisions and site plan reviews with regard to providing public improvements and submittal of documentation. The following sections outline some of the important requirements and helpful hints for those unfamiliar with providing public improvements as required by the Oregon City Municipal Code and Oregon City Public Works Standards. This is not an all-inclusive list of City requirements and does not relieve the applicant from meeting the Conditions of Approval and all applicable City Code and Public Works Standards.

Availability of Codes and Standards. Copies of these City Codes and Standards are available online at www.orcity.org and at City Hall in hard copy or CD-ROM for a nominal price. Some engineering firms in the local metropolitan area already own these Codes and Standards to enable them to properly plan, design, and construct City projects.

General

- Applicants shall design and construct all required public works improvements to City Standards. These Standards include the latest version in effect at the time of application of the following list of documents: Oregon City Municipal Code, Water Master Plan, Transportation System Plan, Sanitary Sewer Master Plan, Drainage Master Plan, and any adopted individual Drainage Basin Plans. It includes the Public Works Design Standards, which is comprised of Sanitary Sewer, Water Distribution System, Stormwater and Grading, and Erosion Control. This list also includes the Street Work Drawings and the Site Traffic Impact Study Procedures. It may also include the City of Oregon City Review Checklist of Subdivision and Partition Plats when the development is a Subdivision, Partition, or Planned Unit Development.

Water (Water Distribution System Design Standards)

- The applicant shall provide water facilities for their development. This includes water mains, valves, fire hydrants, blow-offs, service laterals, and meters.
- All required public water system improvements shall be designed and constructed to City standards.
- The Fire Marshall shall determine the number of fire hydrants and their locations. All hydrants to be completed, installed, and operational before beginning structural framing. Hydrants shall be painted with Rodda All-Purpose Equipment Enamel (1625 Safety Orange Paint) and all chains shall be removed from the fire hydrants.
- Backflow prevention assemblies are required on all domestic lines for commercial buildings, all fire service lines, and all irrigation lines and require a plumbing permit issued by the City's Building Division. Backflow prevention assemblies are also required on residential domestic lines greater than or equal to 2-inch diameter. These assemblies are also required where internal plumbing is greater than 32 feet above the water main. The type of backflow prevention device required is dependent on the degree of hazard. City Water Department personnel, certified as cross connection inspectors, shall determine the type of device to be installed in any specific instance. All backflow prevention devices shall be located on the applicant's property and are the property owner's responsibility to test and maintain in accordance with manufacturer's recommendations and Oregon statutes.

- The applicant shall verify that there are no wells on site, or if any wells are on the site prior to connecting to the public water system; the applicant shall:
  - Abandon the well per Oregon State requirements and provide copies of the final approval of well abandonment to the City; or

- Disconnect the well from the home and only use the well for irrigation. In this case, the applicant shall obtain a plumbing permit from the City's Building Division to install a back flow preventor on the public service line. The applicant shall also coordinate with the City water department to provide a cross connection inspection before connecting to the public water system.

- New water line system must be flushed, filled to test for bacteria and pressure tested; and City Water Division will obtain two bacteriological testing results within 24 hours, and contractor shall obtain City Water Division approval before final connection to existing water line system.

Sanitary Sewer (Sanitary Sewer Design Standards)

- The applicant shall provide sanitary sewer facilities to their development. This includes gravity mains, manholes, stub outs, and service laterals.
- All required public sanitary sewer system improvements shall be designed and constructed to City standards.
- Applicant must process and obtain sanitary sewer system design approval from DEQ.
- Any existing septic system on site shall be abandoned and certification documentation provided from Clackamas County to the City Development Services Division before recording the plat or obtaining a certificate of occupancy.
- If the Land Use application involves a restaurant, deli, or the like, it will require a private grease interceptor installation which can be quite costly. The Applicant should look into this with their engineer/architect for proper location, installation, and cost estimate as part of their due diligence in deciding to do the project. There are also periodic maintenance costs as well.

Stormwater (Stormwater and Grading Design Standards)

- The applicant shall provide stormwater and detention facilities for their development. This includes the stormwater mains, inlets, manholes, service laterals for roof and foundation drains, detention system if necessary, control structure if necessary, inflow and outflow devices if necessary, energy dissipaters if necessary, and landscaping when directed by the Public Works Stormwater and Grading Standards.
- The applicant must design, construct, and complete the entire stormwater system, including the pond and it's landscaping prior to recording of the plat or obtaining a certificate of occupancy permit. The City will not accept a surety for the pond landscaping unless Staff determines that an adequate planting season is not available prior to submission of the final plat. Even if this is the case, Staff will still require a minimum of an adequate application of hydro seeding/erosion blanket, sod, or other means to ensure the pond performs adequately to meet turbidity regulations within the City's Erosion Control regulations.
- The applicant shall design and construct required public stormwater system improvements to City standards and it shall be completed before building permits are issued. Each project is to coordinate with the City Drainage Master Plan, the Public Works Stormwater and Grading Standards, and the appropriate individual Basin Master Plan (as adopted) and incorporate recommendations from them as directed.
- The applicant shall design the stormwater system to detain any increased runoff created through the development of the site, as well as convey any existing off-site surface water entering the site from other properties.

- The applicant shall submit hydrology/detention calculations to the City Development Services Division for review and approval before approval of construction plans. The applicant shall provide documentation to verify the hydrology and detention calculations. The applicant shall show the 100-year overflow path and shall not design the flow to cross any developed properties.

Dedications and Easements

- The applicant shall obtain and record all off-site easements required for the project before City approval of construction plans.

Streets

- The applicant shall provide street facilities to their site including within the site and on the perimeter of the site where it borders on existing public streets. This includes half- and full-street width pavement as directed, curbs, gutters, planter strips or tree wells as directed, street trees, sidewalks, and bicycle lanes (when required by the type of street classification). This also includes city utilities (water, sanitary and storm drainage facilities), handicap access ramps at intersections and mid-block as directed, traffic control devices, centerline/intersection monumentation in monument boxes, and street lights in compliance with the City Code for Oregon City and its various Master Plans. Half-street improvements include an additional 10-foot wide pavement past the centerline subject to City review of existing conditions. This provides the required improvement on the applicant's portion of the roadway, and allows the opposing travel way to have safe passage on the new gradient.
- All street names shall be reviewed and approved by the City (Planning and Building Divisions 722-3789) prior to approval of the final plat to ensure names meet current Planning Division Street Name criteria and that no duplicate names are proposed in Oregon City or the 9-1-1 Service Area.
- All street improvements shall be completed and street name and traffic control signs shall be installed before issuance of building permits.
- The applicant is responsible for all sidewalks in their development. The applicant may transfer the responsibility for the sidewalks adjacent to the right-of-way as part of the requirement for an individual building permit on local streets. However, failure to do so does not waive the applicant's requirement to construct the sidewalks. Applicant shall complete sidewalks on each residential or industrial/commercial lot in accordance with the Land Division (or Project) Compliance Agreement for the project (e.g.; subdivision, partition, or Planned Unit Development) or prior to the final sign off of a building permit.
- Applicant shall install sidewalks along any tracts within their development, any pedestrian/bicycle accessways within their development, along existing homes or industrial/commercial buildings within the development's property boundaries, and all handicap access ramps required in their development at the time of street construction.
- Street lights shall typically be owned by the City of Oregon City under PGE Option "B" and installed at the expense of the applicant. The applicant shall submit a street light plan, subject to City and PGE approval, prepared by a qualified electrical contractor. Streetlights shall be placed at street intersections and along streets at property lines. The required lights shall be installed by a qualified electrical contractor.
- Streetlights are to be spaced and installed per recommendations of the Illuminating Engineering Society of North America as published in their current issue of IES, RP-8 to provide adequate lighting for safety of drivers, pedestrians, and other modes of transportation. Streetlights for local streets shall be 100-watt high-pressure sodium fixtures

mounted on direct-bury fiberglass poles with a 25-foot mounting height unless otherwise specified. Streetlights for arterial, collector, and neighborhood collector streets shall be 200-watt high-pressure sodium fixtures mounted on base-mounted brushed aluminum poles with a 30-foot mounting height unless otherwise specified. The applicant shall dedicate any necessary electrical easements on the final plat. All streetlight fixtures, mastheads, and poles shall be constructed of material approved by PGE for maintenance by PGE.

- Street lights along certain designated traffic corridors such as Molalla Avenue require specially-approved non PGE approved lights. These systems are owned and operated by the City and require design by an Oregon-licensed Professional Electrical Engineer who shall stamp the appropriate street light plans. The design shall include the provision of either extending power from an existing City light system or providing a new meter for the power. Provisions to extend these light systems shall be provided.

Grading And Erosion Control

- The applicant's engineer shall submit rough grading plan with construction plans. The engineer shall certify completed rough grading elevations to +/- 0.1 feet. For single family residential developments, a final residential lot-grading plan shall be based on these certified grading elevations and approved by the City Engineer before issuance of a building permit. If significant grading is required for the residential lots due to its location or the nature of the site, rough grading shall be required of the developer before the acceptance of the public improvements. (See Geotechnical section for cut and fill certification issues on building lots or parcels) There shall not be more than a maximum grade differential of two (2) feet at all site boundaries. Final grading shall in no way create any water traps, or create other ponding situations.
- Applicants shall obtain a DEQ 1200c permit when their site clearing effort is over one (1) acre, as modified by DEQ. Applicant shall provide a copy of their DEQ 1200c permit to the City before any clearing efforts are started.
- An Erosion Prevention and Sedimentation Control Plan shall be submitted for City approval. Applicant shall obtain an Erosion Control permit before any work on site.
  - Dewatering excavations shall not be allowed unless the discharge water meets turbidity standards (see next bullet) or is adequately clarified before it enters on-site wetlands, drainage courses, and before it leaves the site. Discharge from man-made, natural, temporary, or permanent ponds shall meet the same standard.
  - Construction activities shall not result in greater than 10 percent turbidity increase between points located upstream and downstream of construction activities.
  - Effective erosion control shall be maintained after site work is complete and throughout building permit issuance.
  - Plans shall document erosion prevention and control measures that will remain effective and be maintained until all construction is complete and permanent vegetation has been established on the site.
  - Responsible party (site steward) for erosion control maintenance throughout construction process shall be shown on the Erosion Control Plan.
  - Staff encourages applicant to select high performance erosion control alternatives to minimize the potential for water quality and fish habitat degradation in receiving waters.

Geotechnical

- Any structural fill to accommodate public improvements shall be overseen and directed by a geotechnical engineer. The geotechnical engineer shall provide test reports and certification that all structural fill has been placed as specified and provide a final summary report to the City certifying all structural fill on the site before City approval and acceptance of public improvements.
- Any cut or fill in building lots or parcels beyond the rough grading shall be subject to the Building Division's requirements for certification under the building permit.

Engineering Requirements

- Design engineer shall schedule a pre-design meeting with the City of Oregon City Development Services Division before submitting engineering plans for review.
- Street Name/Traffic Control Signs. Approved street name signs are required at all street intersections with any traffic control signs/signals/striping.
- Bench Marks. At least one benchmark based on the City's datum shall be located within a subdivision.
- Other Public Utilities. The applicant shall make necessary arrangements with utility companies for the installation of underground lines and facilities. The City Engineer may require the applicant to pay these utility companies to use trenchless methods to install their utilities in order to save designated and marked trees when the utility crosses within a dripline of a tree marked, or identified, to be saved. Applicant to bear any additional costs that this may incur.
- Technical Plan Check and Inspection Fees. The current Technical Plan Check and Inspection Fee shall be paid before approval of the final engineering plans for the required site improvements. The fee is the established percentage of a City-approved engineer's cost estimate or actual construction bids as submitted by the applicant. Half of the fee is due upon submitting plans to Development Services; the other half is due upon approval of the final plans.
- It is the City's policy that the City will only provide spot check inspection for non public-funded improvements, and the applicant's engineer shall provide inspection and surveying services necessary to stake and construct the project and prepare the record (as-built) drawings when the project is complete.
- The Applicant's inspector and contractor shall follow the City's Minimum Guidelines for Public Works Construction (available on the City website).
- Applicant shall submit two (2) sets of final engineering plans for initial review by the City Development Services Division to include the drainage report (wet signed by the responsible engineer), and the cost estimate with half of the Technical Plan Check fee. The engineering plans shall be blackline copies, 22" x 34" or 24" x 36". Blueline copies are not acceptable.
- For projects such as subdivisions, partitions, and Planned Unit Developments, the applicant shall submit a completed copy of the City's latest final subdivision and partition plat checklist, the plat review fee, and a paper copy of the preliminary plat.
- Two (2) copies of any revised documents (in response to redlined comments) will be required for subsequent reviews, if necessary.
- The applicant shall submit, for the final City approval, seven (7) copies of the plans with two full sets wet signed in blue over the engineer's Professional Engineer Oregon stamp.
- Minimum Improvement Requirements. Applicant shall provide a surety on developments for uncompleted work including landscaping before a plat is recorded or a building sign off as required by a Compliance Agreement (available in hard copy or electronic version from City Development Services or on the City website). This occurs if the

applicant wishes to record the final plat before completion of all required improvements or occupy the new development prior to completion of the public improvements including landscaping. Surety shall be an escrow account, construction set-aside, performance guaranty, or in a form that is acceptable to the City Attorney (no bonds are allowed).

- Upon conditional acceptance of the public improvements by the City, the applicant shall provide a two-year maintenance guarantee as described in the Compliance Agreement. This Maintenance Guarantee shall be for fifteen (15) percent of the engineer's cost estimate or actual bids for the complete public improvements.
- The applicant shall submit a paper copy of the record (as-built) drawings, of field measured facilities, to the City Engineer for review before building permits are issued beyond the legal limit. Upon approval of the paper copy by the City Engineer, applicant shall submit a bond copy set and two 4-mil mylar record drawings sets as directed.
- The applicant shall submit one full set of the record (as-built) drawings, of field measured facilities, on AutoCAD files on CD-ROM, in a format acceptable to the City Engineer, and include all field changes.
- One AutoCAD file of the preliminary plat, if applicable, shall be furnished by the applicant to the City Addressing staff (in the Building Division) for addressing purposes. A sample of this format may be obtained from the City Geographical Information System Division. This information, and documents, shall be prepared at the applicant's cost.
- The applicant's surveyor shall also submit, at the time of recordation, a copy of the plat on a CD-ROM to the City in a format that is acceptable to the City's Geographic Information System Division.
- The City reserves the right to accept, or reject, record drawings that the City Engineer deems incomplete or unreadable that are submitted to meet this requirement. The applicant shall be responsible for all costs associated with meeting this condition. The applicant shall ensure their engineer submits the record drawings before the City will release final surety funds or residential building permits beyond the legal limit.
- Final Plat Requirements, if applicable. The final plat shall comply with ORS 92.010 through 92.190, and City Code. In addition the following requirements shall be required:
  - The applicant, and their surveyor, shall conform to the City's submittal and review procedures for the review and approval of plats, easements, agreements, and other legal documents associated with the division of this parcel.
  - Show the City Planning File Number on the final plat, preferably just below the title block.
  - A blackline copy of the final plat illustrating maximum building envelopes shall be submitted to the Planning Division concurrently with submittal of the plat to ensure setbacks and easements do not conflict.
  - Use recorded City control surveys for street centerline control, if applicable.
  - Show state plane coordinates on the Point of Beginning.
- The civil construction drawings, once approved by the City Development Services Division, shall have an approval period of one year in which to commence with construction. The plans and drawings shall be valid, once the City Engineer holds the preconstruction conference and construction activity proceeds, for as long as the construction takes. If the construction drawings expire before construction commences, the applicant shall ensure the civil construction documents and plans conform to the latest Standards, Specifications, and City Codes that are in place at the time of the update. The applicant shall bear the cost associated with bringing them into conformance, including additional technical plan check and review costs. The applicant is reminded that the City Code requires that the final plat be submitted to the Development Services Division within two years after land use decision.

- The applicant shall include a statement in proposed Conditions, Covenants, and Restrictions (CC & R's), plat restrictions, or some other means acceptable to the City Attorney for:
  - Maintaining surface runoff patterns established for each lot,
  - Maintaining any proposed private storm lines or detention, and
  - Conformance by individual lot owner to the City's erosion control standards when establishing or renovating landscaping.
  - The applicant shall submit the proposed method and statement to the Planning staff for review and approval, before final plat approval.
- Construction vehicles and other vehicles associated with the development shall only use the entrance as approved by the City Development Services Division to enter their site and these vehicles shall park or wait on the construction site. The applicant should provide a specified area of off street parking for the site's construction workers which meets the erosion/sedimentation control measures. Supplier vehicles and trailers (hauling vehicles) and actual construction vehicles shall not park, or wait, in such a manner that would block or hinder access for emergency vehicles. This includes private vehicles belonging to construction workers, supplier vehicles and trailers, and actual construction vehicles.
- Site construction activity is to only occur between 7:00 AM and 6:00 PM on Monday through Friday; between 9:00 AM and 6:00 PM on Saturday. No site improvement construction activity is allowed on Sunday. Construction activity includes all field maintenance of equipment, refueling, and pick up and delivery of equipment as well as actual construction activity.
- The applicant shall ensure that all applicable outside agencies are contacted and any appropriate approvals obtained for the construction of the project. The applicant shall supply copies of approvals to the City. Failure to do so shall be a justification for the City to prevent the issuance of a construction or building permit or to revoke an issued permit for this project.
- The applicant shall be responsible for paying all fees associated with the recording of documents such as non-remonstrance agreements, easements, and dedications.
- Should the applicant, or any assigns or heirs, fail to comply with any of the conditions set forth here, the City may take the appropriate legal action to ensure compliance. The applicant shall be responsible for any City legal fees and staff time associated with enforcing these conditions of approval.

I:\Engineering\Policy\EP00-01v6.doc

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 DECISION

February 14, 2013

FILE NUMBER:	NR 12-04: Natural Resource Overlay District - NROD (Type I Verification)
OWNER:	Icon Construction and Development, LLC 1980 Willamette Falls Drive, Suite 200, West Linn, Oregon 97068
APPLICANT:	Rick Givens 11303 Brandow Street, Oregon City, Oregon 97045
REQUEST:	Type I Natural Resource Overlay District Verification.
LOCATION:	19370 Pease Road, Oregon City, Oregon 97045 Clackamas County Map 3-2E-7B, TL 3300
ZONING:	"R-6" Single-Family Dwelling District
DECISION:	Approval.
REVIEWER:	Pete Walter, AICP, Associate Planner
CRITERIA:	Chapter 17.49 - NROD – Natural Resource Overlay District Chapter 17.50 - Administration and Procedures

Type I decisions do not require interpretation or the exercise of policy or legal judgment in evaluating approval criteria. Because no discretion is involved, Type I decisions do not qualify as a land use, or limited land use, decision. The decision-making process requires no notice to any party other than the applicant. The community development director's decision is final and not appealable by any party through the normal city land use process. The application, decision (including specific conditions of approval), and supporting documents are available for inspection at the Oregon City Planning Division. Copies of these documents are available (for a fee) upon request. If you have any questions regarding this application, please contact the Planning Division at (503) 657-0891.

I. BACKGROUND

This application requests a Type I NROD verification for property located at 19370 Pease Road in Oregon City. The City's NROD map shows that a portion of the property is within the NROD boundary, but existing conditions indicate that the area of the property in question was filled in approximately 1991. There is a storm pipe that passes through the property, but there is no stream corridor present on the subject property. The subject property is proposed for development of the Pavilion Park II subdivision (File TP 12-04) and removal of the NROD designation is requested.

a) Surrounding Zoning:
Property northeast of the site is within the "R-3.5" Dwelling District and is developed as the Pavilion Park subdivision. The property southeast of the site is within the "R-6" Single-Family Dwelling District and is also part of the Pavilion Park subdivision. The properties southwest of the site are within the "R-10" Single-Family Dwelling District and in Clackamas County (zoned Low density residential) while northwest of the site there is the "R-10" Single-Family Dwelling District and the Chinook Landing subdivision zoned R-8.

b) Supporting Documentation: See Exhibits. Pictures taken on the site visit are presented in the attached Exhibits.

II. ANALYSIS AND FINDINGS:

17.49.255 - Type I verification.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.

Finding: Complies. A site plan of the property and the proposed subdivision was submitted. The applicant also included a report by Schott and Associates, wetland ecologists (Exhibit 1).

B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:

Finding: The applicant has applied for the Type I Verification and has paid the applicable review fee (Exhibit 1). The evidence provided by the applicant and this staff report substantiates that all of the requirements relative to the proposed use are satisfied and the following criteria have been met. Additionally, staff completed a site visit and field verification on February 14, 2013. The results of the field verification and photos are attached as Exhibit 3.

1. No soil, vegetation, hydrologic features have been disturbed;

Finding: Complies. The applicant indicates that the fill on the subject property and the storm sewer line that exists on the site were installed in approximately 1991 and predate both annexation to the city and the City's development standards relating to these resources. No soil, vegetation, or hydrologic features have been disturbed since the time of installation of the fill and the storm sewer.

2. No hydrologic features have been changed;
Finding: Complies. The applicant indicates that no hydrologic features have been changed since the date of the original fill and placement of the culvert. The site visit confirmed this. The subject site is connected to the city's storm drainage system.

3. There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.
Finding: Complies. The project area does not contain any of the above features.

4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.
Finding: Complies. No wetland features are present on the property nor have any been identified by the city's wetland inventory. Please refer to the letter by Schott and Associates.

5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.
Finding: Complies. No such features are present on the subject property. There is an intermittent ditch on the property to the southwest and the storm sewer on the subject property outfalls to this ditch at the property line.

6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.
Finding: There are no prior land use approvals on the subject property other than annexation to the city. There are no protected water features on the site.

There is an existing physical barrier between the site and a protected water feature, including:
a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.
Finding: Not applicable. None of the features listed above is present between the feature and the site.

b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.
Finding: Complies. The existing rock wall on the southern property line creates a physical barrier between the outfall to the off-site intermittent ditch and the development site. The uppermost point of this wall is approximately 20' from the outfall.

C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.6. above are met the verification application shall be denied. An applicant may then opt to apply for an verification through the Type II process defined below.
Finding: Not applicable. Type II review is not required.

III. CONCLUSION AND DECISION:

The application is approved. Based on the analysis and findings presented in this report and exhibits, the project area is outside of the mapped NROD vegetated corridor and exempt from further review by the City.

EXHIBITS:

1. Applicant's Submittal (On file)
    a. Application form
    b. Site Map.
    c. Report by Schott and Associates, Ecologist and Wetlands Specialists, dated August 7, 2012.
    d. Narrative and Code Responses.
2. Vicinity and Official NROD Map (On file)
3. Verification Form and Photos (On file)

City of Oregon City

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

Staff Report

File Number: PC 13-028

Agenda Date: 4/22/2013

Status: Agenda Ready

To: Planning Commission

Agenda #: 3c

From: Community Development Director Tony Konkol

File Type: Land Use Item

SUBJECT:
L 13-01: Transportation System Plan (TSP)
L 13-02: Associated Amendments to the Oregon City Municipal Code

RECOMMENDED ACTION (Motion):
Staff requests the Planning Commission recommend approval with conditions of Planning files L 13-01 and L 13-02 to the City Commission for their consideration at the May 15, 2013 hearing.

BACKGROUND:
The applicant proposed to update the Oregon City Transportation System Plan (TSP) and adopt associated amendments to the Oregon City Municipal Code. The plan will guide the development and management of a multi-modal transportation system over a 20-year period, until 2035. The updated document reflects updated population growth forecasting and changes in land use planning resulting from 2004 updates to the Comprehensive Plan and OCMC, including Urban Growth Boundary (UGB) expansions and complies with required regulations.

Development of the Transportation System Plan and associated code amendments included a variety of public involvement strategies such as three (3) Technical Advisory Team meetings, four (4) Stakeholder Advisory Team meetings, four (4) Community Meetings and other tools identified in the Transportation System Plan Public Outreach Plan (Exhibit 3). The Planning Commission held two work sessions on March 11, 2013 and March 18, 2013 and public hearings on March 25, 2013 and April 8, 2013. The anticipated adoption schedule can be found below.

2nd City Commission Work Session: May 7, 2013, 5:30 pm City Hall
1st City Commission Hearing: May 15, 2013, 7:00 pm City Hall
2nd City Commission Hearing: June 5, 2013, 7:00 pm City Hall
3rd City Commission Hearing: June 19, 2013, 7:00 pm City Hall

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 NO.:	Legislative File: L 13-01 - Transportation System Plan Legislative File L 13-02 – Associated Oregon City Municipal Code Amendments
HEARING DATE:	March 25, 2013 7:00 p.m., City Hall - Commission Chambers 625 Center Street Oregon City, OR 97045
APPLICANT:	Oregon City Public Works Department John Lewis 625 Center Street, Oregon City, Oregon 97045
REPRESENTATIVE:	DKS and Associates, Consulting Engineers Carl D. Springer, PE 720 SW Washington Street, Suite 500, Portland, OR 97205
REQUEST:	Update the Oregon City Transportation System Plan, an Ancillary Document to the Oregon City Comprehensive Plan and adopt associated amendments to the Oregon City Municipal Code.
LOCATION:	City-wide.
REVIEWER:	Laura Terway, AICP Christina Robertson-Gardiner, AICP

RECOMMENDATION: Staff recommends that the Planning Commission recommend approval of the Oregon City Transportation System Plan, Volume 1 (see Exhibit 1), as an ancillary document to the Oregon City Comprehensive Plan and associated amendments to the Oregon City Municipal Code that implement the Transportation System Plan to the City Commission for their consideration at the May 15, 2013 public hearing.

17.50.170 - Legislative hearing process.
A. Purpose. Legislative actions involve the adoption or amendment of the city's land use regulations, comprehensive plan, maps, inventories and other policy documents that affect the entire city or large portions of it. Legislative actions which affect land use must begin with a public hearing before the planning commission.
B. Planning Commission Review.
1. Hearing Required. The planning commission shall hold at least one public hearing before recommending action on a legislative proposal. Any interested person may appear and provide written or oral testimony on the proposal at or prior to the hearing. The community development director shall notify the Oregon Department of Land Conservation and Development (DLCD) as required by the post-acknowledgment procedures of ORS 197.610 to 197.625, as applicable.
2. The community development director's Report. Once the planning commission hearing has been scheduled and noticed in accordance with Section 17.50.090(C) and any other applicable laws, the community development

director shall prepare and make available a report on the legislative proposal at least seven days prior to the hearing.
3. Planning Commission Recommendation. At the conclusion of the hearing, the planning commission shall adopt a recommendation on the proposal to the city commission. The planning commission shall make a report and recommendation to the city commission on all legislative proposals. If the planning commission recommends adoption of some form of the proposal, the planning commission shall prepare and forward to the city commission a report and recommendation to that effect.
C. City Commission Review.

1. City Commission Action. Upon a recommendation from the planning commission on a legislative action, the city commission shall hold at least one public hearing on the proposal. Any interested person may provide written or oral testimony on the proposal at or prior to the hearing. At the conclusion of the hearing, the city commission may adopt, modify or reject the legislative proposal, or it may remand the matter to the planning commission for further consideration. If the decision is to adopt at least some form of the proposal, and thereby amend the city's land use regulations, comprehensive plan, official zoning maps or some component of any of these documents, the city commission decision shall be enacted as an ordinance.
2. Notice of Final Decision. Not later than five days following the city commission final decision, the community development director shall mail notice of the decision to DLCD in accordance with ORS 197.615(2).
(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT 503-722-3789.

Proposed Project

The proposal is to update the Oregon City Transportation System Plan (TSP), which is an adopted Ancillary Document to the Oregon City Comprehensive Plan (2004).

The purpose of the TSP is to articulate policy and identify facilities that will guide the development and management of a multi-modal transportation system over a 20-year period. The updated document reflects updated population growth forecasting and changes in land use planning resulting from 2004 updates to the Comprehensive Plan and OCMC, including Urban Growth Boundary (UGB) expansions.

According to the 2004 Oregon City Comprehensive Plan (Introduction, “Implementing the Plan” Page 4, Exhibit 4): “Ancillary Plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities, and sewer facilities. Usually prepared by City departments through a public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to city departments in planning for and carrying out city services. These plans are updated more frequently than the Comprehensive Plan.”

The Oregon City TSP is a "public facilities plan," as defined in the administrative rules implementing Goal 11, OAR 660-011-0005(1): "A public facility plan is a support document or documents to a comprehensive plan. The facility plan describes the water, sewer and transportation facilities which are to support the land uses designated in the appropriate acknowledged comprehensive plans within a UGB containing a population greater than 2,500. Certain elements of the public facility plan also shall be adopted as part of the comprehensive plan, as specified in OAR 660-11-045.".

In addition, the Oregon City TSP update has been carried out pursuant to the requirements of the State's Transportation Planning Rule (TPR), OAR 660-0122, which requires that local TSP's are consistent with Oregon Transportation Plan (the State's TSP) and the Regional Transportation Plan (RTP). The City's current TSP was adopted in 2001. Since then new requirements have been integrated into the Oregon Transportation Plan, the Oregon Highway Plan, and the Metro RTP, many key transportation projects have been completed, the local UGB and Urban Reserve areas have changed, and the City's Comprehensive Plan and Municipal Code were updated. These regulatory, land use and transportation system changes informed the resulting TSP update.

Plan Document

The updated TSP consists of the following elements. (See Exhibit 1.)

1. Revised TSP goals and objectives (TSP Volume 1, Section 2)
2. New design criteria for street cross-sections and access spacing (TSP Volume 1, Section 4, Tables 1-4)
3. Revised mobility targets (TSP Volume 1, Section 4)
4. New multimodal connectivity plan (TSP Volume 1, Section 4, Figure 8)
5. Project lists and maps for the Financially Constrained Transportation System (TSP Volume 1, Section 7, Table 5 and Figures 14-19)
6. Project lists for the Planned Transportation System (TSP Volume 2, Section I, Table 2)
7. Performance of the Planned Transportation System (TSP Volume 1, Section 8, Figures 20-25).

Recommended Oregon City Municipal Code (OCMC) Amendments

Exhibit 2 includes a set of OCMC amendments that supports implementation of the updated TSP and ensures compliance with the Oregon Transportation Planning Rule (TPR) and the Regional Transportation Functional Plan (RTFP).

Planning Horizon and Growth Assumptions

The updated TSP has a planning horizon of 2035 and future transportation needs are based on the anticipated rate of household and employment growth in the city. Today, Oregon City and the adjacent area are home to over 13,000 households and accounts for over 14,500 jobs. Between now and 2035, household growth is expected to increase nearly 2.4 percent a year, slightly outpacing the rate of job growth over the same period. Oregon City and the adjacent area are expected to be home to 23,328 jobs by 2035, a 58 percent increase from 2010, or an average of 2.3 percent growth a year. Households are expected to grow to 20,985 by 2035, a 61 percent increase from 2010 (TSP Volume 2, Section F, Exhibit 1). With more people and more jobs in and around Oregon City, the street network will face increased demand through 2035.

FACTS

Public Involvement and Public Comment

The TSP update process provides opportunities for public involvement in the legislative decision making process through the public hearing process, newspaper noticing, meetings with the Citizen Involvement Council, and work sessions with the City Commission. In addition, the update process was informed by a Stakeholder Advisory Team (SAT) which included representatives from the Citizen Involvement Council

(CIC), Clackamas Community College, Chamber of Commerce, School District, Clackamas County, Main Street Oregon City, and private development interests.

The following public information meetings have been held in order to discuss the plan prior to formal consideration by the City Commission, three (3) Technical Advisory Team meetings, four (4) Stakeholder Advisory Team meetings, four (4) Community Meetings and other tools identified in the Transportation System Plan Public Outreach Plan (Exhibit 3).

The TSP has been available for review on the Oregon City website at the following address: http://www.octransportationplan.org/.

Notice of the first Planning Commission public hearing for the proposal was published in the Clackamas Review on, and mailed to the affected agencies, the CIC and all Neighborhood Associations. In accordance with ORS 197.610 and OAR 660-018-000, a Notice of Proposed Amendment to the Oregon City Comprehensive Plan was provided to the Oregon Department of Land Conservation and Development 35 days prior to the first noticed Evidentiary Hearing on February 13, 2013. Notice was mailed to all property owners within the urban growth boundary (over 10,500) on February 13, 2013.

Notice of the proposed amendment was provided to the following affected agencies: South Fork Water Board (SFWB), Clackamas River Water (CRW), Clackamas County, Clackamas Fire District #1, Oregon City School District, City of West Linn, City of Gladstone, City of Milwaukie, Tri-City Services District, Metro, and Oregon Department of Transportation (ODOT).

Comments were received throughout the process will be given to the Planning Commission at the March 25, 2013 hearing, The comments generally identified deficiencies in the transportation system and suggested opportunities for public improvements. The comments were reviewed and utilized when creating the list of projects identified in the Transportation System Plan. None of comments received were directed to any applicable approval criteria.

DECISION-MAKING CRITERIA:
According to the 2004 Oregon City Comprehensive Plan (Introduction, "Implementing the Plan," Page 4): "Ancillary Plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities, and sewer facilities. Usually prepared by City departments through a public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to city departments in planning for and carrying out city services. These plans are updated more frequently than the Comprehensive Plan."

As an ancillary plan, the TSP requires findings for consistency with applicable Comprehensive Plan Goals and Policies and also with Statewide Planning Goals. These findings are presented below.

Consistency with Oregon City Comprehensive Plan
Chapter O of the 2004 Oregon City Comprehensive Plan, Comprehensive Plan Maintenance and Update, contains criteria for approving changes to the comprehensive plan and plan map. Review of the comprehensive plan should consider:

1. *Plan implementation process.*
2. *Adequacy of the Plan to guide land use actions, including an examination of trends.*
3. *Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.*
4. *Addition of updated factual information including that made available to the City of regional, state and federal governmental agencies.*

Chapter O. Comprehensive Plan Maintenance and Update

Regular Review and Update

Another method of Plan maintenance and updating is a continuous technical review of the Plan by the Planning staff. This review and any subsequent recommendations for Plan updating should be presented to the Neighborhood Associations, Planning Commission and City Commission for input and discussion in the same manner as requested Plan changes. The continuous review should consider:

- ***Plan implementation process;***

Finding: Complies. The TSP is a special purpose plan that is an adopted Ancillary Document to the Oregon City Comprehensive Plan. It is a technical document that requires regular review in order to maintain and update it. The applicant, Oregon City Public Works Department, has or will present the update of the TSP for input by the Citizen Involvement Council, Neighborhood Associations, Planning Commission and City Commission in accordance with the recommended method described in the Comprehensive Plan and pursuant to the applicable process described in Oregon City Municipal Code Section 17.50.170. The plan implementation process is consistent with the Comprehensive Plan.

- ***Adequacy of the Plan to guide land use actions, including an examination of trends.***

Finding: Complies. As an ancillary document to the Comprehensive Plan, the updated TSP Update provides an analysis of existing transportation facilities and provides direction for future development, funding and needs. The plan provides a comprehensive review of the existing transportation system and detailed analysis of future system needs based on planned land uses and expected future population. Recommended transportation policy and associated OCMC amendments are meant to ensure that future land use and development actions are consistent with the planned transportation system.

Adoption and implementation of the TSP update accomplishes the following Goals and Policies of the adopted Oregon City Comprehensive Plan (2004):

- ***Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.***

Finding: Complies. Pursuant to the TPR, the City is required to develop and periodically update a

transportation plan that is coordinated with the planned land use system and that provides safe and convenient vehicular circulation and that enhances, promotes and facilitates safe and convenient pedestrian and bicycle travel. The Oregon City TSP must be consistent with the Regional Transportation Plan. To this end, the consultant conducted technical analysis of the city's existing transportation system and projected future demand within the planning area based on existing land use designations and planned population growth. Future demands on the system through 2035 were projected through a process that involved updating a street network model, making land use assumptions based on adopted plans, and converting land use assumptions into estimated trips. The future demand projections showed the largest growth in travel on facilities including OR 99E, OR 213, Abernethy Road/Redland Road, and Beavercreek Road (TSP Volume 2, Section F, Figure 2, Exhibit 1). As a sub-set of these findings, projections showed congested and over-capacity conditions on segments of OR 99E in Downtown and around the I-205 interchange and on a segment of Redland Road south of Anchor Way.

Investing in the transportation system improvements that are recommended in the TSP (TSP Volume 1, Table 5 and TSP Volume 2, Section I, Table 2, Exhibit 1) and implementing transportation demand management programs in the employment growth areas in the City are expected to accommodate the forecasted travel demand through 2035. Operations under implementation of the recommended solutions are projected to meet performance targets throughout the city, with the exception of the intersections of OR 99E and the I-205 ramps and OR 213/Beavercreek Road. The recommended solutions move these intersections toward compliance with targets (TSP Volume 1, Section 8, Exhibit 1).

- ***Addition of updated factual information including that made available to the City by regional, state and federal governmental agencies.***

Finding: Complies. The TSP Update was developed through a series of informative technical memoranda that are included in Volume 2 (Exhibit 1) of the TSP.

- Existing conditions report (Section D)
- Future conditions report (Section F)
- Future needs analysis (Section G)
- Funding assumptions (Section H)
- Planned and Financially Constrained Transportation Systems (Section I)
- Performance analysis of Planned and Financially Constrained Transportation Systems (Section J).

The existing conditions report includes valuable information about traffic destinations in the city; commute mode share and origins of commute trips; inventories of pedestrian, bicycle, transit, roadway, and bridge facilities in the city; safety conditions; and motor vehicle operation conditions. In particular, reporting on safety conditions includes identification of high collision locations, with multiple sites along OR 99E, around Downtown, and along Beavercreek Road and Molalla Avenue (TSP Volume 2, Section D, Figure 7, Exhibit 1). The report also rates intersection operations conditions, with marginal and substandard conditions found along OR 99E near Downtown, at Washington and 12th, at Warner Parrot Road and Central Point Road, and along Molalla Avenue and Beavercreek Road (TSP Volume 2, Section D, Figure 8, Exhibit 1).

As indicated in the previous response, future demand projections showed the largest growth in travel on facilities where marginal and substandard conditions already exist including OR 99E and Beavercreek Road.

The recommended projects and programs (TSP Volume 1, Table 7 and TSP Volume 2, Section 1, Table 2, Exhibit 1) in the TSP are designed to accommodate the forecasted travel demand through 2035 and maintain or improve conditions identified in the existing conditions report.

CONSISTENCY WITH STATEWIDE PLANNING GOALS

STATEWIDE PLANNING GOAL 1: To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.
Finding: Complies. This goal is implemented through the applicable Goals and Policies in Section 1 of the Oregon City Comprehensive Plan: Citizen Involvement. An overview of the public involvement process is provided in the Public Involvement and Public Comment section earlier in this findings report and demonstrated in the Transportation System Plan Public Outreach Plan (Exhibit 3).
Subsequently, staff finds that the TSP update process is consistent with Statewide Planning Goal 1.

STATEWIDE PLANNING GOAL 2: To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.
Finding: Complies. This goal is implemented through the applicable Goals and Policies in Section 2 of the Oregon City Comprehensive Plan: Land Use. Because the TSP is an ancillary document to the City's Comprehensive Plan, the application was processed pursuant to the legislative hearing process outlined in Section 17.50.170 of the Oregon City Municipal Code. The TSP document and its projections, analysis, maps, recommended improvements, and proposed funding plan are based the series of reports that were prepared as part of developing the TSP update, including the existing conditions report, future conditions report, future needs analysis, and planned and financially constrained systems reports (TSP Volume 2, Exhibit 1).
In addition to the City's Comprehensive Plan, a review of other existing state, regional, and local plans, policies, standards, and laws that are relevant to local transportation planning was conducted at the beginning of the TSP update process, and is documented in Section A of the TSP Volume 2 (Exhibit 1). The TSP update and associated amendments were developed in coordination with ODOT, Metro, and TriMet and were developed to be consistent with those applicable regulations, as is provided in this set of findings.
The proposed TSP update and associated amendments are consistent with Statewide Planning Goal 2.

STATEWIDE PLANNING GOAL 5: To protect natural resources and conserve scenic and historic areas and open spaces.
Finding: Complies. This goal is implemented through the applicable Goals and Policies in Section 5 of the Oregon City Comprehensive Plan: Open Spaces, Scenic and Historic Areas, and Natural Resources. The city code contains specific review criteria for uses within overlay districts to assure that designated Goal 5 resources are appropriately considered when development is proposed. In particular, the Natural Resource Overlay District designation: "provides a framework for protection of Metro Titles 3 and 13 lands, and Statewide Planning Goal 5 resources within Oregon City. The Natural Resource Overlay District (NROD) implements the Oregon City Comprehensive Plan Natural Resource Goals and Policies, as well as Federal Clean Water Act requirements for shading of streams and reduction of water temperatures, and the recommendations of the Metro ESEE Analysis."

Trails, paths, and roads are permitted either outright or with restrictions in the Natural Resource Overlay District. The restrictions are established in OCMC 17.49.150 (Standards for vehicular or pedestrian paths and roads).
Within the Historic Overlay District, which includes the Canemah historic district, McLoughlin Conservation district, designated Landmarks and Historic corridors, proposed public utility projects may be reviewed by the Historic Review Board if they are potential impact historic resources. The Historic Review Board has adopted character guidelines that pertain to improvements in the public right of way, utilities and related equipment to assure compatibility with historic resources.
Goal 5 resources outside the city limit within the UGB are reviewed as part of the required Concept Planning for those areas prior to and subsequent with annexation. Concept plans must be implemented through zoning designations and overlay protections zones to assure that Goal 5 resources are protected to the extent required by State law and Metro.

Further, the proposed amendments to the Oregon City Municipal Code allow for a modification to the street design standard to construct context sensitive design. This would allow narrower roads within environmentally sensitive areas and appropriate public improvements in historic areas.

Based on the existing review processes defined in the Oregon City Municipal Code, the proposed TSP update is consistent with Statewide Planning Goal 5.

STATEWIDE PLANNING GOAL 6: To maintain and improve the quality of the air, water and land resources of the state.
Finding: Complies. This goal is implemented through the applicable Goals and Policies in Section 6 of the Oregon City Comprehensive Plan: Quality of Air, Water and Land Resources. By planning system improvements based on projected demand and land use patterns, the plan will ensure that land suited for development will be served efficiently.
In terms of air quality in particular, the share of improvements recommended in the TSP update that are less polluting has dramatically increased since the 2001 TSP. As shown in Figure 24 of the TSP (Volume 1, Exhibit 1), projects related to walking, biking, and taking transit have increased from approximately 51% of the projects in the 2001 TSP to approximately 74% of the projects in the 2013 TSP, represented by over 260 projects. This set of projects combined with projected employment growth within the city over the next 20 years results in an approximately 13% reduction in vehicle miles traveled (VMT) in the evening peak period through 2035, more than the 10% reduction set as a climate change target (TSP Volume 1, Table 25, Exhibit 1).
Code amendments are proposed to implement the TSP update and comply with the Regional Transportation Function Plan (RTFP) include provisions to establish unobstructed paths on sidewalks, require more closely spaced pedestrian and bicycle accessways, support crossings in the vicinity of transit stops, and establish requirements for long-term bicycle parking (TSP Volume 2, Section K, Exhibit 1). These amendments reinforce the pedestrian, bicycle, and transit improvements that are recommended in the 2013 TSP.
Based on the existing review processes defined in the Oregon City Municipal Code, the proposed TSP update and code amendments are consistent with Statewide Planning Goal 6.

STATEWIDE PLANNING GOAL 7: To protect people and property from natural hazards.

Finding: Complies. This goal is implemented through the applicable Goals and Policies in Section 7 of the Oregon City Comprehensive Plan: Natural Hazards. This goal primarily addresses how the city should plan development to avoid hazard posed by floods, steep slopes, geologically unstable areas and other natural hazards.

The projects recommended in the TSP update were established through a "solutions identification process" with evaluation criteria that accounted for environmental hazards and impacts. In particular, when striving to develop a more connected transportation system, a common challenge in the city is topography and steep slopes. The solutions analysis for the TSP update identified where topography was a constraint or barrier to creating connections.

Even when transportation projects are permitted outright in underlying zones, the Flood Management Overlay District (OCMC Chapter 17.42) and US-Geologic Hazards Overlay District (OCMC Chapter 17.44) provide development standards for transportation projects in these overlay districts.

Based on development standards and review processes defined in the Oregon City Municipal Code, the TSP update is consistent with Statewide Planning Goal 7.

STATEWIDE PLANNING GOAL 9: To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

Finding: Complies. This goal is implemented through the applicable Goals and Policies in Section 9 of the Oregon City Comprehensive Plan: Economic Development. Policy and projects in the 2013 TSP are proposed to serve existing and planned commercial and employment uses in the interchange study area. Employment trips were a part of future traffic conditions analyzed in the city. Over 23,000 jobs are expected in 2035, which represents almost 60% growth since 2010 (TSP Volume 1, Section 3, Exhibit 1).

There are areas of commercial, industrial, mixed use commercial, and mixed use employment land designated along arterials and collectors in the city. The future demand projections showed congested and over-capacity conditions on segments of OR 99E in Downtown and around the I-205 interchange and on a segment of Redland Road south of Anchor Way (TSP Volume 1, Figure 5, Exhibit 1). Investing in the transportation system improvements that are recommended in the 2013 TSP (TSP Volume 1, Table 5 and TSP Volume 2, Section I, Table 2, Exhibit 1), including transportation demand management programs, is expected to accommodate the forecasted travel demand through 2035. Operations under implementation of the recommended solutions are projected to meet performance targets throughout the city, with the exception of the intersections of OR 99E and the I-205 ramps and OR 213/Beavercreek Road. The recommended solutions move these intersections toward compliance with targets (TSP Volume 1, Section 8, Exhibit 1).

Based on the existing review processes defined in the Oregon City Municipal Code, the proposed TSP update is consistent with Statewide Planning Goal 9.

STATEWIDE PLANNING GOAL 10: To provide for the housing needs of citizens of the state.

Finding: Complies. This goal is implemented through the applicable Goals and Policies in Section 10 of the Oregon City Comprehensive Plan: Housing. Adoption of the TSP update will addresses improvements needed to ensure the orderly extension of transportation facilities to accommodate the projected growth envisioned in the City's Comprehensive Plan, which includes a variety of housing types. Policy and projects in the 2013 TSP are proposed to serve existing and planned residential and mixed-use areas in the city. Residential trips were a part of future traffic conditions analyzed in the city. Almost 21,000 households are expected in the city in 2035, which represents over 60% growth since 2010 (TSP Volume 1, Section 3, Exhibit 1).

In particular, projections show congested and over-capacity conditions on segments of OR 99E in Downtown and around the I-205 interchange and on a segment of Redland Road south of Anchor Way, which both serve residential and mixed-use areas. Investing in the transportation system improvements that are recommended in the TSP (TSP Volume 1, Table 5 and TSP Volume 2, Section I, Table 2, Exhibit 1) is expected to accommodate the forecasted travel demand through 2035. Operations under implementation of the recommended solutions are projected to meet performance targets throughout the city, with the exception of the intersections of OR 99E and the I-205 ramps and OR 213/Beavercreek Road. The recommended solutions move these intersections toward compliance with targets (TSP Volume 1, Section 8, Exhibit 1).
The proposed Transportation System Plan update is consistent with Statewide Planning Goal 10.

STATEWIDE PLANNING GOAL 11: To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.
Finding: Complies. This goal is implemented through the applicable Goals and Policies in Section 11 of the Oregon City Comprehensive Plan: Public Facilities. As stated in Section 11, the transportation infrastructure in Oregon City is governed by the Oregon City Transportation System Plan (Oregon City TSP), adopted in 2001 and proposed for update in 2013.
The relevant Public Facilities goals and policies and findings are provided below.

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.
Finding: Complies. The TSP is necessary to maintain compliance with Statewide Planning Goal 11, Public Facilities. Goal 11 requires that public facilities and services be provided in a timely, orderly and efficient manner. The goal's central concept is that local governments should plan public services in accordance with the community's needs as a whole rather than be forced to respond to individual developments as they occur. As shown in the findings below, the proposed update of the TSP is consistent with Goal 11.1.

Policy 11.1.1
Ensure adequate public funding for the following public facilities and services, if feasible:
• *Transportation infrastructure*
Finding: Complies. The TSP update includes a detailed discussion of funding for proposed transportation improvements, including expenditures expected from the Street Fund, Systems Development Charge (SDC) Fund, and Transportation Utility Fee Fund. In addition, the General Fund, a local fuel tax, an Urban Renewal District, local improvement districts, and debt financing are potential funding and financing resources (TSP Volume 1, Section 6 and TSP Volume 2, Section H, Exhibit 1). The 2013 TSP establishes both a financially constrained set of proposed transportation improvements that can be funded by expected revenues, as well a planned set of transportation improvements that are not reasonably expected to be funded by 2035, but many of which are important to making progress on the goals and performance targets for the transportation system.
The proposed TSP update is consistent with this policy.

Policy 11.1.2
Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.

Finding: Complies. As discussed in this staff report, the 2013 TSP provides guidance for the timely, efficient and economic provision of transportation facilities within the existing city and to new development areas within the UGB consistent with the relevant goals, policies and implementing measures of the Comprehensive Plan. The proposed TSP update is consistent with this policy.

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. The proposed improvements in the 2013 TSP respond to the transportation demand that is estimated to be generated by development and growth in city households and employment that is projected through 2035. The projected development and growth in households and employment are based on land use inventories and plans from Metro and the City.

Proposed street extensions and expansions of streets and intersections account for existing right-of-way, existing development, and environmental conditions including steep slopes (TSP Volume 2, Section I, Figures 2 and 3, Exhibit 1).

The proposed TSP update is consistent with this policy.

Policy 11.1.5

Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.

Finding: Complies. The 2013 TSP is designed to meet performance standards for existing and future development within the UGB. Investing in the transportation system improvements that are recommended in the TSP (TSP Volume 1, Table 5 and TSP Volume 2, Section I, Table 2, Exhibit 1) and implementing transportation demand management programs in the employment growth areas in the City are expected to accommodate the forecasted travel demand through 2035. Operations under implementation of the recommended solutions are projected to meet performance targets throughout the city, with the exception of the intersections of OR 99E and the I-205 ramps and OR 213/Beavercreek Road. The recommended solutions move these intersections toward compliance with targets (TSP Volume 1, Section 8, Exhibit 1).

The City has adopted development code and engineering standards to ensure concurrent provision of public facilities and services at uniform levels. Pursuant to these requirements, street improvements are typically required to be extended to a new development area at the same time as other public facilities such as sewer, storm drainage, water, and emergency services.

The proposed TSP update is consistent with this policy.

Policy 11.1.7

Develop and maintain a coordinated Capital Improvements Plan that provides a framework, schedule, prioritization, and cost estimate for the provision of public facilities and services within the City of Oregon City and its Urban Growth Boundary.

Finding: Complies. The 2013 TSP capital improvement program (CIP) is included in Table 5 of the TSP (Exhibit 1). The CIP is organized into short-term, medium-term, and long-term projects to be implemented in increments of five years. Funding the proposed transportation solutions is discussed in Section 6 of the TSP and in the findings for Policy 11.1.1 above.

The proposed Transportation System Plan is consistent with this policy.

Goal 11.6 Transportation Infrastructure

Optimize the City's investment in transportation infrastructure.

Finding: Complies. As described in Section 2 of the TSP, the approach to developing solutions was to focus on smaller cost-effective solutions rather than larger, more costly ones according to a five-tiered process that starts with system management measures and ends with those to extend and build new roadways. As a result, as described in Section 5 of the TSP, the recommended solutions in the plan related to walking, biking, shared-use paths, family friendly facilities, transit, and crossings account for about 74% of the recommended solutions and those to driving, about 26% (Figure 10). Further, in Section 7 of the TSP, a financially constrained plan is presented. The projects and programs in this plan are expected to be funded by 2035 and, as such, are prioritized for implementation. The driving-related solutions in the financially constrained plan are classified as management, extension, and expansion projects. Of the almost $74 million worth of investments in the financially constrained plan, about 80% are eligible for SDC funding.

The proposed TSP update is consistent with Goal 11.6.

Policy 11.6.1

Make investments to accommodate multi-modal traffic as much as possible to include bike lanes, bus turnouts and shelters, sidewalks, etc., especially on major and minor arterial roads, and in regional and employment centers.

Finding: Complies. As cited above, the recommended solutions in the plan related to walking, biking, shared-use paths, family friendly facilities, transit, and crossings account for about 74% of the recommended solutions, as shown in Section 5 of the TSP. The projects are included in both the Financially Constrained Transportation System and Planned Transportation System plans in the updated TSP. The financially constrained plan (Table 5) features pedestrian projects that fill sidewalk gaps throughout the city, including in the Downtown and Regional Center. Biking projects focus on wayfinding signage, shared lane marking, and bike lanes, and transit projects on signal prioritization and bus stop amenity improvements. All of the pedestrian, biking, and transit solutions in the financially constrained plan are reinforced and expanded upon by the family friendly route, shared-use path, and crossing solutions proposed in the plan as well.

The proposed TSP update is consistent with this policy.

Policy 11.6.2

Advocate for local, state, and regional cooperation in achieving an integrated connected system such as for the Amtrak station, light rail, and bus transit.

Finding: Complies. Goal 6 in Section 2 of the updated TSP establishes that the City will work to "(i)ncrease the convenience and availability of pedestrian, bicycle, and transit modes," which – in terms of transit facilities and service – entails collaborating with agencies like Metro, TriMet, and the South Clackamas Transportation District (SCTD). As outlined in the plan and policy review (TSP Volume 2, Appendix A), intercity (high-speed) rail through Oregon City's Regional Center is indicated in Metro's 2035 RTP and 2040 Growth Concept, and TriMet's 2011 Transit Investment Plan (TIP) includes the following projects related to Oregon City.

- Walkability assessment at Molalla Avenue / County Red Soils Campus for pedestrian obstacles and recommendations for any needed projects.
- Portland to Milwaukie Light Rail Project, which will connect downtown Portland to Milwaukie and connect to Frequent Service buses from the Oregon City Regional Center.

- A proposed Bus Rapid Transit (BRT) corridor following I-205 between Clackamas Town Center possibly stretching as far as Beaverton, with service to Oregon City, Tualatin, and Tigard.
- Frequent bus service line expansion to and from Oregon City, primarily around the Oregon City Transit Center.

Transit related projects in the Financially Constrained Transportation System (TSP Volume 1, Table 5) and Planned Transportation System (TSP Volume 2, Section I, Table 2, Exhibit 1) include signal prioritization, bus amenity improvements, and formation of an Oregon City transportation management association (TMA), which will – at a minimum – involve coordination between the City and TriMet.
The proposed TSP update is consistent with this policy.

STATEWIDE PLANNING GOAL 12: To provide and encourage a safe, convenient and economic transportation system.
Finding: Complies. This goal is implemented at the local level through the applicable Goals and Policies in the updated TSP, Section 2 (The Vision). This goal is also implemented at the state level through the Transportation Planning Rule (TPR), OAR 660-012, which is addressed later in this report.
The TSP goals were developed and ranked by TSP update project stakeholders, and were the basis for evaluation criteria used in selecting and assessing the projected performance of the projects and solutions recommended in the TSP update. The goals, in order of importance to the community and project stakeholders, are:

- Enhance the health and safety of residents
- Emphasize effective and efficient management of the transportation system
- Foster a sustainable transportation system
- Provide an equitable, balanced and connected multi-modal transportation system
- Identify solutions and funding to meet system needs
- Increase the convenience and availability of pedestrian, bicycle, and transit modes
- Ensure the transportation system supports a prosperous and competitive economy
- Comply with state and regional transportation plans.

Section I of Volume 2 (Planned and Financially Constrained Transportation Systems) of the updated TSP explains how 360 solutions for the Oregon City transportation system were reduced to a Financially Constrained Transportation System Plan and Planned Transportation System Plan. The process relied on the goals, evaluation criteria, and five-tiered solutions hierarchy.
The proposed TSP update is consistent with Statewide Planning Goal 12.

STATEWIDE PLANNING GOAL 13: To conserve energy. 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. This goal is implemented through the applicable Goals and Policies in Section 13 of the Oregon City Comprehensive Plan: Energy Conservation.
The multimodal transportation system and improvements proposed in the updated TSP and associated code amendments will support efficient use of land within the city limits and UGB based on existing adopted Comprehensive Plan and zoning designations. With this plan, the City can provide timely, orderly and efficient transportation improvements where it is efficient to promote higher intensity land uses and avoiding leap-frog development.

The City promotes the efficient use of land and conservation of energy through its Comprehensive Plan and zoning and development regulations within the Oregon City Municipal Code. Higher density and mixed use zoning, land division, and site plan design standards promote more compact development patterns, and promote bicycling and walking instead of relying on the automobile for routine errands. New annexations are required to show that public utilities can be efficiently extended to new urban areas. Metro-approved Concept Plans are required prior to annexation to the city to assure that urban services and amenities will be developed in logical places as the community develops.
The proposed TSP and associated amendments are consistent with Statewide Planning Goal 13.

Oregon Transportation Plan (2006)

The Oregon Transportation Plan (OTP) is the state's long-range multimodal transportation plan. The OTP is the overarching policy document among a series of plans that together form the state transportation system plan (TSP). A TSP must be consistent with applicable OTP goals and policies. Findings of compatibility will be part of the basis for TSP approval. The most pertinent OTP goals and policies for city transportation system planning are provided below.

POLICY 1.2 – Equity, Efficiency and Travel Choices
It is the policy of the State of Oregon to promote a transportation system with multiple travel choices that are easy to use, reliable, cost-effective and accessible to all potential users, including the transportation disadvantaged.
Finding: Complies. The TSP update establishes design criteria for streets based on their functional classification and the designation within the Comprehensive Plan, resulting in a context sensitive development The design criteria organize street cross-sections into the context zone at the interface of the building lines and walking zone, the biking/on-street parking zone, and the driving zone. (Section C in Volume 2 of the updated TSP provides detail on how to determine the optimum cross-section for a street.) (Table 12.04.180) .
In particular, the context zone, walking zone, and biking/on-street parking zone are important to establishing a reliable, accessible, and inviting environment for those walking, biking, and taking transit. The design criteria establish a minimum of five to ten and a half sidewalk width and five and a half to ten and a half foot buffer strip width. Bike lanes that are six-feet-wide are required for most of the street design types. Maximum block sizes of 1,320 feet are provided and pedestrian access every 330 feet is required unless a modification is approved through a Type II process.
The recommended solutions in the plan related to walking, biking, shared-use paths, family friendly facilities, transit, and crossings account for about 74% of the recommended solutions (Figure 10). In the financially constrained plan, walking improvements consist largely of filling in sidewalk gaps as well as widening existing sidewalks and making ADA accessibility improvements. Biking improvements consist largely of providing bike lanes. The addition of shared-use paths add both walking and biking facilities. Transit improvements are focused on signal priority and enhancing transit stop amenities (See Table 5 in Section 7 (The Plan).
Recommended code amendments reinforce many of these elements of the updated TSP in establishing clear zones for unobstructed travel on sidewalks, requiring pedestrian accessways every 330 feet on long blocks, strengthening access to and amenities at transit facilities, and expanding bicycle parking requirements to address long-term parking (TSP Volume 2, Section K, Exhibit 1).

The proposed TSP and associated amendments are consistent with Policy 1.2.

POLICY 2.1 - Capacity and Operational Efficiency
It is the policy of the State of Oregon to manage the transportation system to improve its capacity and operational efficiency for the long term benefit of people and goods movement.

POLICY 2.2 – Management of Assets
It is the policy of the State of Oregon to manage transportation assets to extend their life and reduce maintenance costs.

Finding: Complies. The Financially Constrained and Planned Transportation System Plans were developed based on the five-tiered solutions hierarchy that starts with system management measures and ends with those to extend and build new roadways. As a result, the number of cost-effective management recommendations and those related to walking, biking, shared-use paths, family friendly facilities, transit, and crossings account for the majority of projects and solutions in the updated. TSP (Table 5 in the TSP Volume 1 and Table 2 in the TSP Volume 2, Section I, Exhibit 1).
The 2013 TSP is designed to meet performance standards for existing and future development within the UGB. Investing in the transportation system improvements that are recommended in the TSP Financially Constrained and Planned Transportation System Plans (Table 5 in the TSP Volume 1 and Table 2 in TSP Volume 2, Section I, Exhibit 1) and implementing transportation demand management programs in the employment growth areas in the city are expected to accommodate the forecasted travel demand through 2035. Operations under implementation of the recommended solutions are projected to meet performance targets throughout the city, with the exception of the intersections of OR 99E and the I-205 ramps and OR 213/Beavercreek Road. The recommended solutions move these intersections toward compliance with targets (TSP Volume 1, Section 8, Exhibit 1).
The proposed TSP is consistent with Policies 2.1 and 2.2.

POLICY 3.1 – An Integrated and Efficient Freight System
It is the policy of the State of Oregon to promote an integrated, efficient and reliable freight system involving air, barges, pipelines, rail, ships and trucks to provide Oregon a competitive advantage by moving goods faster and more reliably to regional, national and international markets.

POLICY 3.2 – Moving People to Support Economic Vitality
It is the policy of the State of Oregon to develop an integrated system of transportation facilities, services and information so that intrastate, interstate and international travelers can travel easily for business and recreation.

Finding: Complies. The freight system in Oregon City is focused on truck freight. The TSP objective envisions decreasing truck delay by approximately 10% through 2035, to just over three minutes per truck trip during the evening peak period, based on freight mobility targets developed from the RTP. High general traffic demand on regional transportation routes including I-205, OR 213, OR 99E, and OR 43 pose a challenge to meeting this performance measure. Truck delay in the city during the evening peak period (after assuming the planned system investments) is expected to increase slightly through 2035, from about three and a half minutes to four minutes per person. However, the City is moving in the direction of this performance measure

by decreasing truck delay 15% from what would be expected without the implementation of recommended planned transportation system investments. (See Section 8 (Outcomes) of TSP Volume 1, Exhibit 1.)
The proposed TSP is consistent with Policies 3.1 and 3.2.

POLICY 4.1 - Environmentally Responsible Transportation System
It is the policy of the State of Oregon to provide a transportation system that is environmentally responsible and encourages conservation and protection of natural resources.

Finding: Complies. Implementation of the Financially Constrained and Planned Transportation System recommendations serves an area within the city's UGB that is planned for efficient urban development, as guided by state planning goals and regulations. Development of this land was assumed for projecting future transportation conditions and the transportation needs and solutions that were then determined based on those conditions.
The city code contains specific review criteria for uses within natural resource zoning districts to assure that identified natural resources are appropriately considered when development is proposed. The Natural Resource Overlay District (NROD) "implements the Oregon City Comprehensive Plan Natural Resource Goals and Policies, as well as Federal Clean Water Act requirements for shading of streams and reduction of water temperatures, and the recommendations of the Metro ESEE Analysis." Trails, paths, and roads are permitted either outright or with restrictions in the Natural Resource Overlay District. The restrictions are established in OCMC 17.49.150 (Standards for vehicular or pedestrian paths and roads). Even when transportation projects are permitted outright in underlying zones, the Flood Management Overlay District (OCMC Chapter 17.42) and US-Geologic Hazards Overlay District (OCMC Chapter 17.44) provide development standards for transportation projects in these overlay districts.
The share of improvements recommended in the TSP update that are less polluting has dramatically increased since the 2001 TSP. As shown in Figure 10 (TSP Volume 1, Exhibit 1), projects related to walking, biking, and taking transit have increased from approximately 51% of the projects in the 2001 TSP to approximately 74% of the projects in the 2013 TSP, representing over 260 projects in the Planned Transportation System.
Code amendments that are proposed to implement the TSP update and comply with the Regional Transportation Function Plan (RTFP) include provisions to establish unobstructed paths on sidewalks, require more closely spaced pedestrian and bicycle accessways, support crossings in the vicinity of transit stops, and establish requirements for long-term bicycle parking (TSP Volume 2, Section K, Exhibit 1). These amendments reinforce the pedestrian, bicycle, and transit improvements that are recommended in the 2013 TSP.
The proposed TSP and associated amendments are consistent with Policy 4.1.

POLICY 5.1 – Safety
It is the policy of the State of Oregon to continually improve the safety and security of all modes and transportation facilities for system users including operators, passengers, pedestrians, recipients of goods and services, and property owners.

Finding: Complies. The top-ranked goal of the 2013 TSP is to "(e)nhance the health and safety of residents." Existing safety concerns include high collision locations, with multiple sites along OR 99E, around Downtown, and along Beavercreek Road and Molalla Avenue (Figure 7, TSP Volume 2, Section D, Exhibit 1). Based on RTP

requirements to establish a range of performance measures in local TSP, the objective of the 2013 TSP is to reduce fatalities and serious injuries by 50% between 2010 and 2035.
Although there is not a reliable tool for forecasting future collisions, safety is expected to improve given implementation of the recommended investments in the 2013 TSP. These investments include street crossings, walking and biking facilities, and improvements to high collision locations and congested intersections. Even if the target is not achieved, rates of collisions, serious injuries, and fatalities are expected to decrease and move in the direction of the TSP safety objective with the implementation of these recommended TSP projects.
The proposed TSP is consistent with Policy 5.1.

POLICY 7.1 – A Coordinated Transportation System
It is the policy of the State of Oregon to work collaboratively with other jurisdictions and agencies with the objective of removing barriers so the transportation system can function as one system.
Finding: Complies. Staff from Clackamas County, TriMet, and ODOT were involved in the Technical Advisory Team (TAT) for the TSP update.
Implementing the transit project recommendations included in the Planned Transportation System (TSP Volume 2, Section I, Table 2, Exhibit 1) will require coordination with TriMet. Coordination provisions with those jurisdictions – particularly the State as required by OAR 660-012-0045 –are established.
The proposed TSP is consistent with Policy 7.1.

POLICY 7.3 – Public Involvement and Consultation
It is the policy of the State of Oregon to involve Oregonians to the fullest practical extent in transportation planning and implementation in order to deliver a transportation system that meets the diverse needs of the state.

POLICY 7.4 - Environmental Justice
It is the policy of the State of Oregon to provide all Oregonians, regardless of race, culture or income, equal access to transportation decision-making so all Oregonians may fairly share in benefits and burdens and enjoy the same degree of protection from disproportionate adverse impacts.

Finding: Complies. Development of the 2013 TSP update relied on the participation of the Technical Advisory Team (TAT) and Stakeholder Advisory Team (SAT) and the activities of these teams as well as other public involvement efforts are described in the Transportation System Plan Public Outreach Plan (Exhibit 3). Section D in TSP Volume 2 (Exhibit 1) discusses environmental justice. The Environmental Protection Agency states that: "Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." The environmental justice effort within the TSP was to identify concentrations of underserved and vulnerable populations so that transportation services can be improved in this areas while avoiding or at least distributing impacts of planned projects more equitably across the city.
Goal 4 of the TSP commits the City to: "(p)rovide an equitable, balanced and connected multimodal transportation system" (Section 2, TSP Volume 1, Exhibit 1). Objectives and evaluation criteria for TSP projects under the goal include ensuring that the transportation system provides equitable access to underserved and vulnerable populations and reduces total housing and transportation costs for residents.

As found through the Census, Figure A5 in Section D identifies concentrations of low-income residents in the Park Place neighborhood, minority populations around Molalla Avenue between Beavercreek Road and Division Street, and the elderly around the 15th Street/Division Street intersection. Significant populations of non-English speakers and people with disabilities were not found in the city. Proposed Financially Constrained and Planned Transportation System improvements (TSP Volume 1, Table 5 and TSP Volume 2, Section I, Table 2, Exhibit 1) identify walking, biking, shared-use path, family friendly route, transit, and crossing improvements in these areas of underserved and vulnerable populations as well as throughout the city (Figures 17-19, TSP Volume 1, Exhibit 1). Roadway extension and expansion projects, and their potential associated impacts, are also distributed throughout the city (Figures 14-16, TSP Volume 1, Exhibit 1).
The proposed TSP is consistent with Policies 7.3 and 7.4.

Oregon Highway Plan

The 1999 Oregon Highway Plan (OHP) establishes policies and investment strategies for Oregon's state highway system over a 20-year period and refines the goals and policies found in the OTP. Policies in the OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems. The policies applicable to the St. Helens TSP are addressed below.

Policy 1A (Highway Classification) defines the function of state highways to serve different types of traffic that should be incorporated into and specified through IAMPs.

Policy 1C (State Highway Freight System) states the need to balance the movement of goods and services with other uses.
Finding: Complies. As identified in Section A (Plans and Policies Framework) of TSP Volume 2 (Exhibit 1), there are four sets of State roadways in Oregon City, including I-205 (an Interstate highway) and OR 99E, OR 213, and OR 43 (all District highways). The TSP defers to access management regulations of the State. The proposed improvements in the Financially Constrained and Planned Transportation System plans (TSP Volume 1, Table 5 and TSP Volume 2, Section I, Table 2, Exhibit 1) serve safety and mobility on state roadways in the city. In terms of safety, as described earlier in the OTP findings, safety concerns exist at sites along state facilities OR 99E and OR 213 (TSP Volume 2, Section D, Figure 7, Exhibit 1). Although there is not a reliable tool for forecasting future collisions, safety is expected to improve given implementation of the recommended investments in street crossings, walking and biking facilities, and improvements to high collision locations and congested intersections in the 2013 TSP.
In terms of mobility, investing in the Planned Transportation System improvements is expected to accommodate the forecasted travel demand through 2035. Operations under implementation of the recommended solutions are projected to meet performance targets throughout the city, with the exception of the intersections of OR 99E and the I-205 ramps and OR 213/Beavercreek Road. The recommended solutions move these intersections toward compliance with targets (Section 8 (Outcomes), TSP Volume 1, Exhibit 1). Also as described earlier in OTP findings, high general traffic demand on regional transportation and freight routes including I-205, OR 213, OR 99E, and OR 43 pose a challenge to meeting performance measures

related to freight. Truck delay in the city during the evening peak period (after assuming the planned system investments) is expected to increase slightly through 2035. However, the City is moving in the direction of this performance measure by decreasing truck delay 15% from what would be expected without the implementation of recommended planned transportation system investments. (See TSP Volume 1, Section 8, Exhibit 1.) Updated and more liberal mobility standards – ranging from 0.99 to 1.10 volume-to-capacity for peak 1st hour and 2nd hour – are proposed for City roadways in Section 4 (Standards) in order to balance motor vehicle mobility with improved conditions for walking and biking.
The proposed TSP is consistent with Policies 1A and 1C.

Policy 1B (Land Use and Transportation) recognizes the need for coordination between state and local jurisdictions.
Finding: Complies. Coordination between City and ODOT staff in developing the TSP update occurred through the project administration and Technical Advisory Team (TAT) process. ODOT input was received on the technical memoranda that became the basis of the TSP and at various TAT meetings and public forums. Code provisions like traffic impact study requirements are also a way of connecting land use actions and the transportation system. Traffic impact studies are required for subdivisions pursuant to OCMC 16.08.025(B), and are enabled for Site Plan and Design Review in OCMC 17.62.040(I) (Exhibit 2).
The proposed TSP is consistent with Policy 1B.

Policy 1F (Highway Mobility Standards) sets mobility standards for ensuring a reliable and acceptable level of mobility on the highway system by identifying necessary improvements that would allow the interchange to function in a manner consistent with OHP mobility standards.
Finding: Complies. Operations under implementation of the recommended solutions in the Financially Constrained and Planned Transportation Systems are projected to meet performance targets throughout the city, with the exception of the intersections of state facilities at OR 99E/I-205 ramps and OR 213/Beavercreek Road. As discussed in Section 8 (Outcomes) of TSP Volume 1 (Exhibit 1), the recommended solutions improve the performance of these intersections and move them toward compliance with mobility targets.
The proposed TSP is consistent with Policy 1F.

Policy 1G (Major Improvements) requires maintaining performance and improving safety by improving efficiency and management before adding capacity. ODOT works with regional and local governments to address highway performance and safety.
Finding: Complies. Policy 1G is aligned with the five-tiered solutions structure established by the RTP/RTFP and followed by this TSP process. Solutions in the Financially Constrained and Planned Transportation Systems focused on management and multimodal measures before considering roadway extension and expansion projects. As a result, approximately 74% of the projects and programs recommended in the TSP are related to walking, biking, transit, and crossings. Of the 26% of projects that are roadway-related, 19 projects address management and intersection improvements, 17 projects are roadway extensions, and four projects are roadway expansions (Table 5, TSP Volume 1, Exhibit 1).
The proposed TSP is consistent with Policy 1G.

Policy 2B (Off-System Improvements) helps local jurisdictions adopt land use and access management policies.

Finding: Complies. Improvements recommended on the local system in the Financially Constrained Transportation System include signalization, signal optimization, installation of turn lanes and roundabouts, sidewalk construction, bike lane striping, extension of roadways, reconstruction of roadways to City standards, installation of crossings and curb ramps, and citywide programmatic measures such as wayfinding tools, transit signal priority and transit stop improvements, expanded bicycle parking design guidance and requirements, and Safe Routes to School (Table 5 and Figures 14-19 in TSP Volume 1, Exhibit 1).
These local system improvements will help to reduce traffic and improve conditions on State roadways in the city.
The proposed TSP is consistent with Policy 2B.

Policy 2F (Traffic Safety) improves the safety of the highway system.
Finding: Complies. As reported in earlier OHP and OTP findings, there are a number of high collision sites and safety concerns along state facilities OR 99E and OR 213 in the city (Figure 7, TSP Volume 2, Section D, Exhibit 1). Although there is not a reliable tool for forecasting future collisions, safety is expected to improve given implementation of the recommended investments in street crossings, walking and biking facilities, and improvements to high collision locations and congested intersections in the 2013 TSP.
The proposed TSP is consistent with Policy 2F.

Policy 3A (Classification and Spacing Standards) sets access spacing standards for driveways and approaches to the state highway system.
Finding: Complies. The 2013 TSP proposes access spacing standards (maximum public street intersection 12.04.196 and minimum private access spacing standards in 12.04.198) for streets in Oregon City. The standards are differentiated by functional classification and surrounding Comprehensive Plan designations. New and redevelopment construction must comply with these standards. Existing access points that do not comply with these standards may be required to consolidate access points or have access points restricted or closed in the future pursuant to the TSP.
The proposed TSP and associated amendments are consistent with Policy 3A.

Policy 4B (Alternative Passenger Modes) It is the policy of the State of Oregon to advance and support alternative passenger transportation systems where travel demand, land use, and other factors indicate the potential for successful and effective development of alternative passenger modes.
Finding: Complies. As cited in the OTP findings, the recommended solutions related to walking, biking, shared-use paths, family friendly facilities, transit, and crossings account for about 74% of the recommended solutions, as shown in Section 5 (Investments) of the TSP (Exhibit 1). The projects are included in both the Financially Constrained Transportation System and Planned Transportation System plans in the 2013 updated TSP. The financially constrained plan (Table 5, Section 6, Volume 1, Exhibit 1) features pedestrian projects that fill sidewalk gaps throughout the city, including in the Downtown and Regional Center. Biking projects focus on wayfinding signage, shared lane marking, and bike lanes, and transit projects on signal prioritization and bus stop amenity improvements. All of the pedestrian, biking, and transit solutions in the financially constrained plan are reinforced and expanded upon by the family friendly route, shared-use path, and crossing solutions proposed in the plan as well.
The proposed TSP is consistent with Policy 4B.

OAR 660 Division 12 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.

Section 660-012-0005 through 660-012-0055
These sections of the TPR contain policies for preparing and implementing a transportation system plan.

Finding: Complies. The TSP update includes elements required by the TPR Section -0020 such as modal inventories, modal plans, and financial plans. Exhibit 6 shows how the proposed TSP, existing code, and proposed code amendments comply with TPR Section -0045. In terms of the timing of required TSP updates, Section -0050 establishes that local governments in a Metropolitan Planning Organization must update their TSPs by dates specified in the adopted updated regional transportation system plan. Table 3.08-4 in the RTFP shows 2012 as the compliance deadline for Oregon City. This is qualified by the statement that the deadline assumes that the City is awarded Transportation Growth Management funding in the 2010-2011 biennium. The City is scheduled to adopt the updated TSP in June 2013, substantially in compliance with this deadline. An extension to the original deadline was granted.

The proposed TSP and associated amendments are consistent with TPR Sections -0005 to -0055.

Section 660-012-0060 – Plan and Land Use Regulation Amendments
Finding: Complies. As presented in Exhibit 6, OCMC 17.68.020(C) requires proposed amendments to demonstrate that "(t)he 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." This requirement is reinforced by the ways in which existing code, proposed code, and the proposed TSP comply with requirements in Section -0045 such as access control measures, traffic impact study requirements, and authority to establish conditions of development approval.
The proposed TSP and associated amendments are consistent with TPR Section -0060.

OAR 734, Division 51. Highway Approaches, Access Control, Spacing Standards and Medians

OAR 734-051 governs the permitting, management, and standards of approaches to state highways to ensure safe and efficient operation of the state highways. OAR 734-051 policies address the following:

- How to bring existing and future approaches into compliance with access spacing standards, and ensure the safe and efficient operation of the highway;
- The purpose and components of an access management plan; and
- Requirements regarding mitigation, modification and closure of existing approaches as part of project development.

Finding: Complies.
The 2013 TSP proposes access spacing standards (maximum public street intersection 12.04.196 and minimum private access spacing standards in 12.04.198) for streets in Oregon City. The standards are differentiated by functional classification and surrounding Comprehensive Plan designations. New and redevelopment construction must comply with these standards. Existing access points that do not comply with these standards may be required to consolidate access points or have access points restricted or closed in the future pursuant to the TSP.

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

Finding: Complies. A checklist of RTFP requirements and findings of compliance with these requirements is provided in Exhibit 6. The checklist addresses the ways that both the TSP document and existing or proposed OCMC provisions comply with RTFP requirements. (See Section K, TSP Volume 2 in Exhibit 1 for proposed amendments to the OCMC.)

RECOMMENDATION
Staff recommends that the Planning Commission recommend approval of Planning files L 13-01 and L 13-02 for the 2013 Oregon City Transportation System Plan and associated amendments to the Oregon City Municipal Code, included as Exhibit 1, as an ancillary document to the Oregon City Comprehensive Plan to the City Commission for their consideration at the May 15th, 2013 public hearing.

EXHIBITS
1) 2013 Oregon City Transportation System Plan – Full Document
    a) Volume 1
    b) Volume 2
2) Proposed Amendments to the Oregon City Municipal Code
3) Transportation System Plan Public Outreach Plan
4) 2004 Oregon City Comprehensive Plan
5) 2001 Oregon City Transportation System Plan
6) Regional Transportation Functional Plan (RTFP) and Transportation Planning Rule (TPR) Compliance (On File)
7) Applicant's Submittal



2013

Oregon City Transportation System Plan

VOLUME I

Draft: January 2013

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The contents of this document do not necessarily reflect views or policies of the State of Oregon.

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  - Matt Berkow
  - Drew Meisel
- **Angelo Planning Group**
  - Darci Rudzinski
  - Shayna Rehberg
- **Stakeholder Advisory Team**
- **Technical Advisory Team**

Contents

the context 6

The Challenge 6

The Transportation System Plan 6

What is a TSP? 7

the vision 9

How do we reflect our Vision in the Plan? 10

the trends 20

Snapshot of Oregon City in 2035 20

the standards 27

Multi-Modal Street System 27

Design Types of Streets 31

Spacing Standards 32

Multi-Modal Connectivity 38

Truck Routes 38

Mobility Standards 41

the investments 43

the funding 46

Funding Shortfall 47

the plan 49

How did we determine the investments that made the Financially Constrained Plan? 49

Financially Constrained Transportation System 50

Planned Transportation System 61

the outcome 69

Tracking Performance of Transportation System Investments 69

Putting the Plan to the Test 70

Volume 2

Section A. Plans and Policies Framework (DKS, 2011)

Section B. Project Goals, Objectives and Evaluation Criteria (DKS, 2011)

Section C. Street Network and Connectivity (DKS, 2011)

Section D. Existing Transportation Conditions (DKS, 2011)

Section E. Model Assumptions (DKS, 2012)

Section F. Future Traffic Performance on the Major Street Network (DKS, 2012)

Section G. Future Needs Analysis (DKS and Alta Planning, 2012)

Section H. TSP Funding Assumptions (DKS, 2012)

Section I. Planned and Financially Constrained Transportation Systems (DKS, 2012)

Section J. Performance Analysis of Planned and Financially Constrained Transportation Systems (DKS, 2012)

Section K. Implementing Ordinances (Angelo Planning Group, 2012)

Figures

Figure 1: Transportation Solutions Identification Process 9

Figure 2: Reflecting our vision in the Plan 10

Figure 3: Household and Employment Growth (2010-2035) 22

Figure 4: Motor Vehicle Travel Growth (P.M. Peak) 24

Figure 5: 2035 Baseline Motor Vehicle Operating Conditions (P.M. Peak) 25

Figure 6: Multi-Modal Street System 30

Figure 7: The Components of Oregon City Streets 31

Figure 8: Multi-Modal Connectivity Plan 39

Figure 9: Truck Routes 40

Figure 10: Breakdown of the Projects and Expenses in the Plan 44

Figure 11: Expected Funding for the Plan 46

Figure 12: Eligibility of Plan Investments for SDC Funding 47

Figure 13: Funding for the Financially Constrained Transportation System 50

Figure 14: Planned Intersection and Street Management Solutions 62

Figure 15: Planned Street Extensions 63

Figure 16: Planned Street and Intersection Expansions 64

Figure 17: Walking Solutions 65

Figure 18: Biking Solutions 66

Figure 19: Shared Walking and Biking Solutions 67

Figure 20: The Expected Trend for Safety 70

Figure 21: The Expected Trend for Vehicle Delay 71

Figure 22: The Expected Trend for Truck Delay 73

Figure 23: Oregon City Non-Single Occupant Vehicle Mode Shares 74

Figure 24: Comparison of 2001 and 2013 TSP Investments 75

Figure 25: The Expected Trend for Vehicle Miles Traveled 76

Tables

Table 1: Design Criteria for Major Arterial Streets 33

Table 2: Design Criteria for Minor Arterial Streets 34

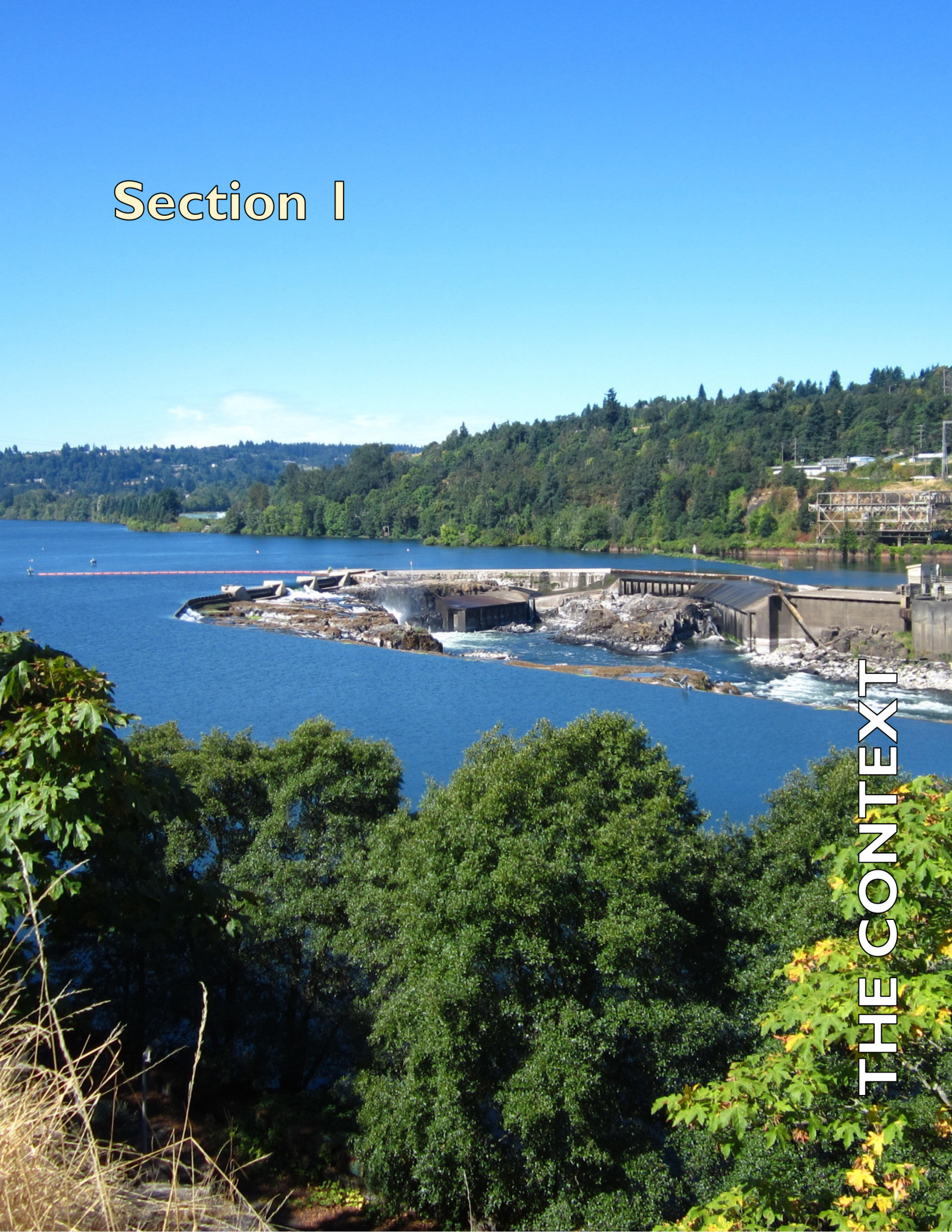
Table 3: Design Criteria for Collector Streets 35

Table 4: Design Criteria for Local Streets 36

Table 5: Priority of Street Components 38

Table 6: Financially Constrained Transportation System 51

Section I

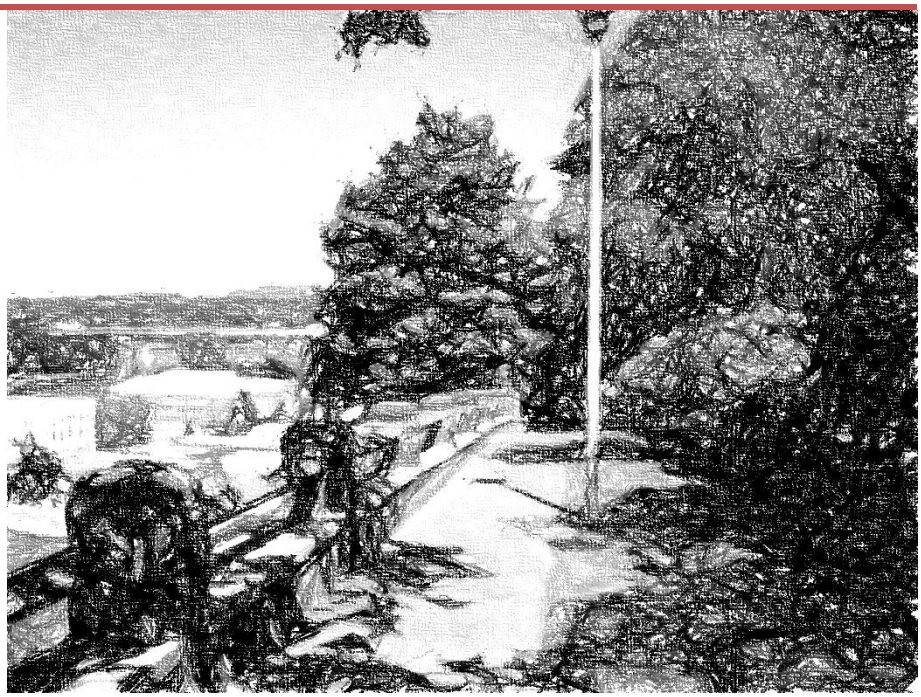


THE CONTEXT

the context

Located along the shores of the Willamette and Clackamas Rivers near the scenic Willamette Falls, Oregon City is the oldest incorporated City west of the Rockies. With a population of around 34,000, the City is characterized by topography that rises sharply from the riverfront and downtown to reach 250 feet, above the Willamette River. The two to three blocks wide downtown is located at the base of a basalt bluff where the McLoughlin Conservation District is found, one of two of the City's historic neighborhoods. At higher elevations and further south from downtown, newer neighborhoods and commercial development has developed over the past 50 years. The City is now comprised of 12 unique neighborhoods as illustrated by the Neighborhood Associations (see Figure in the TSP Volume 2, Section D).

In recent years, the City has made great strides at investing in the Downtown and the 7th Street-Molalla Avenue corridor and becoming a regional destination for employment, shopping and education. These characteristics make Oregon City unique, as well as define the key transportation issues that the City seeks to overcome.



The Challenge

Oregon City, like many jurisdictions, faces the challenge of accommodating population and employment growth while keeping acceptable service levels on its transportation network. Moreover, the City must also balance its investments to ensure that the existing transportation system adequately serves all members of the community and is well maintained.

The Transportation System Plan

Oregon City is aware of these challenges and strives to keep the City's Transportation System Plan (TSP) up to date in an effort to prepare for and accommodate the future growth within the Urban Growth Boundary (UGB) in the most efficient manner possible. Without the big picture that the TSP provides, maintaining acceptable transportation network performance could not be achieved in an efficient manner.



What is a TSP?

The TSP provides a long term guide for City transportation investments by incorporating the vision of the community into an equitable and efficient transportation system.

The plan evaluates the current transportation system and outlines policies and projects that are important to protecting and enhancing the quality of life in Oregon City through 2035. Plan elements can be implemented by the City, private developers, and state or federal agencies.

A TSP is required by the State of Oregon, to help integrate our plans into the statewide transportation system. The plan balances the needs of walking, bicycling, driving, transit and freight into an equitable and efficient transportation system. The TSP can also be a tool for reflecting community values and protecting what makes Oregon City a great place to call home, do business, and visit.

The TSP provides a long term guide for City transportation investments.

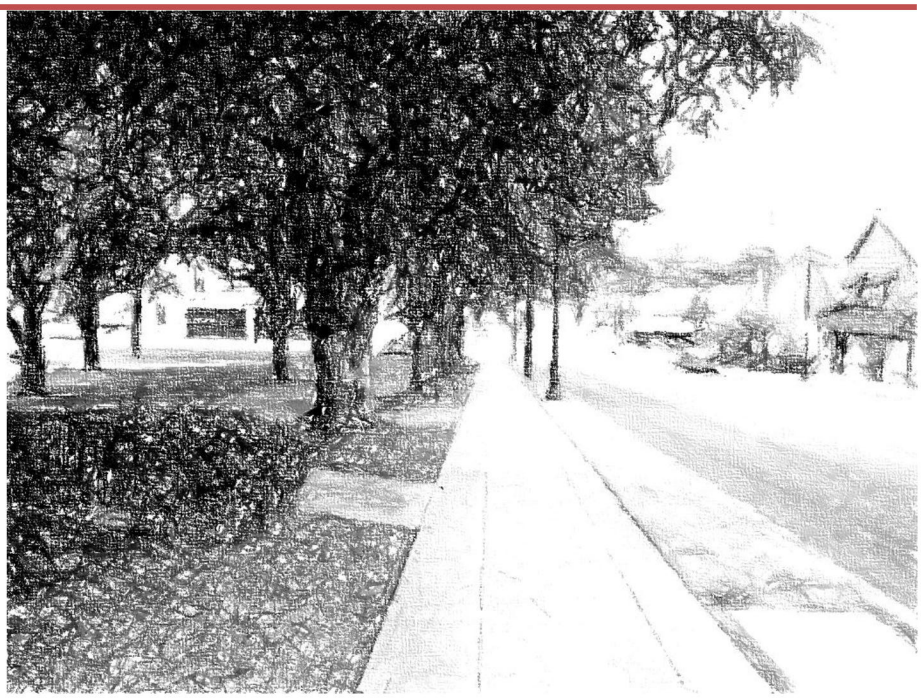

Section 2
THE VISION

the vision

Oregon City understands that transportation funding is limited and recognizes the importance in being fiscally responsibility in its approach to enhancing the transportation system. In the past, a typical response to congestion was to expand streets, creating significant barriers to walking and biking and detracting from the livability, health, safety and fiscal wellbeing of the community.

The Oregon City approach for the update placed more value on investments in smaller cost-effective solutions for the transportation system rather than larger, more costly ones where practical. The approach, as required by the Metro Regional Transportation Functional Plan, identified solutions to accommodate future travel demand by following a five-step process, as shown in Figure 1, that considered solutions from top to bottom until a viable solution was identified.

Taking a multi-modal network-wide approach to identifying transportation system solutions, the projects fall within one of five categories (see Figure 1). This enabled more cost-effective



- **Manage** the performance of congested locations with strategies that reduce traffic conflicts, increase safety, and encourage more efficient usage of the transportation system.
- **Reduce** the driving demand at congested locations by improving walking, biking and transit options.
- **Revisit** land uses and congestion thresholds to encourage shorter driving trips or modified travel decisions.
- **Extend** streets to create parallel routes that will reduce the driving demand on the congested facility.
- **Expand** existing streets or intersections to increase the driving capacity of the facility.

Figure 1: Transportation Solutions Identification Process

solutions to increase transportation system capacity and helped to encourage multiple travel options, increase street connectivity and promote a more sustainable transportation system.

How do we reflect our Vision in the Plan?

The eight transportation goals for the Plan respond to this vision and were used to set direction for the future and evaluate transportation programs and projects needed to maintain the system, improve system efficiency and strategically expand the system.

Each solution was evaluated to see how the transportation goals match the perceived project benefits and shortfalls. A variety of transportation evaluation criteria and measures were derived from project goals and objectives and used to evaluate and compare the solutions to one another.

Project stakeholders were given the opportunity to rank the eight project goals, from most valuable to least valuable. Using the weighted goals, the transportation solutions were evaluated and compared to one another, placing more value on those project stakeholders felt were most important to the community. The following goals (listed in order of importance to the community), were utilized to assess the performance of the transportation solutions:

- Enhance the health and safety of residents
- Emphasize effective and efficient management of the transportation system
- Foster a sustainable transportation system
- Provide an equitable, balanced and connected multi-modal transportation system
- Identify solutions and funding to meet system needs
- Increase the convenience and availability of pedestrian, bicycle, and transit modes
- Ensure the transportation system supports a prosperous and competitive economy
- Comply with state and regional transportation plans

Each transportation solution was assigned a time frame for the expected investment need, based on a project's contribution to achieving the transportation goals of Oregon City. The investment recommendations attempted to balance implementation considerations. Complex and costly capital projects were disfavored compared with implementation of low cost projects that can have more immediate impacts and can spread investment benefits citywide.

Figure 2: Reflecting our vision in the Plan



"Health and Safety"

Objectives

Objective A. Identify improvements to address high collision locations

Objective B. Identify necessary changes to street design guidelines to support context sensitive design solutions

Objective C. Reduce impervious street surfaces through "Green Streets"

Objective D. Provide a network of family-friendly walking and biking routes



Goal 1. Enhance the health and safety of residents

Ensure that the transportation system maintains and improves individual health, safety and security by maximizing the comfort and convenience of walking, biking and transit transportation options, public safety and service access.

Evaluation Criteria

- Improves safety of the transportation system
- Encourages active living and physical activity
- Minimizes transportation related pollution

"Effective and efficient"



Goal 2. Emphasize effective and efficient management of the transportation system

Optimize travel capacity and improve travel conditions by better managing our own travel demands, meeting more of our daily needs within our own community, making our existing transportation facilities as smart and efficient as possible, and being strategic about transportation investments. The City should seek to find innovations and fine tuning of existing systems and policies and avoid or forestall costly major roadway capacity improvements.

Evaluation Criteria

- Reduces need for major highway project construction
- Implements Transportation Demand Management (TDM) or other strategies to create greater mobility, reduce auto trips, make more efficient use of the roadway system, and minimize air pollution
- Improvement makes daily traffic capacity more reliable
- Enhances travel for local trips off the state highway system

Objectives

Objective A. Identify opportunities to reduce the use of state facilities and arterials for local trips

Objective B. Seek to shift vehicle travel to off-peak periods

Objective C. Maintain the existing transportation system assets.

Objective D. Identify opportunities to improve travel reliability and safety with TSMO solutions

"Sustainable"

Objectives

Objective A. Support alternative vehicle types by identifying potential electric vehicle plug-in stations and developing implementing code provisions

Objective B. Identify existing and future expected VMT levels within the City of Oregon City, and consider opportunities and actions needed to meet RTP targets

Objective C. Encourage alternatives to daily single-occupancy vehicle commuting.

Objective D. Develop and support alternative mobility standards on state facilities and City streets where necessary

Objective E. Identify areas where alternative land use types would significantly shorten trip lengths or reduce the need for motor vehicle travel within the city

Objective F. Minimize impacts to the natural environment.



Goal 3. Foster a sustainable transportation system

A key approach to building a sustainable community requires a transportation system that is environmentally and fiscally sustainable that focuses on decreasing vehicle emissions and transportation related greenhouse gas emissions.

Evaluation Criteria

- Emphasizes the movement of people over vehicles, which reduces the citywide vehicle-miles-travelled (VMT)
- Minimizes impact to the natural environment
- Supports alternative land use types

Equitable, balanced and connected”



Goal 4. Provide an equitable, balanced and connected multi-modal transportation system

Provide a "complete" transportation system throughout Oregon City that provides travel options and connects people to jobs, schools, services, recreation, social and cultural institutions within the City.

Evaluation Criteria

- Improves access to underserved or vulnerable populations
- Reduces total transportation and housing costs
- Connection enhances system efficiency
- Connection or improvement satisfies multiple objectives

Objectives

Objective A. Ensure that the transportation system provides equitable access to underserved and vulnerable populations

Objective B. Reduce total housing and transportation costs for residents

Objective C. Identify new or improved system connections to enhance system efficiency

Objective D. Give priority to connections that help to advance other goal areas

Objective E. Assure the Oregon City Municipal Code supports a balanced and connected multi-modal transportation system.

"Fundable"

Objectives

Objective A. Identify stable revenue sources for transportation investments to meet the needs of the City, as documented in the updated TSP.

Objective B. Consider costs and benefits when identifying project solutions and prioritizing public investments.

Objective C. Identify new funding sources to leverage high priority transportation projects.



Goal 5. Identify solutions and funding to meet system needs

The City will identify transportation investments that can be made with available funding to ensure that system needs can be delivered for growth planned within the community.

Evaluation Criteria

- Available funding sources exist to implement projects in a timely fashion
- Assumed project benefits exceed project costs

"Convenient and available"



Goal 6. Increase the convenience and availability of pedestrian, bicycle, and transit modes

Strengthen the pedestrian and bicycle systems in all areas of the city. In addition, identify areas that have existing or future transit-supportive densities and amenities and work with local transit providers such as TriMet, Canby Area Transit (CAT), South Clackamas Transportation District (SCTD), etc. to cost-effectively improve coverage and frequency to achieve greater ridership productivity.

Evaluation Criteria

- Adds bikeway and walkways that fill in system gaps, improve system connectivity, and are accessible to all users
- Improves access to transit facilities. Promotes transit as a viable alternative to the single occupant vehicle
- Improves the basic provision of services to encourage higher levels of usage for walking and biking trips

Objectives

Objective A. Identify projects to close gaps and address deficiencies in the pedestrian and bicycle system

Objective B. Provide safe, comfortable and convenient transportation options

Objective C. Identify necessary changes to land development code to ensure connectivity between compatible land uses for pedestrian and bicycle trips

Objective D. Identify areas that support additional transit services, and coordinate with transit providers to improve the coverage, quality and frequency of services

Objective E. Consider the potential access needs for candidate High Capacity Transit and frequent service bus routes

"Prosperity"

Objectives

Objective A. Freight access and truck travel reliability

Objective B. Increase the distribution of travel information to maximize the reliability and effectiveness of existing major roadway facilities

Objective C. Reinforce growth and multi-modal access to 2040 Target Areas

Objective D. Seek to advance travel strategies that are identified in the Metro Regional Mobility Corridors



Goal 7. Ensure the transportation system supports a prosperous and competitive economy

Support a prosperous and competitive economy by preserving and enhancing business opportunities, and ensuring the efficient movement of people and goods.

Evaluation Criteria

- Improves freight access/connectivity
- Implements strategies to provide stable and reliable auto and truck traffic flows on major facilities
- Improves access in the Metro 2040 Target Areas

"Compliant"



Goal 8. Comply with state and regional transportation plans

The City will meet the requirements of the Oregon Transportation Planning Rule, the Oregon Highway Plan, and the Metro 2035 Regional Transportation Plan (RTP) and Regional Functional Transportation Plan (RFTP).

Evaluation Criteria

- Compatible with other jurisdiction's plans and policies, (including adjacent cities, counties, Metro or ODOT)
- Consistent with the standards of the City, Region, and State as a whole.

Objectives

Objective A. Meet the mobility standards for state highways, or develop and propose alternative standards, consistent with Oregon Highway Plan provisions.

Objective B. Develop TSP policy and municipal code language to implement the TSP update.

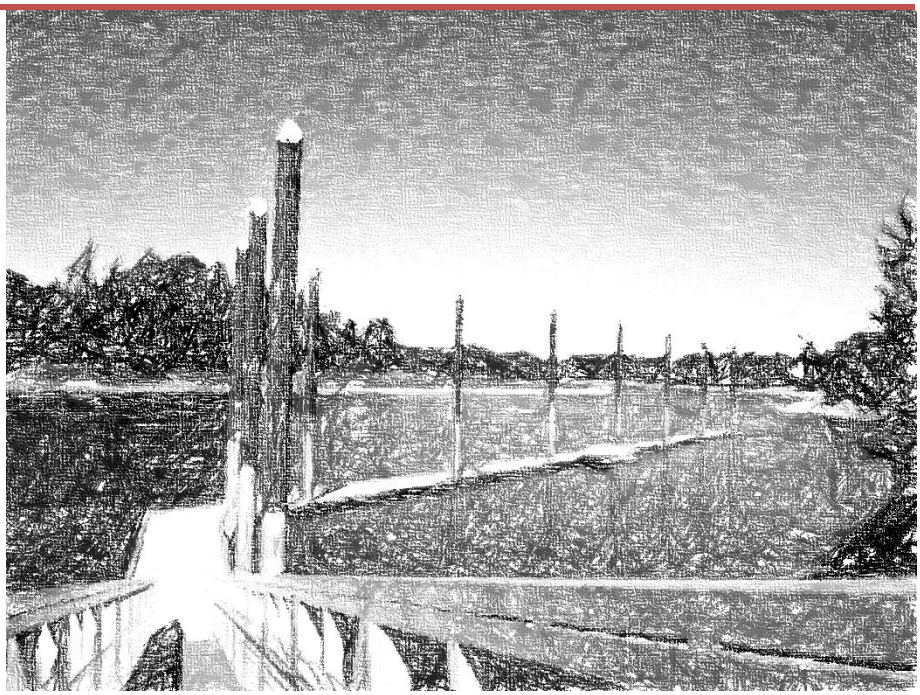
Objective C. Consider regional needs identified in the Metro RTP, including those identified with the mobility corridors.

Objective D. Consider and evaluate transportation solutions and strategies consistent with the guidelines and priorities of the Metro RFTP.


Section 3
THE TRENDS

the trends

Before we determined what investments were needed for the City's transportation system, we first looked at the current travel conditions, and then used the latest planning assumptions to forecast what future growth and travel trends might look like in 2035. We began by assuming that only the funded short-term construction projects would be built and no further investments would be made and then we considered how the system conditions would change with planned growth. The following sections explain where growth is expected, how the transportation system will perform and where solutions will be needed.



Snapshot of Oregon City in 2035

Today, Oregon City is home to over 13,000 households and accounts for over 14,500 jobs. Between now and 2035, household growth is expected to increase nearly 2.4 percent a year, slightly outpacing the rate of employment growth over the same period (2.3 percent). Oregon City is expected to be home to over 23,000 jobs almost 21,000 households by 2035, a 58 and 61 percent increase respectively from 2010. With more people and more jobs in Oregon City, the transportation network will face increased demands.

More People, More Jobs

As shown in Figure 3, much of the population and employment growth is expected to occur around the undeveloped edges of Oregon City. Employment growth is expected to be highest around the Oregon City Regional Center, including downtown Oregon City and the area bounded by the Clackamas River to the north, Abernethy Road on the south, OR 213 on the east and the Willamette River to the west. High employment growth is also anticipated to occur at the southeast end of the City, around OR 213 and Beavercreek Road.

Household growth is expected to be highest towards the south end of the City, along South End Road, Central Point Road, Leland Road and Meyers Road. High household growth is also expected to occur on the north and east side of the City, along Maple Lane Road, Holcomb Boulevard and Redland Road. Much of the planned growth along the edge of the City requires voter approval to bring these lands into the urban area

and the city limits. This represents roughly one quarter of the planned growth by 2035.

More Walking, Biking and Transit Usage

While there is great interest in developing forecasting models for bicycles and pedestrians, the traditional travel demand methodology used for predicting motor vehicle activity does not easily apply to bicycle and pedestrian travel for a number of reasons. Because the number of daily biking and walking trips in a community tend to be much smaller than the number of vehicular trips, data on walking and biking is typically too small to develop accurate models. Additionally, how people choose routes when they are walking or biking tends to be much more complicated than when they are driving (i.e., motorists tend to take the shortest routes while bicycles may trade directness to avoid a hill or travel on a lower volume street). The nature of bicycle and pedestrian travel and decision-making is not well understood, and is the subject of current national and local research efforts to incorporate bicycle and pedestrian travel into future traditional travel models.

Other sources of information on bicycle and pedestrian activity, such as the U.S. Census tend to undercount the actual number of walking and biking trips made in a community. This is because Census data focuses on the mode of travel used for work trips, which typically make up less than 20 percent of an individual's travel. In addition, the Census requires that respondents choose only one mode—the one used most often during the survey week. As a result, the Census does not capture the bicycle and pedestrian activity of people who bicycle or walk to access transit, to conduct personal business, to socialize, or for recreation.

Therefore, the future needs for walking, biking and transit in Oregon City were determined by reviewing major growth areas of the City and seeing how they were served by existing facilities. In addition, the areas of the City in close proximity to key destinations (such as schools, parks, transit stops, shopping and employment) that have the potential to attract significant walking and biking trips and areas with existing deficiencies were reviewed to determine locations for prioritized walking, biking or transit investments.

Areas of the City in close proximity to key destinations (such as schools, parks, transit stops, shopping and employment) that have the potential to attract significant walking and biking trips and areas with existing deficiencies were reviewed to determine locations for prioritized walking, biking or transit investments.

OREGON CITY TRANSPORTATION PLAN

FIGURE 3

Household and Employment Growth (2010 - 2035)

Legend

Household Growth between 2010 and 2035 (by Zone)

- Increase of less than 500 households
- Increase between 500 and 1,000 households
- Increase of more than 1,000 households

Job Growth between 2010 and 2035 (by Zone)

- Increase of less than 500 jobs
- Increase between 500 and 1,000 jobs
- Increase of more than 1,000 jobs

- # Zone Number
- Zone
- River
- Planned Roadways
- Railroad
- City Limit
- Urban Growth Boundary

West Linn

Oregon City

N

Estimating Future Travel

A determination of future transportation system needs in Oregon City requires the ability to accurately forecast travel demand resulting from estimates of future population and employment for the City and the rest of the Metro region.

The travel demand forecasting process generally involves estimating travel patterns for new development based on the decisions and preferences demonstrated by existing residents, employers and institutions around the region.

More information on the travel demand forecasting process can be found in the TSP Volume 2, Sections E and F.

More Driving

With more jobs and people, the street network in Oregon City must cope with an additional 21,000 motor vehicle trips during the evening peak hour (see Table A1 in the TSP Volume 2, Section G). Today, the street network in Oregon City is generally able to handle the estimated 33,000 evening peak hour vehicle trips. However, these trips are expected to increase by 3 percent a year, surpassing 54,000 trips by 2035.

Figure 4 shows the estimated increase in motor vehicle trips on the street network during the evening peak hour. As shown, much of the increased demand is expected along the regional roadways, such as I-205, OR 99E and OR 213. These roadways generally connect the Portland Metropolitan area to the employment areas in Oregon City. Other roadways that are expected to see significant traffic increases (according to the Metro travel demand model) include Abernethy Road, Beavercreek Road, Holly Lane, Maple Lane Road, Molalla Avenue, Redland Road and South End Road. Each of these roadways connects a major residential and/or employment growth area in the City to the regional roadway network.

More Congestion

More travel means more congestion. Travel activity as reflected by evening peak hour motor vehicle trips beginning or ending in Oregon City, is expected to increase by 75 percent through 2035. Through travel, or trips that do not begin or end in Oregon City, is also expected to increase through 2035 and is generally representative of growth in Cities such as Molalla and Canby. Figure 5 shows the expected locations that will experience average travel speeds well below the posted limits on the street network in Oregon City, where most of the congestion is expected to be along the regional roadways, such as I-205, OR 99E and OR 213. Congestion on I-205 and OR 213 would generally have less of an impact on Oregon City compared to that on OR 99E. When OR 99E is congested it has more of an impact on surface street circulation around Downtown Oregon City and could potentially detract from shopping or other retail uses in the area. Other roadways that are expected to experience average travel speeds well below the posted limits during the evening include Beavercreek Road, Maple Lane Road, Redland Road and Washington Street.

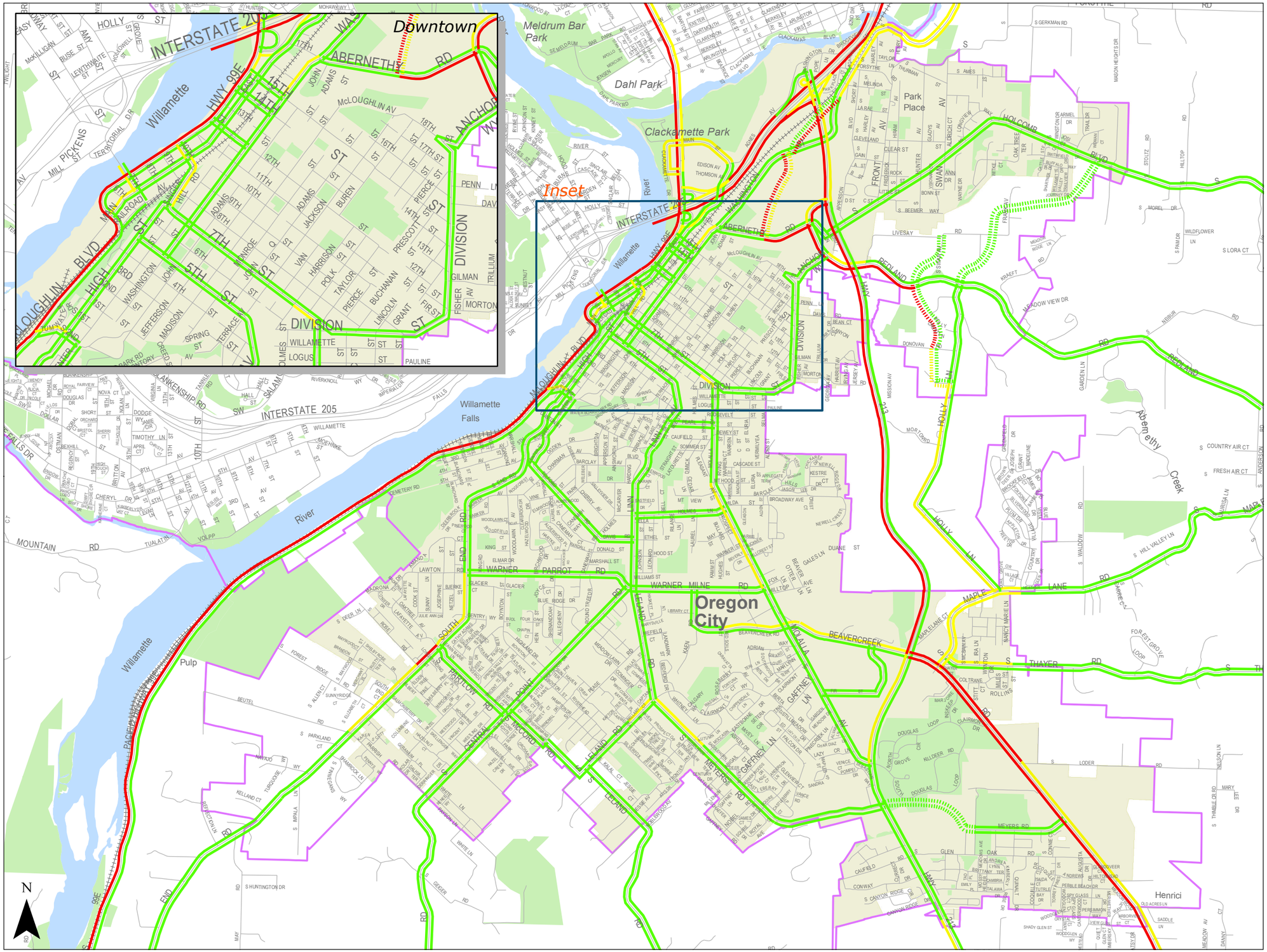


FIGURE 4

Motor Vehicle Travel Growth (P.M. Peak)

Legend

Roadway Traffic Volume Increase from 2010 to 2035

- Highest Growth in Traffic Volumes (increase of more than 500 vehicles during the p.m. peak hour)
- Moderate Growth in Traffic Volumes (increase between 250 and 500 vehicles during the p.m. peak hour)
- Smallest Growth in Traffic Volumes (less than 250 additional vehicles during the p.m. peak hour)
- River
- Parks and Open Spaces
- Planned Roadways (Conceptual Alignment)
- Railroad
- City Limit
- Urban Growth Boundary

Note: Motor vehicle volumes on the roadways in Oregon City generally peak during the evening between 3:25 p.m. and 5:10 p.m.

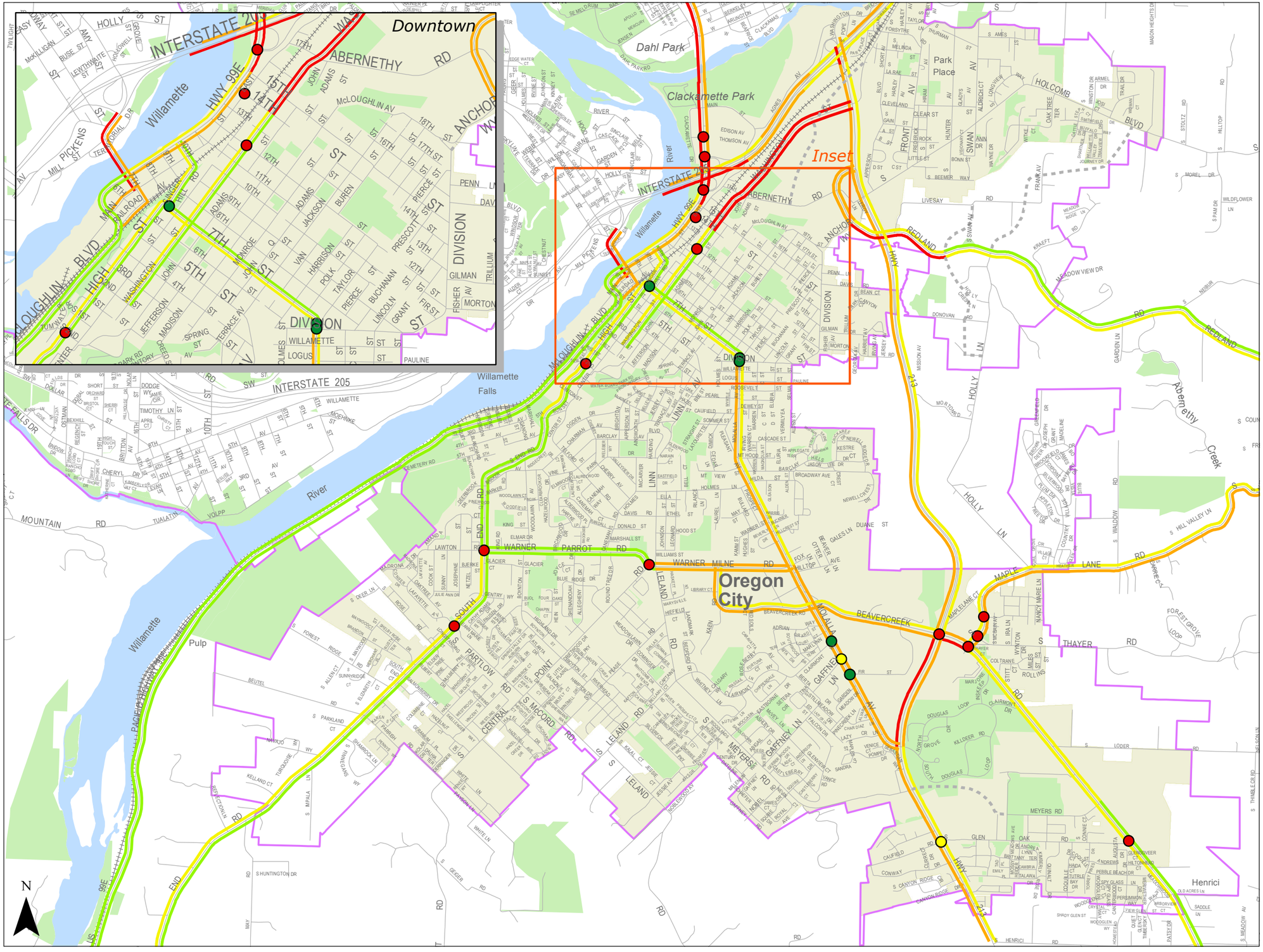




FIGURE 5

2035 Baseline Motor Vehicle Operating Conditions (P.M. Peak)

Legend

2035 Roadway Travel Speed compared to Posted Speed

- Congested, well below speed limit
- Slowing, well below speed limit
- Slowing, but near speed limit
- Uncongested, near speed limit

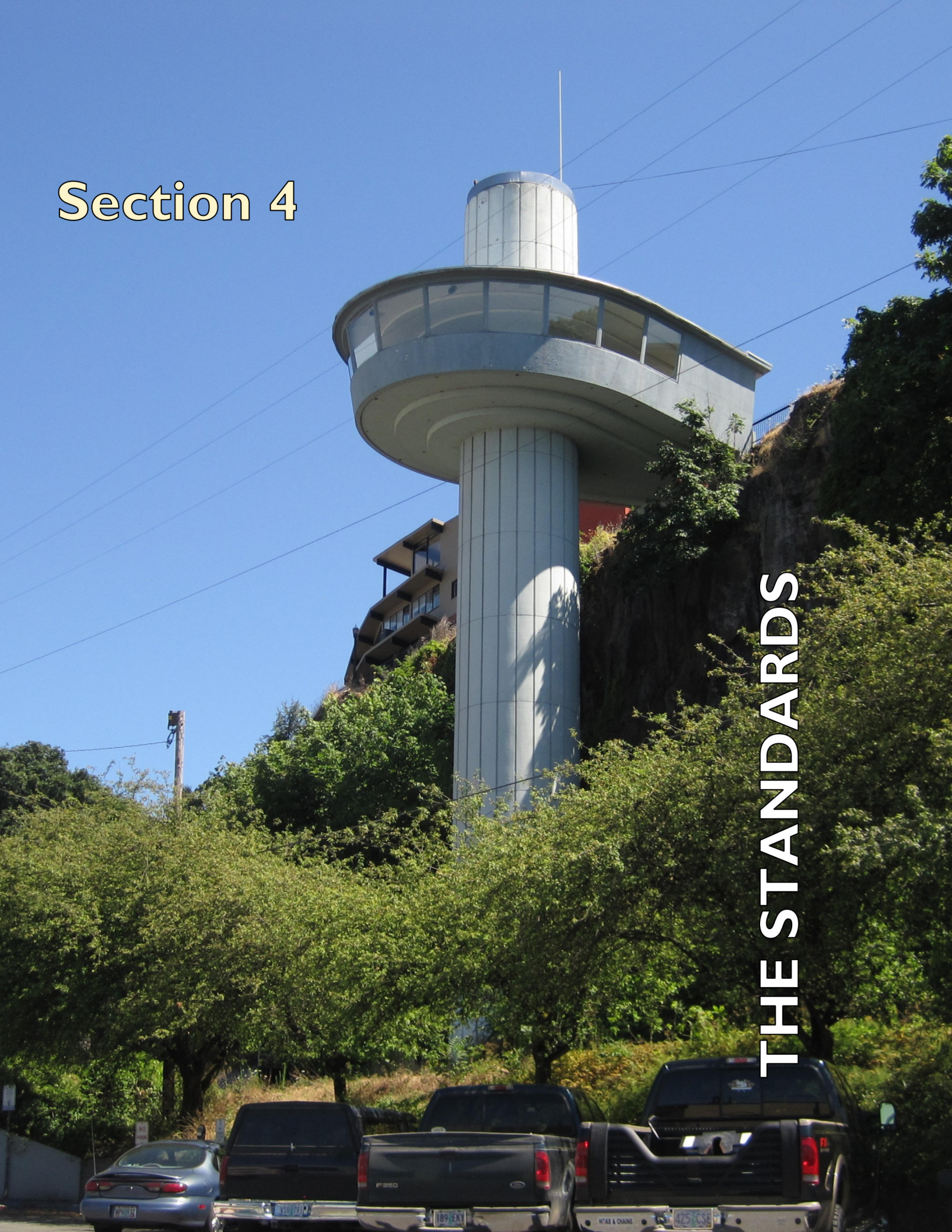
2035 Baseline Intersection Operations

- Good
- Marginal
- Substandard

- River
- Parks and Open Spaces
- Baseline Planned Roadways
- Railroad
- City Limit
- Urban Growth Boundary

Note: Motor vehicle volumes on the roadways in Oregon City generally peak during the evening between 3:25 p.m. and 5:10 p.m.

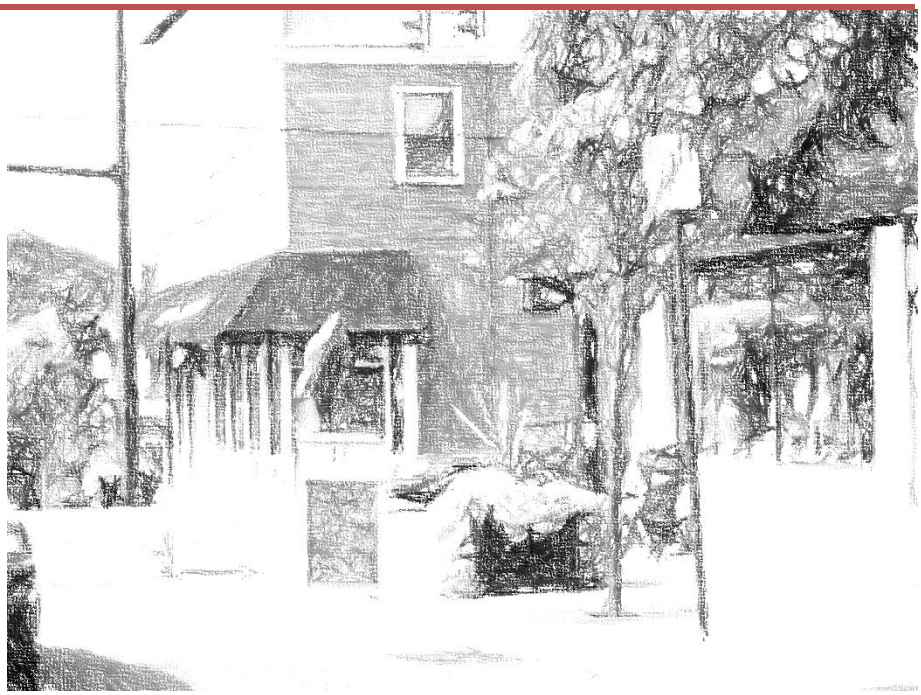
Section 4



THE STANDARDS

the standards

Now that we have established our vision for the transportation system in Oregon City, we must develop standards and regulations to ensure future development or redevelopment of property is consistent with the vision.



Multi-Modal Street System

Traditional roadway designs focus on the safety and flow of motor vehicle traffic. The one size fits all design approach is less effective at integrating the roadway with the character of the surrounding area and addressing the needs of other users of a roadway. For instance, the design of an arterial roadway through a commercial area has often traditionally been the same as one through a residential neighborhood, both primarily focused on the movement of motor vehicles.

Oregon City recognizes that all roadways within the City should be multi-modal or "complete streets", with each street serving the needs of the various travel modes. The City also realizes that not all streets should be designed the same. To account for this, Oregon City classified the street system into a hierarchy organized by function and street type (representative of their places). These classifications ensure that the streets reflect the neighborhood through which they pass, consisting of a scale and design appropriate to the character of the abutting properties and land uses. The classifications also provide for and balance the needs of all travel modes including pedestrians, bicyclists, transit riders, motor vehicles and freight. Within these street classifications, context sensitive design may result in alternative cross-sections. The Oregon City multi-modal street system can be seen in Figure 6.

More detail on the multi-modal street system and design type of streets can be found in the TSP Volume 2, Section C.

Multi-Modal Street Function

Functional classification of roadways is a common practice in the United States. Traditionally, roadways are classified based on the type of vehicular travel it is intended to serve (local versus through traffic). In Oregon City, the functional classification of a roadway (shown in Figure 6) determines the level of mobility for all travel modes, defining its design characteristics (such as minimum amount of travel lanes), level of access and usage within the City and region. The street functional classification system recognizes that individual streets do not act independently of one another but instead form a network that works together to serve travel needs on a local and regional level. From highest to lowest intended usage, the classifications are freeway, expressway, major arterials, minor arterials, collectors and local streets. Roadways with a higher intended usage generally provide more efficient motor vehicle traffic movement (or mobility) through the City, while roadways with lower intended usage provide greater access for shorter trips to local destinations.

Multi-Modal Street Type

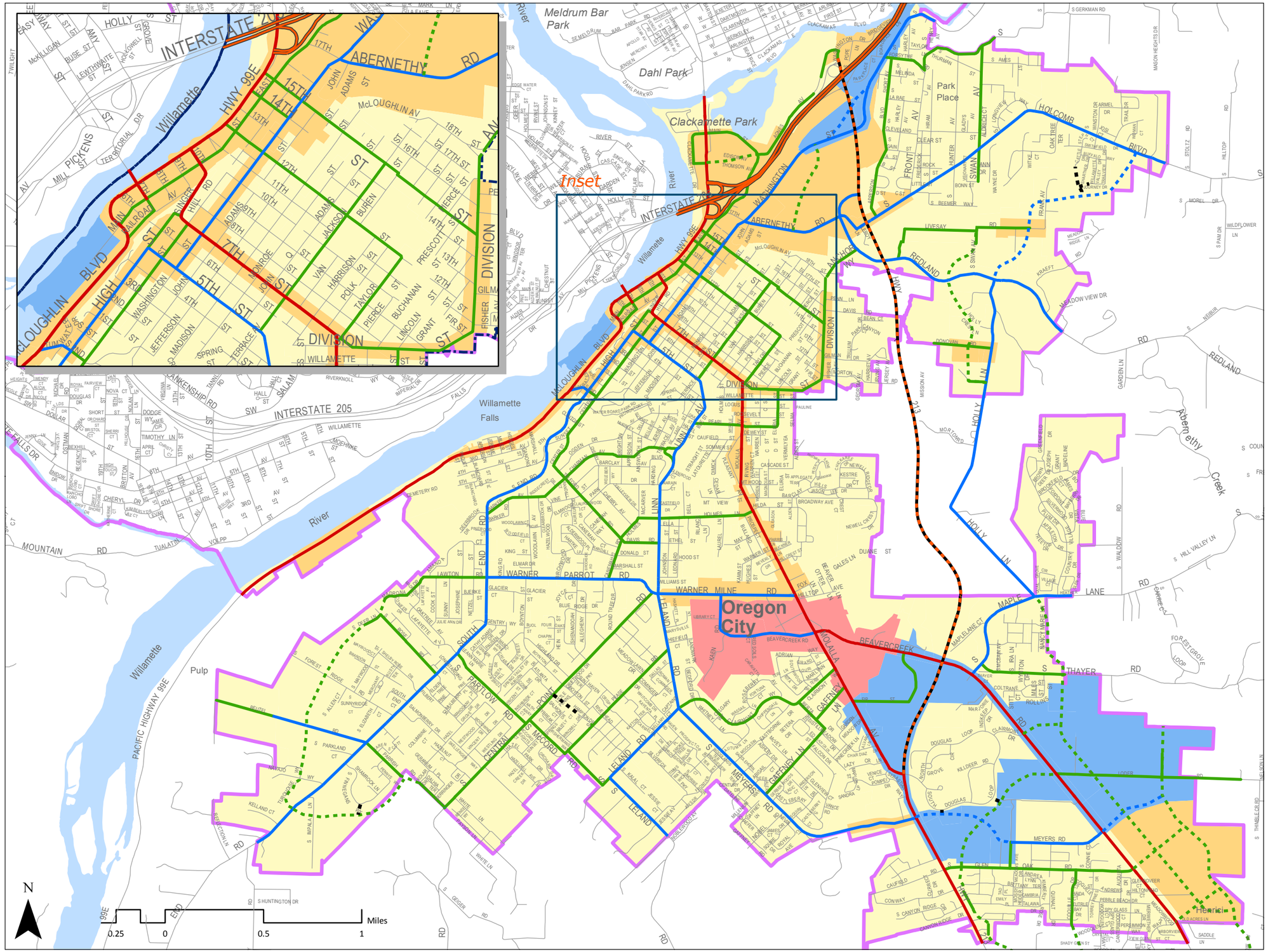
Oregon City further classifies the roadways within the City based on the neighborhood it serves and the intended function for pedestrians, bicyclists and transit riders in that specific area. Within the context of Oregon City's "complete street" system that will serve all modes, the street type of a roadway defines its cross-section characteristics and determines how users of a roadway interact with the surrounding land use. Since the type and intensity of adjacent land uses and zoning directly influence the level of use by pedestrians, bicyclists and transit riders, the design of a street (including its intersections, sidewalks, and transit stops) should reflect its surroundings.

The street types attempt to strike a balance between street functional classification, adjacent land use, zoning designation and the competing travel needs by prioritizing various design elements. Five street types were designated in Oregon City:

- **Mixed-Use Streets** typically have a higher amount of pedestrian activity and are often on a transit route. These streets should emphasize a variety of travel choices such as pedestrian, bicycle and transit use to complement the development along the street. Since mixed-use streets typically serve pedestrian oriented land uses, walking should receive the highest priority of all the travel modes. They should be designed with features such as wider sidewalks, pedestrian amenities, transit amenities, attractive landscaping, on-street parking, pedestrian crossing enhancements and bicycle lanes.
- **Residential Streets** are generally surrounded by residential uses, although various small shops may be embedded within the neighborhood. These streets often connect neighborhoods to local parks, schools and mixed-use areas. They should be designed to emphasize walking, while still accommodating the needs of bicyclists and motor vehicles. A high priority should be given to design elements such as traffic calming, landscaped buffers, walkways/ pathways/ trails, on-street parking and pedestrian safety enhancements.
- **Commercial/ Employment Streets** are primarily lined with retail and large employment complexes. These uses serve customers throughout the City and

region and may not have a direct relationship with nearby residential neighborhoods. Buildings are typically set back behind parking lots. These streets are somewhat more auto-oriented, but should still accommodate pedestrians and bicyclists safely and comfortably. Design features should include landscaped medians or a two-way left turn lane, sidewalks and bike lanes, pedestrian crossing enhancements and a buffer between the roadway and the sidewalk. On-street parking should be discouraged.

- **Industrial Streets** serve industrial areas. These streets are designed to accommodate a high volume of large vehicles such as trucks, trailers and other delivery vehicles. Pedestrians and bicyclists may be less frequent in these areas, but should still be accommodated safely and comfortably. Roadway widths are typically wider to accommodate larger vehicles. On-street parking should be discouraged.
- **Constrained Streets** are generally located in steep, environmentally sensitive, rural, historic, or development limited areas of the City. These streets may require different design elements that may not be to scale with the adjacent land use. Constrained elements may include narrower or limited travel lanes, and pedestrian and bicycle facilities, or accommodations that generally match those provided by the surrounding developed land uses. To the extent possible, pedestrian and bicycle accommodations should be provided on an adjacent roadway, via a shared-use path or shared within the right-of-way using distinctive design details.


Inset
Meldrum Bar Park
Dahl Park
Clackamette Park
Park Place
Willamette Falls
Oregon City
Willamette River
INTERSTATE 205
INTERSTATE 205
HWY 99E
ABERNETHY RD
McLOUGHLIN AV
McLOUGHLIN BLVD
WASHINGTON ST
DIVISION ST
WILLAMETTE ST
HIGH ST
7TH ST
5TH ST
12TH ST
14TH ST
15TH ST
17TH ST
18TH ST
JOHN ADAMS ST
MAIN ST
RAILROAD AV
RINGER AV
HILL RD
ADAMS ST
JACKSON ST
BURIEN ST
PRESCOTT ST
FISHER ST
GILMORE AV
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TERRACE ST
DIVISION ST
WILLAMETTE ST
FISHER ST
GILMORE AV
PRESCOTT ST
12TH ST
13TH ST
14TH ST
15TH ST
17TH ST
18TH ST
WASHINGTON ST
JOHN ADAMS ST
4TH ST
5

Design Types of Streets

Design of the streets in Oregon City requires attention to many elements of the public right-of-way and considers how the street interacts with the adjoining properties. The four zones that comprise the cross-section of streets in Oregon City, including the context zone, walking zone, biking/on-street parking zone and driving zone, are shown in Figure 7. The design of these zones varies based on the functional classification and street type. Overall, there are 16 different design types and four constrained options for streets, ranging from Mixed-Use Major Arterial to Constrained Local Street. Note that a design type is not available for limited access roadways classified as Freeway or Expressway. The design criteria for streets can be seen in Table 1, 2, 3, and 4. The City may also reduce or eliminate lower-priority design elements of the street (as determined by Table 5) along constrained streets located in steep, environmentally sensitive, rural, historic, or development limited areas of the City.

- **Context Zone:** The context zone is the point at which the sidewalk interacts with the adjacent buildings or private property. The purpose of this zone is to provide a buffer between land use adjacent to the street and to ensure that all street users have safe interactions.
- **Walking Zone**: This is the zone in which pedestrians travel. The walking zone is determined by the street type and should be a high priority in mixed-use and residential areas. It includes a minimum five foot clear throughway for walking, an area for street furnishings or landscaping (e.g. benches, transit stops and/or plantings) and a clearance distance between curbside on-street parking and the street furnishing area or landscape strip (so parking vehicles or opening doors do not interfere with street furnishings and/or landscaping). Streets located along a transit route should incorporate furnishings to support transit ridership, such as transit shelters and benches, into the furnishings/landscape strip adjacent to the biking/on-street parking zone.
- **Biking/On-Street Parking Zone:** This is the zone for biking and on-street parking, and is the location where users will access transit. It should include minimum 6 foot bike lanes. The biking/on-street parking zone is determined by the street type and in some cases the functional classification (such as in residential areas) and should be a high priority in mixed-use and residential

Figure 7: The Components of Oregon City Streets



areas. Mixed use areas should include a minimum 6 foot striped bike lane with on-street parking. Residential areas should include a 10 to 11 foot shared access lane with on-street parking on arterials and a 6 foot striped bike lane with on-street parking on collectors. Streets in commercial/employment or industrial areas should include minimum 6 foot bike lanes, with no on-street parking.

- **Driving Zone:** This is the throughway zone for drivers, including cars, buses and trucks and should be a high priority in commercial/employment and industrial areas. The functional classification of the street generally determines the number of through lanes, lane widths, and median and left-turn lane requirements. However, the route designations (such as transit street or freight route) take presentence when determining the appropriate lane width in spite of the functional classification. Wider lanes (between 13 to 14 feet) should only be used for short distances as needed to help buses and trucks negotiate right-turns without encroaching into adjacent or opposing travel lanes. Streets that require a raised median should include a minimum 6 foot wide pedestrian refuge at marked crossings. Otherwise, the median can be reduced to a minimum of 4 feet at midblock locations, before widening at intersections for left-turn lanes (where required or needed).

Spacing Standards

Access spacing along Oregon City streets will be managed through access spacing standards. Access management is a broad set of techniques that balance the need to provide efficient, safe, and timely travel with the ability to allow access to individual destinations. Proper implementation of access management techniques will promote reduced congestion and accident rates, and may lessen the need for additional highway capacity.

Tables 1 through 4 identify the minimum and maximum public street intersection and minimum private access spacing standards for streets in Oregon City. Within developed areas of the City, streets not complying with these standards could be improved with strategies that include shared access points, access restrictions (through the use of a median or channelization islands) or closed access points as feasible. New streets or redeveloping properties must comply with these standards, to the extent practical (as determined by the City).

This table has been updated in the
Draft Amendments to the Oregon City Municipal Code.

Table 1: Design Criteria for Major Arterial Streets

	Mixed-Use	Commercial/ Employment	Industrial	Residential
Context Zone				
Frontage (For hedges, awnings, planters, merchandise displays and outdoor seating)	Required 3 to 6 ft.	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot
Maximum Block Size (Public Street to Public Street)	530 ft.*	1,320 ft.	1,320 ft.	530 ft.*
Minimum Block Size (Public Street to Public Street)	350 ft.	500 ft.	500 ft.	350 ft.
Minimum Driveway Spacing (Public Street to Driveway and Driveway to Driveway)	175 ft.	225 ft.	225 ft.	175 feet (none on Access Lane
Maximum Distance between Pedestrian Crossings (pedestrian signals or high-visibility markings)	As needed**	As needed**	As needed**	As needed**
Walking Zone				
Recommended Walking Zone Width	15.5 ft.	13.5 ft.	13.5 ft.	11.5 ft.
Walking Facility (throughway)	8 ft. sidewalk	5 ft. sidewalk	5 ft. sidewalk	5 ft. sidewalk
Minimum Furnishings/Landscape Strip Width	6 ft. tree well	8 ft. bioswale	8 ft. bioswale	5 ft. landscape strip
Edge (Clearance between Curb and Furnishings/Landscape Strip)	1.5 ft.	0.5 ft.	0.5 ft.	1.5 ft.
Recommended Street Lighting	Intersection safety lighting, basic street lighting and pedestrian–scaled lighting.			
Biking/On-Street Parking Zone				
Recommended Biking/ On-Street Parking Zone Width	14 ft.	6 ft.	6 ft.	17 ft. Access Lane***
Biking Facility	6 ft. Bike Lanes	6 ft. Bike Lanes	6 ft. Bike Lanes	10 to 11 ft. Shared Access Lane
On-Street Parking Width	8 ft.	None	None	7 ft. on Access Lane
Driving Zone				
Through Lanes	2 to 4 lanes	2 to 4 lanes	2 to 4 lanes	2 to 4 lanes
Lane Width	12 ft.	12 ft.	12 to 14 ft.	12 ft.
Median (To be used for landscaping or pedestrian crossing refuge)	Required 4 to 6 ft.	Required 4 to 6 ft.	Required 4 to 6 ft.	Required 4 to 6 ft. on Access and Through Lanes
Left-Turn Lanes	Required 12 ft.	Required 14 ft.	Required 14 ft.	Required 12 ft.

*If the maximum block size is exceeded, pedestrian crossings must be provided every 330 feet.
**Pedestrian crossings should not be spaced more than 330 feet apart in areas with transit stops, residential uses, schools, parks, shopping and employment destinations, unless the crossings cannot be safely implemented.
***Access lane may be on one, both, or neither side of the street, depending on the access needs of the abutting land use.

This table has been updated in
the Draft Amendments to the Oregon City Municipal Code

Table 2: Design Criteria for Minor Arterial Streets

	Mixed-Use	Commercial/ Employment	Industrial	Residential
Context Zone				
Frontage (For hedges, awnings, planters, merchandise displays and outdoor seating)	Required 3 to 6 ft.	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot
Maximum Block Size (Public Street to Public Street)	530 ft.	1,320 ft.	1,320 ft.	530 ft.
Minimum Block Size (Public Street to Public Street)	265 ft.	400 ft.	400 ft.	265 ft.
Minimum Spacing (Public Street to Driveway and Driveway to Driveway)	175 ft.	225 ft.	225 ft.	175 ft. (none on access lane)
Maximum Distance between Pedestrian Crossings (pedestrian signals or high-visibility markings)	330 ft.*	As needed**	As needed**	330 ft.*
Walking Zone				
Recommended Walking Zone Width	15.5 ft.	13.5 ft.	13.5 ft.	11.5 ft.
Walking Facility (throughway)	8 ft. sidewalk	5 ft. sidewalk	5 ft. sidewalk	5 ft. sidewalk
Minimum Furnishings/Landscape Strip Width	6 ft. tree well	8 ft. bioswale	8 ft. bioswale	5 ft. landscape strip
Edge (Clearance between Curb and Furnishings/Landscape Strip)	1.5 ft.	0.5 ft.	0.5 ft.	1.5 ft.
Recommended Street Lighting	Intersection safety lighting, basic street lighting and pedestrian–scaled lighting.			
Biking/On-Street Parking Zone				
Recommended Biking/ On-Street Parking Zone Width	14 ft.	6 ft.	6 ft.	17 ft. Access Lane***
Biking Facility	6 ft. Bike Lanes	6 ft. Bike Lanes	6 ft. Bike Lanes	10 to 11 ft. Shared Access Lane
On-Street Parking Width	8 ft.	None	None	7 ft. on Access Lane
Driving Zone				
Through Lanes	2 lanes	2 to 4 lanes	2 to 4 lanes	2 lanes
Lane Width	11 to 12 ft.	11 to 12 ft.	12 ft.	11 to 12 ft.
Median (To be used for landscaping or pedestrian crossing refuge)****	Optional 4 to 6 ft.	Required 4 to 6 ft.	Required 4 ft. Striped	Required 4 to 6 ft. on Access Lanes, Optional on Through Lanes
Left-Turn Lanes	Required 11 to 12 ft.	Required 11 to 12 ft.	Required 12 ft.	Required 11 to 12 ft.

*Maximum distance may be exceeded with proper justification showing that crossings cannot be safely implemented.
**Pedestrian crossings should not be spaced more than 330 feet apart in areas with transit stops, residential uses, schools, parks, shopping and employment destinations, unless the crossings cannot be safely implemented.
***Access lane may be on one, both, or neither side of the street, depending on the access needs of the abutting land use.
****Median should be raised, unless noted otherwise

This table has been updated in the
Draft Amendments to the Oregon City Municipal Code

Table 3: Design Criteria for Collector Streets

	Mixed-Use	Commercial/ Employment	Industrial	Residential
Context Zone				
Frontage (For hedges, awnings, planters, merchandise displays and outdoor seating)	Required 3 to 6 ft.	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot
Maximum Block Size (Public Street to Public Street)	530 ft.	800 ft.	800 ft.	530 ft.
Minimum Block Size (Public Street to Public Street)	265 ft.	300 ft.	300 ft.	265 ft.
Minimum Spacing (Public Street to Driveway and Driveway to Driveway)	100 ft.	150 ft.	150 ft.	100 ft.
Maximum Distance between Pedestrian Crossings (high-visibility markings)	330 ft.*	As needed**	As needed**	330 ft.*
Walking Zone				
Recommended Walking Zone Width	15.5 ft.	13.5 ft.	13.5 ft.	11.5 ft.
Walking Facility (throughway)	8 ft. sidewalk	5 ft. sidewalk	5 ft. sidewalk	5 ft. sidewalk
Minimum Furnishings/Landscape Strip Width	6 ft. tree well	8 ft. bioswale	8 ft. bioswale	5 ft. landscape strip
Edge (Clearance between Curb and Furnishings/Landscape Strip)	1.5 ft	0.5 ft.	0.5 ft.	1.5 ft
Recommended Street Lighting	Intersection safety lighting, basic street lighting and pedestrian–scaled lighting.			
Biking/On-Street Parking Zone				
Recommended Biking/ On-Street Parking Zone Width	14 ft.	6 ft.	6 ft.	13 ft.
Biking Facility	6 ft. Bike Lanes	6 ft. Bike Lanes	6 ft. Bike Lanes	6 ft. Bike Lanes
On-Street Parking Width	8 ft.	None	None	7 ft.
Driving Zone				
Through Lanes	2 lanes	2 lanes	2 lanes	2 lanes
Lane Width	10 to 11 ft.	11 to 12 ft.	12 ft.	10 to 11 ft.
Median	None	None	As needed 4 ft. Striped	None
Left-Turn Lanes	Optional 10 to 11 ft.	Optional 11 to 12 ft.	Optional 12 ft.	Optional 10 to 11 ft.

*Maximum distance may be exceeded with proper justification showing that crossings cannot be safely implemented.
**Pedestrian crossings should not be spaced more than 330 feet apart in areas with transit stops, residential uses, schools, parks, shopping and employment destinations, unless the crossings cannot be safely implemented.

This table has been updated in the
Draft Amendments to the Oregon City Municipal Code.

Table 4: Design Criteria for Local Streets

	Mixed-Use	Commercial/ Employment	Industrial	Residential
Context Zone				
Frontage (For hedges, awnings, planters, merchandise displays and outdoor seating)	Required 3 to 6 ft.	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot	Required 2 to 3 ft. hedge when sidewalk abuts a parking lot
Maximum Block Size (Public Street to Public Street)	530 ft.	530 ft.	530 ft.	530 ft.
Minimum Block Size (Public Street to Public Street)	150 ft.	150 ft.	150 ft.	150 ft.
Minimum Spacing (Public Street to Driveway and Driveway to Driveway)	None	None	None	None
Maximum Distance between Pedestrian Crossings (high-visibility markings)	330 ft.*	330 ft.*	330 ft.*	330 ft.*
Walking Zone				
Recommended Walking Zone Width	15.5 ft.	10.5 ft.	10.5 ft.	11.5 ft.
Walking Facility (throughway)	8 ft. sidewalk	5 ft. sidewalk	5 ft. sidewalk	5 ft. sidewalk
Minimum Furnishings/Landscape Strip Width	6 ft. tree well	5 ft. landscape strip	5 ft. landscape strip	5 ft. landscape strip
Edge (Clearance between Curb and Furnishings/Landscape Strip)	1.5 ft	0.5 ft.	0.5 ft.	1.5 ft
Recommended Street Lighting	Intersection safety lighting, basic street lighting and pedestrian–scaled lighting.			
Biking/On-Street Parking Zone				
Recommended Biking/ On-Street Parking Zone Width	8 ft.	0 ft.	0 ft.	7 ft.
Biking Facility	Shared Lanes	Shared Lanes	Shared Lanes	Shared Lanes
On-Street Parking Width	8 ft.	None	None	7 ft.
Driving Zone				
Through Lanes	2 lanes	2 lanes	2 lanes	2 lanes
Lane Width	10 to 11 ft.	11 to 12 ft.	12 ft.	10 to 11 ft.
Median	None	None	As needed 4 ft. Striped	None
Left-Turn Lanes	None	None	None	None

*Maximum distance may be exceeded with proper justification showing that crossings cannot be safely implemented.

This has been updated in the
Draft Amendments to the Oregon City Municipal Code.

The following steps should be used to determine the optimum cross-section for a street:

1. Determine the functional classification and street type based on Figure 6 (Multi-modal Street System). Review Table 1, 2, 3, or 4 to establish the general parameters for the cross-section (such as median width, and context, walking, biking and parking requirements).
2. Review the spacing requirements established for the context zone in Table 1, 2, 3, or 4. Newly constructed or significantly modified streets should comply with the driveway spacing, maximum block size and pedestrian crossing standards to the extent possible.
3. Determine if left-turn lanes are required as established in Table 1, 2, 3, or 4. If required, determine the number of turn lanes needed at intersections via intersection capacity analysis. Intersection design should generally try to minimize pedestrian crossing distance, especially in mixed use and residential areas. If more than one turn-lane is warranted, consider the trade-offs between improved driving mobility and increased crossing distance.
4. Determine the preliminary number of through travel lanes by reviewing the TSP. In general, most streets in Oregon City should have two to four through lanes. More than two through lanes should only be considered if the street and parallel routes cannot effectively accommodate the travel demand.
5. Determine if the street is located along a regional truck route, local truck route or a transit route. If not, the lane width can be reduced to the minimum as established in Table 1, 2, 3, or 4. If the street is a transit route but not a truck route, the lane width can be reduced to a minimum of 11 feet, or the minimum lane width as established in Table 1, 2, 3, or 4, whichever is higher.
6. If the street is located along a transit route, determine the furnishings needed in the walking zone to support ridership, such as transit shelters and benches. Establish the appropriate widths for each and incorporate into the design of the furnishings/landscape strip element.
7. Determine the overall cross-section of the street based on the accumulated width of the design elements (e.g., frontage, biking and walking facilities, furnishings/ landscape strip, edge, parking, travel lanes and median) and compare to the available right-of-way:

- If the cross-section is wider than the right-of-way, identify whether right-of-way acquisition is necessary or whether design elements can be narrowed (as determined by the City). When designing in constrained rights-of-way, identify the components of the street that constitute an ideal cross-section (as shown in Table 5), and reduce the width of or eliminate lower-priority elements as determined by the City. The modified design elements may not be to scale with the adjacent land use.
- If the street is located in steep, environmentally sensitive, rural, historic, or development limited areas of the City (these areas are to be determined by the City), constrained design elements can be considered in coordination with the City. These design elements may be consistent with adjacent developed areas, but may not be to scale with the adjacent land use.

Table 5: Priority of Street Components

Zone	Mixed-Use	Commercial/ Employment	Industrial	Residential
Context Zone	Medium Priority	Medium Priority	Medium Priority	Medium Priority
Walking Zone	Highest Priority	Medium Priority	Medium Priority	Highest Priority
Biking/On-Street Parking Zone	High Priority	Medium Priority	Medium Priority	High Priority
Driving Zone	Lowest Priority	Highest Priority	Highest Priority	Lowest Priority

Multi-Modal Connectivity

The aggregate effect of local street design impacts the effectiveness of the regional system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the regional network.[1] Therefore, streets should be designed to keep through motor vehicle trips on arterial streets and provide local trips with alternative routes. Street system connectivity is critical because roadway networks provide the backbone for bicycle and pedestrian travel in the region. Metro's local street connectivity principal encourages communities to develop a connected network of local streets to provide a high level of access, comfort, and convenience for bicyclists and walkers that travel to and among centers.

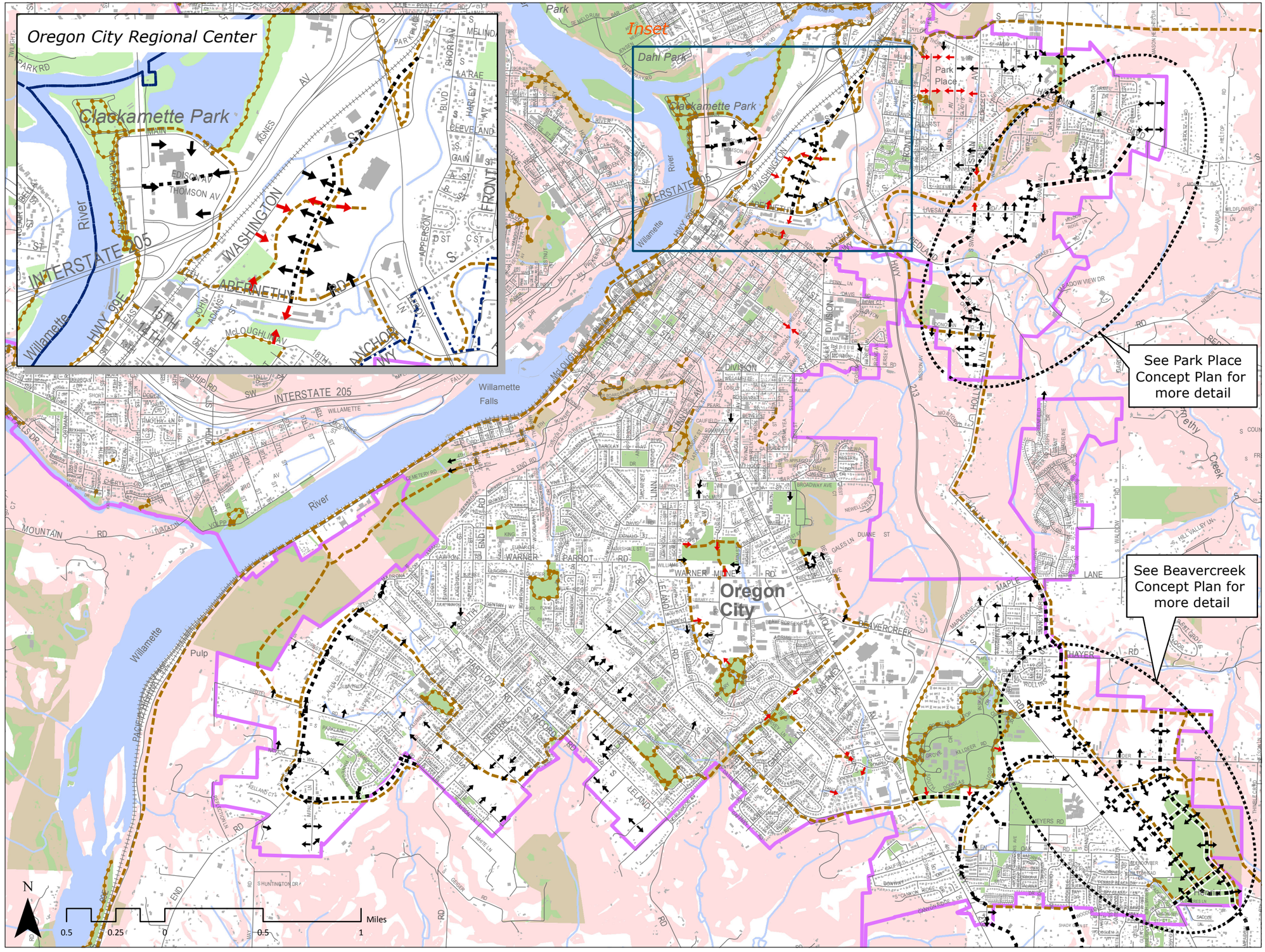
A multi-modal connectivity plan for Oregon City is shown in Figure 8. It specifies the general location where new streets or shared-use paths could potentially be installed as nearby areas are developed or as the opportunity arises. The purpose of the plan is to ensure that new developments accommodate circulation between adjacent neighborhoods to improve connectivity for all modes of transportation.

Truck Routes

Truck routes were designated in Oregon City to ensure trucks can efficiently travel through and access major destinations in the City. Efficient truck movement plays a vital role in the economical movement of raw materials and finished products. The designation of through truck routes provides for this efficient movement, while at the same time maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. ODOT has identified I-205 as a freight route through Oregon City. While OR 99E is not classified by ODOT as a freight route, it is designated as a truck route by the federal government.

Much of the freight activity in Oregon City will be related to the employment land. Designated employment land is located near the southeast corner of the City along OR 213, Beavercreek Road and Molalla Avenue. Freight activity is also generated within the Oregon City Regional Center. To allow for efficient movement between these designated areas and regional freight routes, Metro has classified several roadways in the City as freight connectors. The connector roadways link I-205 with the employment areas and include OR 213, Beavercreek Road and OR 99E. Oregon City will designate these streets as local truck routes to ensure freight is adequately accommodated in the City. The Oregon City truck routes can be seen in Figure 9.

[1] Metro 2035 Regional Transportation Plan, Local Street Network Concept



OREGON CITY TRANSPORTATION PLAN

FIGURE 8

Multi-Modal Connectivity Plan

Legend

Street Connectivity

- Existing Street
- Planned Roadway Extension (Conceptual Alignment)
- Potential Street Extension

Trail Connectivity

- Existing Shared-Use Path
- Planned Shared-Use Path (Conceptual Alignment)
- Potential Trail Connection

- Steep Slope
- Building
- Stream
- River
- Park/Public Property
- Urban Growth Boundary
- Railroad

OREGON CITY TRANSPORTATION PLAN

FIGURE 9

Truck Routes

Legend

Truck Routes

- ODOT Freight Route
- Federal Truck Route
- Local Truck Route
- Planned Local Truck Route (Conceptual Alignment)

- River
- Parks and Open Spaces
- Planned Street (Conceptual Alignment)
- Railroad
- City Limit
- Urban Growth Boundary

N

0.5 0.25 0 0.5 1 Miles

Mobility Standards

Establishing new mobility standards for streets and intersections in Oregon City will provide the City more flexibility in the future with regards to how funds are allocated for intersection and roadway improvements. By allowing more flexibility in the mobility standards, the City will help encourage a sustainable transportation system (consistent with the TSP Update Goal 5) and will allow funds to be focused on higher priority multi-modal improvements rather than driving-focused improvements at locations that are operating below capacity but over the City standard.

In the past, streets were often designed to accommodate the traffic demand during a one-hour peak period without consideration to how wider streets and intersections may impact walking and biking. Having a mobility standard that encourages this is not sustainable, from a fiscal and environmental perspective. The new mobility standard recommended in Oregon City will allow more congestion during the peak period of travel, but will allow safer and more comfortable streets for multi-modal travel. The following mobility standards are recommended for non-state owned streets in Oregon City for the two-hour peak operating conditions. They should be applied to the highest two consecutive hours for weekday traffic volumes, with the second-hour being the hour before or hour after the highest one hour peak period.

- During the highest one-hour period of the day (typically, but not always during the evening peak period between 4 and 6 p.m.): A maximum v/c ratio of 0.99 shall be maintained at all intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to the worst movement.
- For the second hour (either the hour before or hour after the peak hour): A maximum v/c ratio of 0.99 shall be maintained at all intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to the worst movement.

Since streets located in the Oregon City Regional Center should be designed to encourage walking, biking and transit usage, the following mobility standards should be applied:

- During the highest one-hour period of the day a maximum v/c ratio of 1.10 shall be maintained at all intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to the worst movement.
- For the second hour (either the hour before or hour after the peak hour) a maximum v/c ratio of 0.99 shall be maintained at all intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to the worst movement.

All non-state owned streets in the City (outside of the Regional Center) require a maximum v/c ratio of 0.99 to be maintained during the highest two consecutive hours for weekday traffic volumes.



Section 5

THE INVESTMENTS

the investments

The Oregon City approach to developing transportation solutions for this update placed more value on investments in smaller cost-effective solutions for the transportation system rather than larger, more costly ones. The approach enabled more cost-effective solutions to increase transportation system capacity and helped to encourage multiple travel options, increase street connectivity and promote a more sustainable transportation system.



Taking the network approach to transportation system improvements, the projects in this plan fall within one of several categories:

- **Driving** projects to improve connectivity, safety and capacity throughout the City. Oregon City identified 93 driving projects that will cost an estimated $161.3 million to complete.
- **Walking** projects for sidewalk infill, providing seamless connections for pedestrians throughout the City. Oregon City identified 75 walking projects that will cost an estimated $14.7 million to complete.
- **Biking** projects including an integrated network of bicycle lanes and marked on-street routes that facilitates convenient travel citywide. Oregon City identified 66 biking projects that will cost an estimated $5.3 million to complete.
- **Shared-Use Path** projects providing local and regional off-street travel for walkers and bikers. The citywide shared-use path vision includes 53 projects totaling an estimated $30.2 million.
- **Transit** projects to enhance the quality and convenience for passengers. Oregon City identified four transit projects that will cost an estimated $1.3 million to complete.
- **Family Friendly** projects to fill gaps between shared-use paths, parks, and schools, offering a network of low-volume streets for more comfortable biking and walking throughout the City. The 33 family-friendly routes identified by the City will cost an estimated $5.2 million to complete.
- **Crossing** project solutions, proving safe travel across streets along key biking and walking routes. A total of

Identifying Transportation System Investments

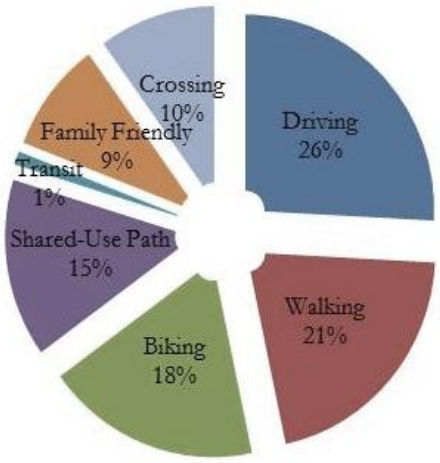
Recall that the Oregon City approach for this update placed more value on investments in smaller cost-effective solutions for the transportation system rather than larger, more costly ones where practical. The approach identified solutions to accommodate future travel demand by following a five-step process (shown previously in Figure 1) that considered solutions from top to bottom until a viable solution was identified.

See Section 2 of this Plan for more information.

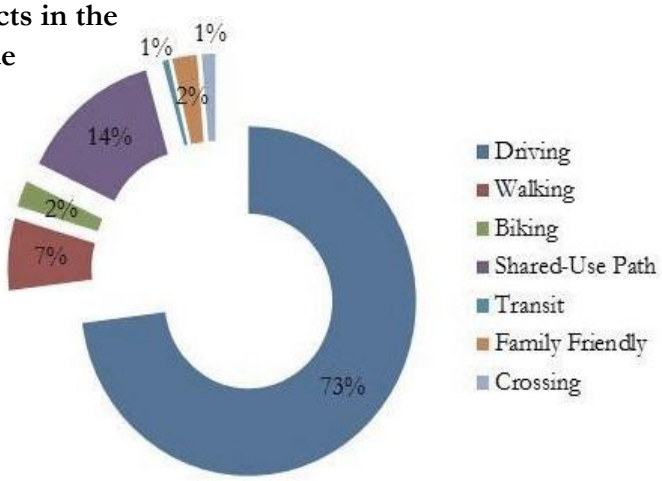
36 crossing projects were identified, totaling an estimated $2.8 million.

Overall, Oregon City identified 360 transportation solutions, totaling an estimated $221 million worth of investments. As shown in Figure 10, only about 25 percent of the improvements in the Plan are driving projects, yet these projects account for nearly 75 percent of the total project expenses of the Plan.

Figure 10: Breakdown of the Projects and Expenses in the Plan



Breakdown of projects in the Plan by mode



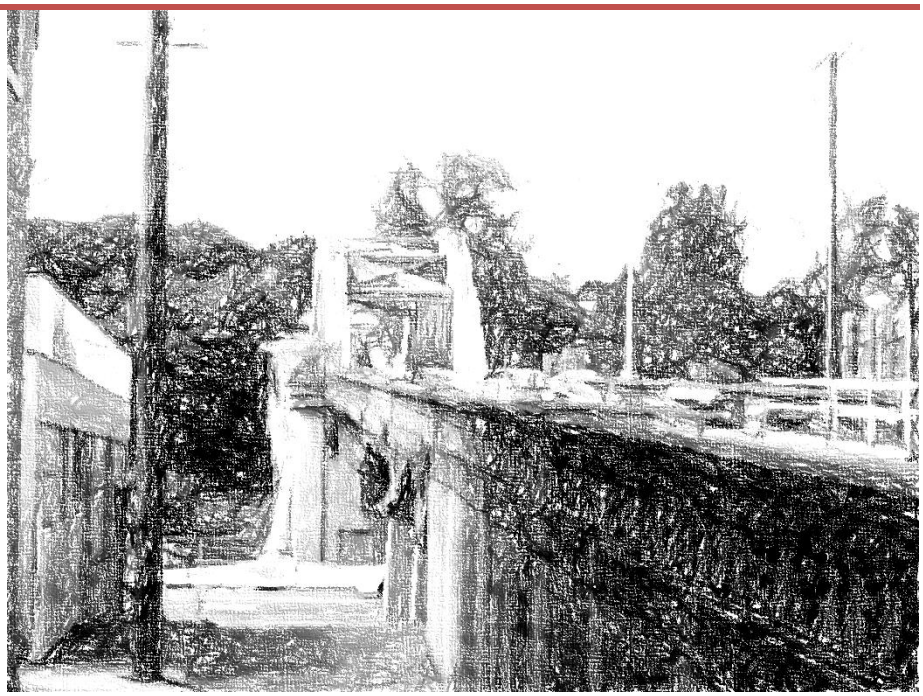
Breakdown of project expenses in the Plan by mode

Section 6



THE FUNDING

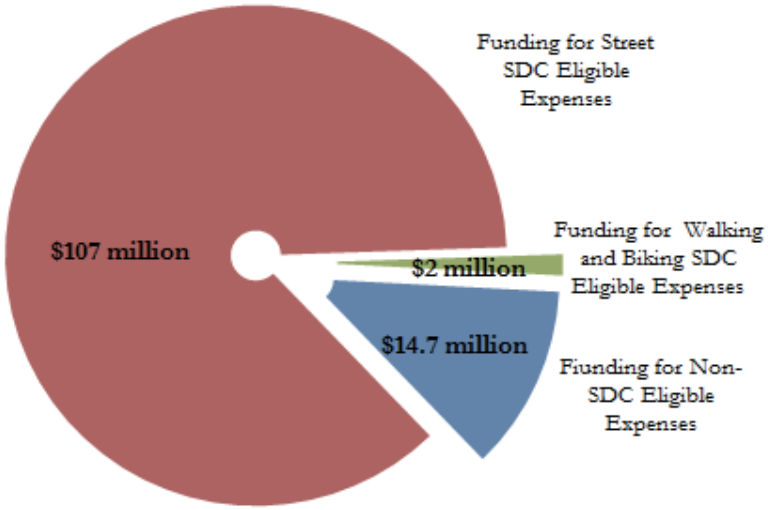
the funding



With an estimated $221 million worth of transportation solutions identified, Oregon City must make investment decisions to develop a set of transportation improvements that will likely be funded to meet identified needs through 2035. Overall, Oregon City is expected to have the following funds available through 2035 after accounting for the expenditures (see Figure 11):

- Approximately $14.7 million is expected to be available for capital improvement needs after street operation and maintenance needs are met through 2035. These funds can be spent on non-SDC eligible project costs or other street improvements that are related to maintenance such as upgraded retaining walls and stairways, new guardrail, signal equipment replacement and upgrades, or curb and gutter.
- Over $109 million is expected to be available for System Development Charge (SDC) projects after reducing the planned SDC project expenditures through 2035. This includes about $2 million for pedestrian and bicycle SDC projects and over $107 million for street SDC projects. The improvement projects eligible for SDC funding can be updated on-going. It was assumed that the needed transportation system investments identified through the TSP update would be used to amend the existing SDC project list.

Figure 11: Expected Funding for the Plan

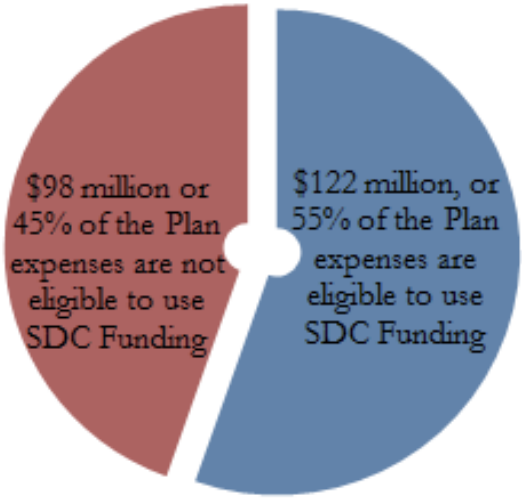


Funding Shortfall

To put the expected available funding in context, over $161 million worth of motor vehicle, over $50 million worth of pedestrian, bicycle and shared-use path improvements and $9 million worth of transit, street crossing and family-friendly route projects were identified by the City. Of those project costs (as shown in Figure 12), approximately $99 million of the motor vehicle and $23 million of the pedestrian, bicycle and shared-use path project costs are needed to accommodate new development, and therefore are eligible for SDC funding. This leaves about $62 million in motor vehicle and $27 million in pedestrian, bicycle and shared-use path project costs to serve existing transportation deficiencies. These project costs, in addition to the transit, street crossing and family-friendly route project costs, are not eligible to utilize SDC funds and must be funded through other means, such as the Street Fund or other State or Federal grants.

Unless additional funds are developed, Oregon City will be expected to have a little over $14.7 million (from the Street Fund) to cover the $62 million in motor vehicle, $27 million in pedestrian, bicycle and shared-use path, and $9 million in transit, street crossing and family-friendly route project costs that are not eligible for SDC funds (based on the current revenue and expenditure forecasts). In other words, about $83.3 million worth of projects would be unfunded.

Figure 12: Eligibility of Plan Investments for SDC Funding



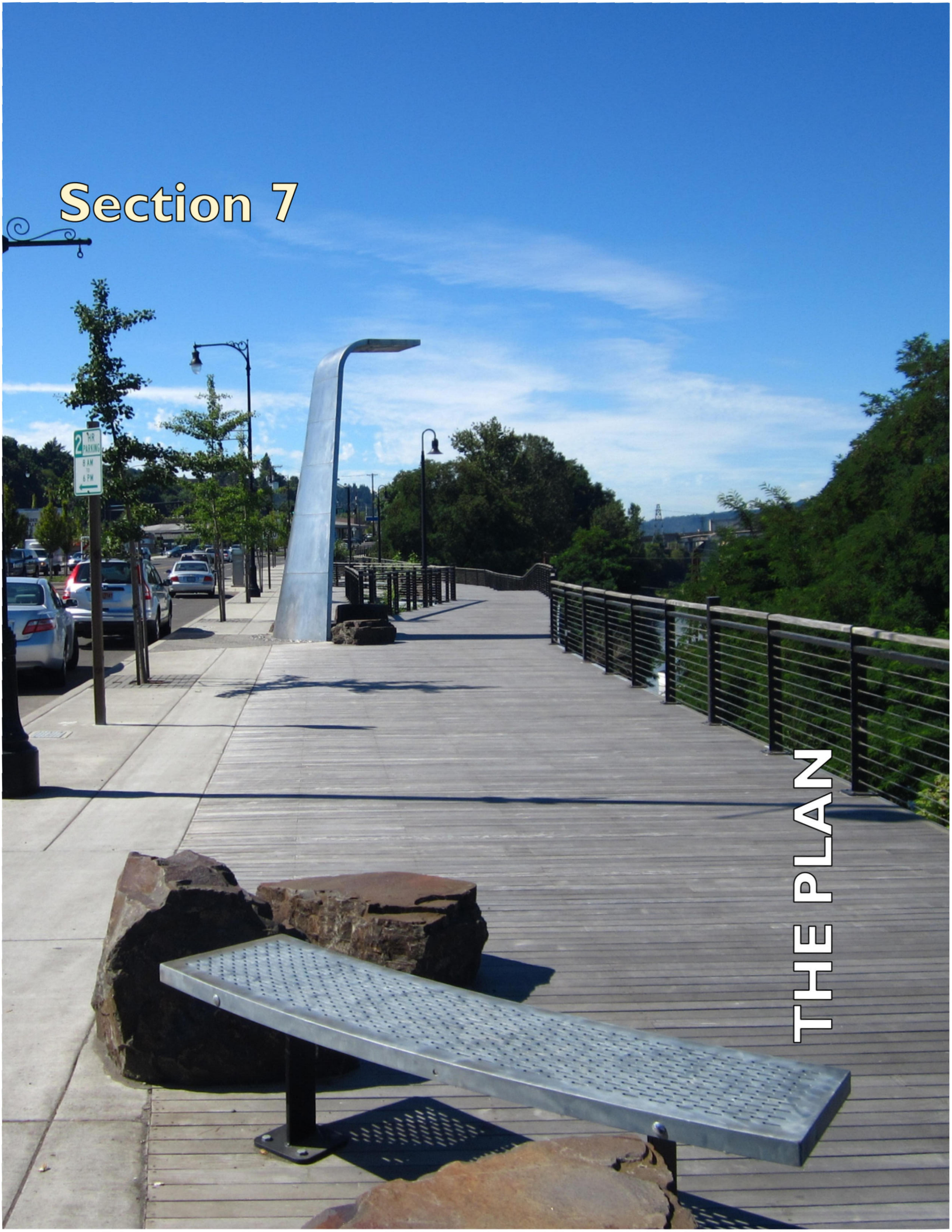
Funding Shortfall for Transportation System Investments

The total cost of transportation system projects needed is greater than the City's ability to raise funding.

Unless additional funds are developed, Oregon City will be expected to have a little over $14.7 million (from the Street Fund) to cover the $62 million in motor vehicle, $27 million in pedestrian, bicycle and shared-use path, and $9 million in transit, street crossing and family-friendly route project costs that are not eligible for SDC funds.

For more detailed funding information, see the TSP Volume 2, Section H.

Section 7



THE PLAN

As detailed in the Funding section, the City is expected to have approximately $14.7 million to cover the $98 million in project costs that are not eligible for SDC funds. Clearly, most of the transportation solutions identified for the City are not reasonably likely to be funded through 2035. For this reason, the transportation solutions were split into two categories. Those reasonably expected to be funded by 2035 were included in the Financially Constrained Transportation System, while the projects that are not expected to be funded by 2035 were included in the Planned Transportation System.



How did we determine the investments that made the Financially Constrained Plan?

Using the eight goals (see Section 2), the transportation solutions were evaluated and compared to one another. Greater value was placed on the projects stakeholders felt were most important to the community.

Each transportation solution was assigned a time frame for the expected investment need, based on a projects contribution to achieving the transportation goals of Oregon City. The investment recommendations attempted to balance implementation considerations. Complex and costly capital projects were disfavored compared with implementation of low cost projects that can have more immediate impacts and can spread investment benefits citywide.

Project evaluation scores can be found in Table A1 of the TSP Volume 2, Section I.

Financially Constrained Transportation System

The Financially Constrained Plan identifies the transportation solutions reasonably expected to be funded by 2035 and have the highest priority for implementation. Transportation solutions within the Financially Constrained Transportation System were recommended within several different priority/time horizons:

- Short-term: projects recommended for implementation in within 1 to 5 years.
- Medium-term: projects recommended for implementation in within 5 to 10 years.
- Long-term: projects likely to be implemented beyond 10 years from the adoption of this plan. These projects are important for the development of the City transportation network, but are unlikely to be funded in the next 10 years.

The Financially Constrained Transportation solutions are summarized in Table 6 and illustrated in Figures 14 to 19. The projects numbered on Figures 10 to 15 correspond with the project numbers in Table 6. The project numbers are denoted as follows:

- Driving ("D")
- Walking ("W")
- Biking ("B")
- Shared-use path ("S")
- Transit ("T")
- Street crossing ("C")
- Family-Friendly route ("FF")

Planning level cost estimates for the projects can be found in Table A1 of the TSP Volume 2, Section I.

Over $73 million worth of investments are included in the Financially Constrained Transportation System. As shown in Figure 13, about 80 percent (or $58.6 million) of these investments were eligible to utilize SDC funding. All expected City revenue for non-SDC eligible expenses (about $14.7 million) will be needed to fund the remaining 20 percent of the Financially Constrained Transportation System investments.

The Financially Constrained Transportation System includes over $73 million worth of investments.

Figure 13: Funding for the Financially Constrained Transportation System

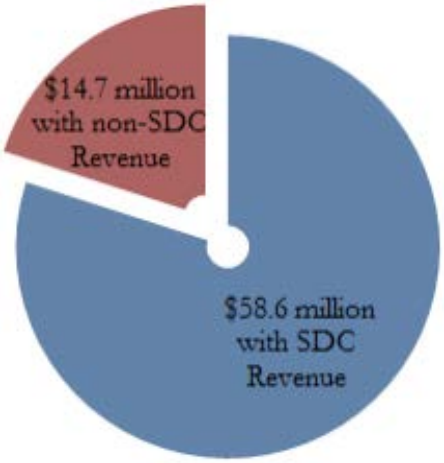


Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
Driving Solutions (Intersection and Street Management- see Figure 14)				
D1	Molalla Avenue/ Beavercreek Road Adaptive Signal Timing	Molalla Avenue from Washington Street to Gaffney Lane; Beavercreek Road from Molalla Avenue to Maple Lane Road	Deploy adaptive signal timing that adjusts signal timings to match real-time traffic conditions.	Short-term
D7	Option 1: 14th Street Restriping	Option 1: OR 99E to John Adams Street	**Option 1:** Convert 14th Street to one-way eastbound between McLoughlin Boulevard and John Adams Street: • Convert the Main Street/14th Street intersection to all-way stop control (per project D13). • From McLoughlin Boulevard to Main Street, 14th Street would be restriped to include two 12-foot eastbound travel lanes, a six-foot eastbound bike lane, a six-foot westbound contra-flow bike lane, and an eight-foot landscaping buffer on the north side • From Main Street to Washington Street, 14th Street would be restriped to include two 11-foot eastbound travel lanes, a five-foot eastbound bike lane, a five-foot westbound contra-flow bike lane, and an eight-foot on-street parking lane on the north side • From Washington Street to John Adams Street, 14th Street would be restriped to include one 12-foot eastbound travel lane, a six-foot eastbound bike lane, a six-foot westbound contra-flow bike lane, and an eight-foot on-street parking lane on the north and south side • Add a bicycle signal, with detection at the McLoughlin Boulevard/14th Street intersection. Add bicycle detection to the traffic signal at the Washington Street/14th Street intersection.	Short-term
	Option 2: Main Street/14th Street Intersection Widening	Option 2: Main Street/14th Street	**Option 2:** Convert the Main Street/14th Street intersection to all-way stop control (per project D13). Widen 14th Street to include shared through/left-turn and through/right-turn lanes in both directions	
D8	15th Street Restriping	OR 99E to John Adams Street	Convert 15th Street to one-way westbound between Washington Street and McLoughlin Boulevard: • From John Adams Street to Washington Street, 15th Street would be striped as a shared-roadway (per project B6).	Included with project D7

Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
			• From Washington Street to Main Street, 15th Street would be restriped to include two 11-foot westbound travel lanes, a five-foot westbound bike lane, a five-foot eastbound contra-flow bike lane, and an eight-foot on-street parking lane on the south side. Complete the sidewalk gaps on the north side of 15th Street between Main Street and Center Street, and on the south side between Center Street and Washington Street (per project W75). • From Main Street to McLoughlin Boulevard, 15th Street would be restriped to include two 12-foot travel lanes, a six-foot westbound bike lane, and an eight-foot on-street parking lane on the south side. Add a 12-foot shared-use path with a two-foot buffer adjacent to the on-street parking lane. Add bicycle detection to the traffic signal at the Washington Street/15th Street intersection.	
D11	Optimize existing traffic signals	Citywide	Optimize the existing traffic signals by updating the existing coordinated signal timing plans, upgrading traffic signal controllers or communication infrastructure or cabinets.	Short-term
D12	Protected/permitted signal phasing	Citywide	Incorporate protected/permitted phasing for left turn movements at traffic signals.	Short-term
D13	Main Street/14th Street Safety Enhancement	Main Street/14th Street	Convert to all-way stop control to be consistent with the traffic control at surrounding intersections on Main Street.	Included with project D7
D14	Southbound OR 213 Advanced Warning System	Southbound OR 213, north of the Beavercreek Road intersection	Install a queue warning system for southbound drivers on OR 213 to automatically detect queues and warn motorists in advance via a Variable Message Sign	Short-term
D27	OR 213/Beavercreek Road Operational Enhancement	OR 213/Beavercreek Road	Lengthen the dual left-turn lanes along Beavercreek Road to provide an additional 200 feet of storage for the eastbound approach	Short-term
D28	Washington Street/12th Street Safety Enhancement	Washington Street/12th Street	Install a traffic signal with dedicated left turn lanes for the 12th Street approaches to Washington Street.	Medium-term
D30	Molalla Avenue/Division Street-Taylor Street Safety Enhancement	Molalla Avenue/Division Street-Taylor Street	Install a single-lane roundabout	Medium-term
D32	South End Road/Warner Parrott Road Operational Enhancement	South End Road/Warner Parrott Road	Install a traffic signal with dedicated left turn lanes for the South End Road approaches to Warner Parrott Road	Medium-term

Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
D33	South End Road/Lafayette Avenue-Partlow Road Operational Enhancement	South End Road/Lafayette Avenue-Partlow Road	Install a single-lane roundabout	Medium-term
D40	Main Street/Dunes Drive Extension Operational Enhancement	Main Street/Dunes Drive Extension	Install a single-lane roundabout	Long-term
D41	South End Road/Buetel Road Extension Operational Enhancement	South End Road/Buetel Road Extension	Install a single-lane roundabout	Medium-term
D42	South End Road/Deer Lane Extension Operational Enhancement	South End Road/Deer Lane Extension	Install a single-lane roundabout	Long-term
D43	Holcomb Boulevard/Holly Lane North Extension Operational Enhancement	Holcomb Boulevard/Holly Lane North Extension	Install a single-lane roundabout	Long-term
D44	Beavercreek Road/Loder Road Extension Operational Enhancement	Beavercreek Road/Loder Road Extension	Install a roundabout	Medium-term
D45	Meyers Road Extension/ Loder Road Extension Operational Enhancement	Meyers Road Extension/ Loder Road Extension	Install a single-lane roundabout	Medium-term
Driving Solutions (Street Extensions- see Figure 15)				
D46	Meyers Road West extension	OR 213 to High School Avenue	Extend Meyers Road from OR 213 to High School Avenue as an Industrial Minor Arterial. Create a local street connection to Douglas Loop.	Short-term
D47	Meyers Road East extension	Beavercreek Road to the Meadow Lane Extension	Extend Meyers Road from Beavercreek Road to the Meadow Lane Extension as an Industrial Minor Arterial. Between the Holly Lane and Meadow Lane extensions, add a sidewalk and bike lane to the south side of the street, with a shared-use path to be added on north side per project S19. Modify the existing traffic signal at Beavercreek Road	Medium-term
D48	Holly Lane North extension	Redland Road to Holcomb Boulevard	Extend Holly Lane from Redland Road to Holcomb Boulevard as a Residential Minor Arterial. Create local street connections to Cattle Drive and Journey Drive.	Long-term
D49	Swan Avenue extension	Livesay Road to Redland Road	Extend Swan Avenue from Livesay Road to Redland Road as an Residential Collector	Long-term
D50		Redland Road to Morton Road	Extend Swan Avenue from Redland Road to Morton Road as an Residential Collector	Long-term
D51	Deer Lane extension	Rose Road to Buetel Road	Extend Deer Lane from Rose Road to Buetel Road as a Residential Collector. Add a sidewalk and bike lane to the	Long-term

Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
			east side of the street, with a shared-use path to be added on west side per project S32.	
D52		Buetel Road to Parrish Road	Extend Deer Lane from Buetel Road to Parrish Lane as a Residential Collector. Add a sidewalk and bike lane to the east/north side of the street, with a shared-use path to be added on west/south side per project S33. Create a local street connection to Finnegans Way Install a roundabout at South End Road (per project D42).	Long-term
D53	Madrona Drive extension	Madrona Drive to Deer Lane	Extend Madrona Drive to Deer Lane as a Constrained Residential Collector	Long-term
D54	Clairmont Drive extension	Beavercreek Road to Holly Lane South Extension	Extend Clairmont Drive from Beavercreek Road to the Holly Lane South extension as an Industrial Collector. Add a sidewalk and bike lane to the south side of the street, with a shared-use path to be added on north side per project S17.	Long-term
D55	Glen Oak Road extension	Beavercreek Road to the Meadow Lane Extension	Extend Glen Oak Road from Beavercreek Road to the Meadow Lane Extension as a Residential Collector. Install a roundabout at Beavercreek Road (per project D39)	Long-term
D56	Timbersky Way extension	Beavercreek Road to the Meadow Lane Extension	Extend Timbersky Way from Beavercreek Road to the Meadow Lane Extension as a Residential Collector. Add a sidewalk and bike lane to the south side of the street, with a shared-use path to be added on north side per project S20.	Long-term
D57	Holly Lane South extension	Maple Lane Road to Thayer Road	Extend Holly Lane from Maple Lane Road to Thayer Road as a Residential Collector. Add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S14. Install a roundabout at Maple Lane Road (per project D37).	Medium-term
D58		Thayer Road to Meyers Road	Extend Holly Lane from Thayer Road to the Meyers Road extension as an Industrial Collector. Add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S15.	Medium-term
D59		Meyers Road to the Meadow Lane Extension	Extend Holly Lane from the Meyers Road extension to the Meadow Lane Extension as a Mixed-Use Collector. Add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S16.	Long-term

Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
D60	Meadow Lane extension	Meadow Lane to Meyers Road	Extend Meadow Lane to the Meyers Road Extension as a Mixed-Use Collector. Between Old Acres Lane and the Glen Oak Road extension, add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S21.	Long-term
D61		Meyers Road to UGB (north of Loder Road)	Extend Meadow Lane from the Meyers Road Extension to the UGB (north of Loder Road) as an Industrial Collector	Medium-term
D62	Dunes Drive Extension	OR 99E to Agnes Avenue	Extend Dunes Drive from OR 99E to Agnes Avenue as a Mixed-Use Collector. Install a roundabout at the Dunes Drive/Agnes Avenue intersection (per project D38). Will require redevelopment of the Oregon City Shopping Center.	Medium-term
D63	Washington Street to Abernethy Road Connection	Washington Street to Abernethy Road	Connect Washington Street to Abernethy Road with a Mixed-Use Collector. Add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S5. This street should be a public access road built to City standards but maintained by a private entity.	Long-term
D64	Loder Road Extension	Beavercreek Road to Glen Oak Road	Extend Loder Road from Beavercreek Road to Glen Oak Road as an Industrial Collector. Add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S18. Create a local street connection to Douglas Loop. Install a roundabout at Meyers Road (per project D45).	Short-term
D65	Parrish Road Extension	From Parrish Road east to Kolar Drive	Complete the gap between Parrish Road as a Constrained Residential Collector.	Long-term
D66	Washington Street Realignment	Home Depot Driveway to Clackamas River Drive	Washington Street Realignment associated with the OR 213/Washington Street Jug-handle Project.	Under Construction
D72	Hampton Drive Extension	Hampton Drive to Atlanta Drive	Extend Hampton Drive to Atlanta Drive as a Residential Local Street.	Long-term
Driving Solutions (Street and Intersection Expansions- see Figure 16)				
D80	Division Street Upgrade	7th Street to 18th Street	Improve to Collector cross-section, as a constrained street	Long-term
D81	Beavercreek Road Upgrade	Clairmont Drive (CCC Entrance) to Meyers Road	Improve to Industrial Major Arterial cross-section	Medium-term

Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
D82		Meyers Road to UGB	Improve to Residential Major Arterial cross-section	Long-term
D89	South End Road Upgrade	Partlow Road-Lafayette Road to UGB	Improve to Residential Minor Arterial cross-section	Medium-term
D92	Washington Street Upgrade	11th Street to 7th Street	Improve to Minor Arterial cross-section, as a constrained street. Add curb-ramps at intersections	Medium-term
Walking Solutions (see Figure 17)				
W5	Washington Street Sidewalk Infill	Washington Street-Abernethy Road Extension to Abernethy Road	Complete sidewalk gaps on both sides of the street	Short-term
W11	Holcomb Boulevard (East of OR 213) Sidewalk Infill	OR 213 overcrossing to Swan Avenue	Complete sidewalk gaps on both sides of the street	Medium-term
W12		Longview Way to Winston Drive	Complete sidewalk gaps on both sides of the street	Medium-term
W13		Barlow Drive to UGB	Complete sidewalk gaps on both sides of the street	Medium-term
W34	Molalla Avenue Sidewalk Infill	Gaffney Lane to Sebastian Way	Complete sidewalk gaps on both sides of the street	Included with project W74
W35	Leland Road Sidewalk Infill	Warner Milne Road to Meyers Road	Complete sidewalk gaps on both sides of the street	Short-term
W41	Warner Milne Road Sidewalk Infill	Leland Road to west of Molalla Avenue	Complete sidewalk gaps on both sides of the street	Short-term
W42	Beavercreek Road Sidewalk Infill	Warner Milne Road to east of Kaen Road	Complete sidewalk gaps on the east side of the street	Short-term
W47	South End Road (south of Partlow) Sidewalk Infill	Partlow Road to Buetel Road	Complete sidewalk gaps on both sides of the street	Included with project D89
W48		Buetel Road to UGB	Complete sidewalk gaps on both sides of the street	Included with project D89
W54	South End Road (north of Partlow) Sidewalk Infill	Partlow Road to Barker Avenue	Complete sidewalk gaps on both sides of the street	Short-term
W56	Warner Parrott Road Sidewalk Infill	King Road to Marshall Street	Complete sidewalk gaps on the north side of the street	Short-term
W62	Linn Avenue Sidewalk Infill	Ella Street to Charman Avenue	Complete sidewalk gaps on both sides of the street	Short-term
W64	Brighton Avenue-Creed Street Sidewalk Infill	Charman Avenue to Waterboard Park Road	Complete sidewalk gaps on both sides of the street	Short-term
W65	Brighton Avenue-Park Drive Sidewalk Infill	Charman Avenue to Linn Avenue	Complete sidewalk gaps on both sides of the street	Short-term
W70	Division Street Sidewalk Infill	7th Street to 18th Street	Complete sidewalk gaps on both sides of the street	Included with

Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
				project D80
W73	Molalla Avenue Streetscape Improvements Phase 3	Holmes Lane to Warner Milne Road	Streetscape improvements including widening sidewalks, sidewalk infill, ADA accessibility, bike lanes, reconfigure travel lanes, add bus stop amenities.	Medium-term
W74	Molalla Avenue Streetscape Improvements Phase 4	Beavercreek Road to OR 213	Streetscape improvements including widening sidewalks, sidewalk infill, ADA accessibility, bike lanes, reconfigure travel lanes, add bus stop amenities.	Medium-term
W75	15th Street Sidewalk Infill	OR 99E to Washington Street	Complete sidewalk gaps on both sides of the street, with a shared-use path to be added on south side between OR 99E and Main Street per project S53.	Included with project D8
Biking Solutions (see Figure 18)				
B1	7th Street Shared Roadway	OR 43 Bridge to Railroad Avenue	Add wayfinding and shared lane markings	Short-term
B2	Railroad Avenue-9th Street Shared Roadway	OR 99E to Main Street	Add wayfinding and shared lane markings	Short-term
B3	Main Street Shared Roadway	OR 99E to 15th Street	Add wayfinding and shared lane markings	Short-term
B5	12th Street (west of Washington Street) Shared Roadway	OR 99E to Washington Street	Add wayfinding and shared lane markings	Short-term
B6	15th Street (west of John Adams) Shared Roadway	Washington Street to John Adams Street	Add wayfinding and shared lane markings	Included with project D8
B12	Holcomb Boulevard (East of OR 213) Bike Lanes	Longview Way to UGB	Add bike lanes to both sides of the street	Medium-term
B29	Beavercreek Road Bike Lanes	Pebble Beach Drive to UGB	Add bike lanes to both sides of the street	Included with project D82
B32	Fir Street Bike Lanes	Molalla Avenue to 1,500 feet east	Add bike lanes to both sides of the street	Medium-term
B33	Leland Road Bike Lanes	Marysville Lane to Meyers Road	Add bike lanes to both sides of the street	Medium-term
B35	Meyers Road Bike Lanes	Leland Road to Autumn Lane	Add bike lanes to both sides of the street	Medium-term
B37	Molalla Avenue Bike Lanes	Gales Lane to Adrian Way	Complete bike lane gaps on both sides of the street	Included with project W73
B42	South End Road (south of Partlow) Bike Lanes	Buetel Road to UGB	Add bike lanes to both sides of the street	Included with project D89
B53	Holmes Lane Bike Lanes	Linn Avenue to Rilance Lane	Add bike lanes to both sides of the street	Medium-term
B55	Pearl Street Bike Lanes	Linn Avenue to Molalla Avenue	Add bike lanes to both sides of the street	Medium-term

Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
B60	Division Street Bike Lanes	7th Street to 18th Street	Add bike lanes to both sides of the street	Included with project D80
B65	14th Street Bike Lanes	OR 99E to John Adams Street	Add an eastbound bike lane and a westbound contra-flow bike lane	Included with project D7
B66	15th Street Bike Lanes	OR 99E to Washington Street	Add a westbound bike lane and an eastbound contra-flow bike lane, with a shared-use path to be added on south side of 15th Street between OR 99E and Main Street per project S53.	Included with project D8
Shared-Use Path Solutions (see Figure 19)				
S14	Maple Lane-Thayer Shared-Use Path	Maple Lane Road to Thayer Road	Add a shared-use path on the east side of the Holly Lane extension between Maple Lane and Thayer.	Long-term
S15	Thayer-Loder Shared-Use Path	Thayer Road to Loder Road	Add a shared-use path on the east side of the Holly Lane extension between Thayer and Loder.	Long-term
S18	Loder Road Shared-Use Path	Glen Oak Road to Holly Lane Extension	Add a shared-use path on the south/east side of the Loder Road extension between Glen Oak Road and the Holly Lane extension.	Long-term
S24	Gaffney Lane Elementary Shared-Use Path	Eastborne Drive to Falcon Drive	Add a shared-use path along the northern boundary of Gaffney Lane Elementary School between the Eastborne Drive path and Falcon Drive	Long-term
S36	Tumwater-4th Shared-Use Path	Tumwater Drive to 4th Avenue	Add a shared-use path through Old Canemah Park connecting 4th Avenue to the Tumwater/South 2nd intersection	Long-term
S53	15th Street Shared-Use Path	OR 99E to Main Street	Add a shared-use path on the south side of 15th Street between OR 99E and Main Street.	Included with project D8
Transit Solutions				
T1	Molalla Avenue Transit Signal Priority	Washington Street to Gaffney Lane	Provide priority at traffic signals for buses behind schedule. This includes the use and deployment of Opticom detectors at traffic signals and emitters on buses.	Short-term
T2	OR 99E Transit Signal Priority	Dunes Drive to 10th Street		Short-term
T3	Bus Stop Amenity Enhancement	Citywide	Add amenities at bus stops as needed, including bus shelters, landing pads, benches, trash/recycling receptacles and lighting	Short-term
Street Crossing Solutions (see Figure 19)				

Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
C11	Beavercreek Road/Loder Road Shared-Use Path Crossing	Beavercreek Road/Loder Road intersection	Install crosswalk and pedestrian activated flasher on Beavercreek Road	Long-term
C35	John Adams/7h Family Friendly Route Crossing	7th Street/John Adams Street intersection	Install crosswalk and pedestrian activated flasher on 7th Street	Long-term
Family-Friendly Routes (see Figure 17 or 18)				
FF13	Leland-Warner Parrot Family Friendly Route	Leland Road to Warner Parrot Road	Add sidewalks on both sides of the street. Add wayfinding, traffic calming and shared lane markings. Route via Hampton Drive, Atlanta Drive, Auburn Drive and Boynton Street. Includes Hampton Drive extension to Central Point Road	Long-term
FF19	Warner Parrot-Barker Family Friendly Route	Warner Parrot Road to Barker Avenue	Add sidewalks on both sides of the street. Add wayfinding and shared lane markings. Route via Woodlawn Avenue and Woodfield Court.	Long-term
FF20	Barker Avenue Family Friendly Route	South End Road to Telford Road	Add sidewalks on both sides of the street. Add wayfinding, traffic calming and shared lane markings. Route via Barker Avenue	Long-term
FF23	Charman Avenue Family Friendly Route	Telford Road to Linn Avenue	Add sidewalks and bike lanes on both sides of the street. Add wayfinding and traffic calming	Long-term
Citywide and Programmatic Improvements				
N/A	Family Friendly Routes	Citywide	Program to systematically implement the Neighborhood Greenway network on a yearly basis	N/A
N/A	Sidewalk Infill Program	Citywide	Capital program to systematically design and construct missing sidewalks along prioritized pedestrian routes. Provide sidewalks on local, residential streets that lead to roadways with transit service.	N/A
N/A	Develop Bicycle and Pedestrian Design Guidelines	Citywide	Develop bicycle and pedestrian design guidelines that establish preferred designs that represent best practices. Key treatments include pedestrian crossing design and bicycle accommodation at intersections (i.e. bike boxes, bicycle detection, etc.).	N/A
N/A	ADA/Curb Ramp Upgrade Program	Citywide	Upgrade curb ramps and eliminate gaps in ADA access along prioritized pedestrian routes near key destinations.	N/A
N/A	Pedestrian Wayfinding Signage	Citywide	Pedestrian wayfinding tools can include signs and walking	N/A

Table 6: Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
			maps indicating walking routes to destinations and transit stops, as well as digital applications for smart phones.	
N/A	Bicycle Parking Program	Citywide	Implement bicycle rack design and placement standards; review development applications for compliance; coordinate with sidewalk installation by developments or in city projects.	N/A
N/A	Bike Lane Re-striping Schedule	Citywide	Develop a bike lane re-striping schedule.	N/A
N/A	Bicycle Wayfinding Signage	Citywide	Implement a bicycle wayfinding signage program to assist bicyclists in choosing comfortable routes and to help visiting bicyclists navigate through the city.	N/A
N/A	Stop Here For Pedestrians signage	Citywide	Add Stop Here For Pedestrians signage at existing and new crosswalks. State standards require installation of a stop line in advance of the crosswalk to use this sign.	N/A
N/A	Bicycle/Pedestrian Connections to Transit	Citywide	Coordinate infrastructure upgrades near transit stops and park and rides to improve access and amenities targeted at increasing ridership.	N/A
N/A	Repaving policy	Citywide	Ensure repaving projects extend the full width of the road, including the full shoulder or bike lane.	N/A
N/A	Streetscape Enhancements	Citywide	Develop projects to create a pedestrian buffer zone on key pedestrian routes, including those that provide access to transit. Streets that would benefit from a buffer zone include Molalla Ave and Warner Milne Rd.	N/A
N/A	Safe Routes to Schools Curriculum	Citywide	Leverage ODOT Safe Routes Program with local investment to bring Safe Routes curriculum to all area K-8 schools.	N/A

Planned Transportation System

The projects and actions outlined within the Financially Constrained System will significantly improve Oregon City's transportation system. If the City is able to implement a majority of the Financially Constrained System, nearly two decades from now Oregon City residents will have access to a safer, more balanced multimodal transportation network.

The Planned Transportation System identifies those transportation solutions that are not reasonably expected to be funded by 2035, but many of which are critically important to the transportation system. Some of the projects will require funding and resources beyond what is available in the time frame of this plan. Others are contingent upon redevelopment that makes it possible to create currently missing infrastructure, such as street connections.

The Planned Transportation System solutions are illustrated in Figures 14 to 19 and summarized in the TSP Volume 2, Section I. The projects numbered on Figures 14 to 19 correspond with the project numbers in Section I of the TSP Volume 2. The project numbers are denoted as follows:

- Driving ("D")
- Walking ("W")
- Biking ("B")
- Shared-use path ("S")
- Transit ("T")
- Street crossing ("C")
- Family-Friendly route ("FF")

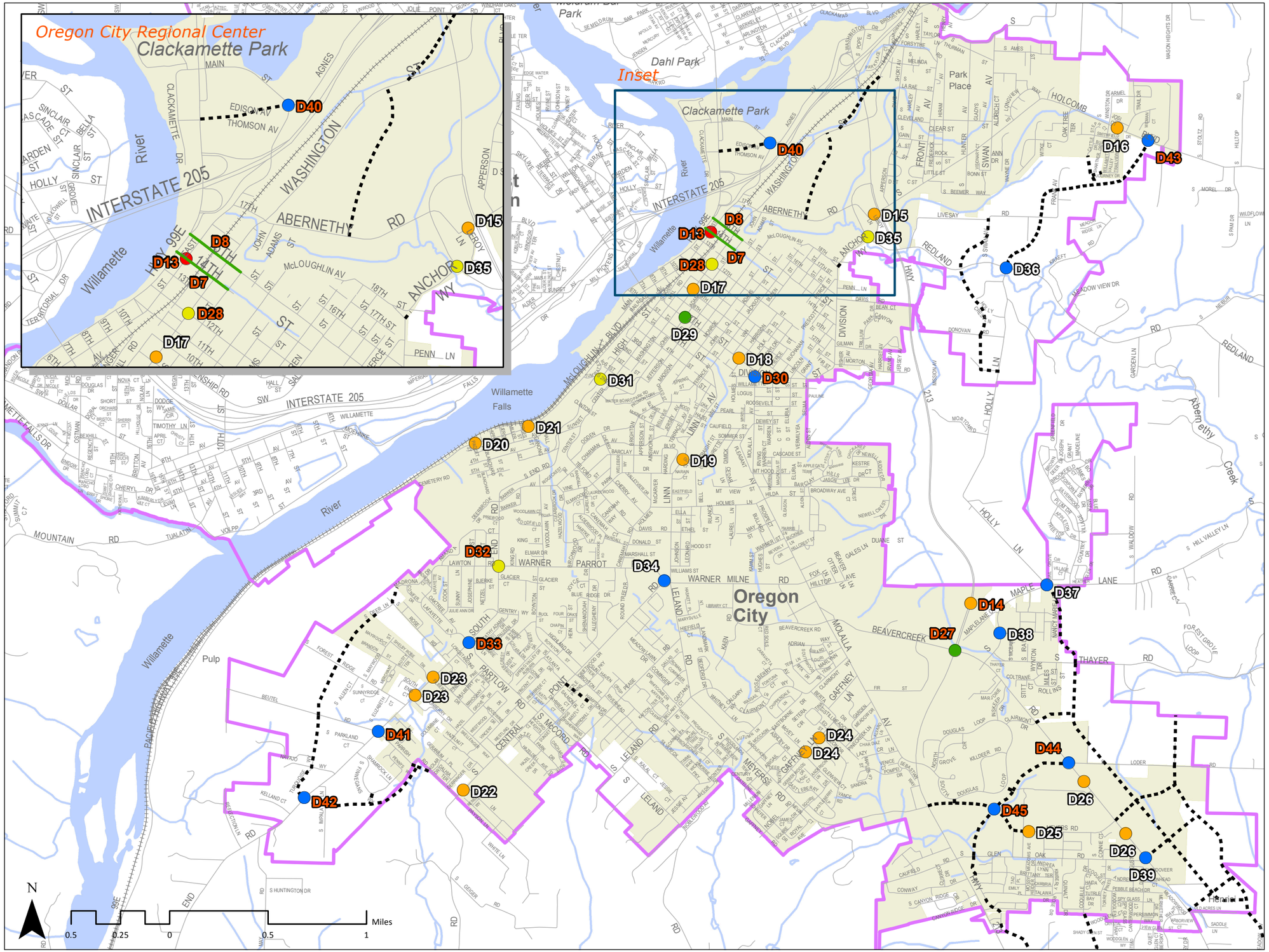
The Planned Transportation System includes about $148 million worth of investments. Planning level cost estimates for the projects can be found in Table A1 of the TSP Volume 2, Section I.

Transportation solutions within the Planned Transportation System were recommended within several different priority/time horizons:

- Long-term Phase 2: Projects with the highest priority for implementation beyond the projects included in the Financially Constrained Transportation System, should additional funding become available.
- Long-term Phase 3: Projects with the next highest priority for implementation beyond the projects included in the Financially Constrained Transportation System, should additional funding become available.
- Long-term Phase 4: The last phase of projects to be implemented, should additional funding become available.

The Planned Transportation System includes about $148 million worth of investments.

Detailed descriptions for investments included in the Planned Transportation System can be found in Section I of the TSP Volume 2



TRANSPORTATION PLAN

FIGURE 14

Planned Intersection and Street Management Solutions

Legend

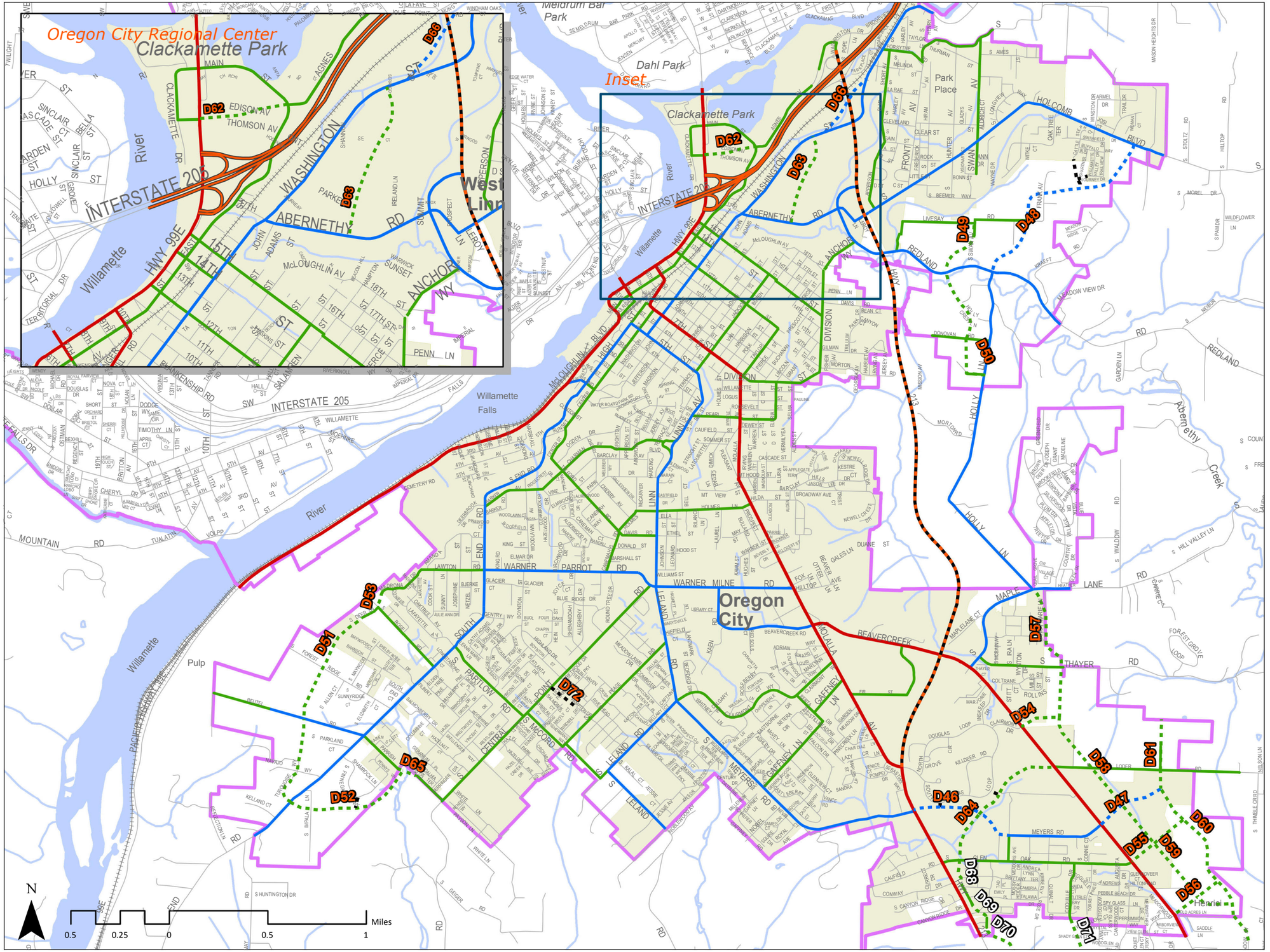
Planned Intersection Management Solutions

- Planned Traffic Signal
- Planned All-way Stop Control
- Planned Roundabout
- Planned Turn Lane
- Planned Transportation System Management and Operations (TSMO)

Planned Street Management Solutions

- Planned Street Restriping

- # Financially Constrained System Project # (See Table 6)
- # Planned Transportation System Project # (See Section I of the TSP Volume 2)
- Planned Street Extension (Conceptual Alignment)
- Railroad
- City Limit
- Urban Growth Boundary



TRANSPORTATION PLAN

FIGURE 15

Planned Street Extensions

Legend

Existing Functional Classification

- Freeway
- Expressway
- Major Arterial
- Minor Arterial
- Collector
- Local Roadway

Planned Street Extensions (Conceptual Alignment)

- Planned Minor Arterial
- Planned Collector
- Planned Local Street

Financially Constrained System Project # (See Table 6)

Planned Transportation System Project # (See Section I of the TSP Volume 2)

- Railroad
- City Limit
- Urban Growth Boundary

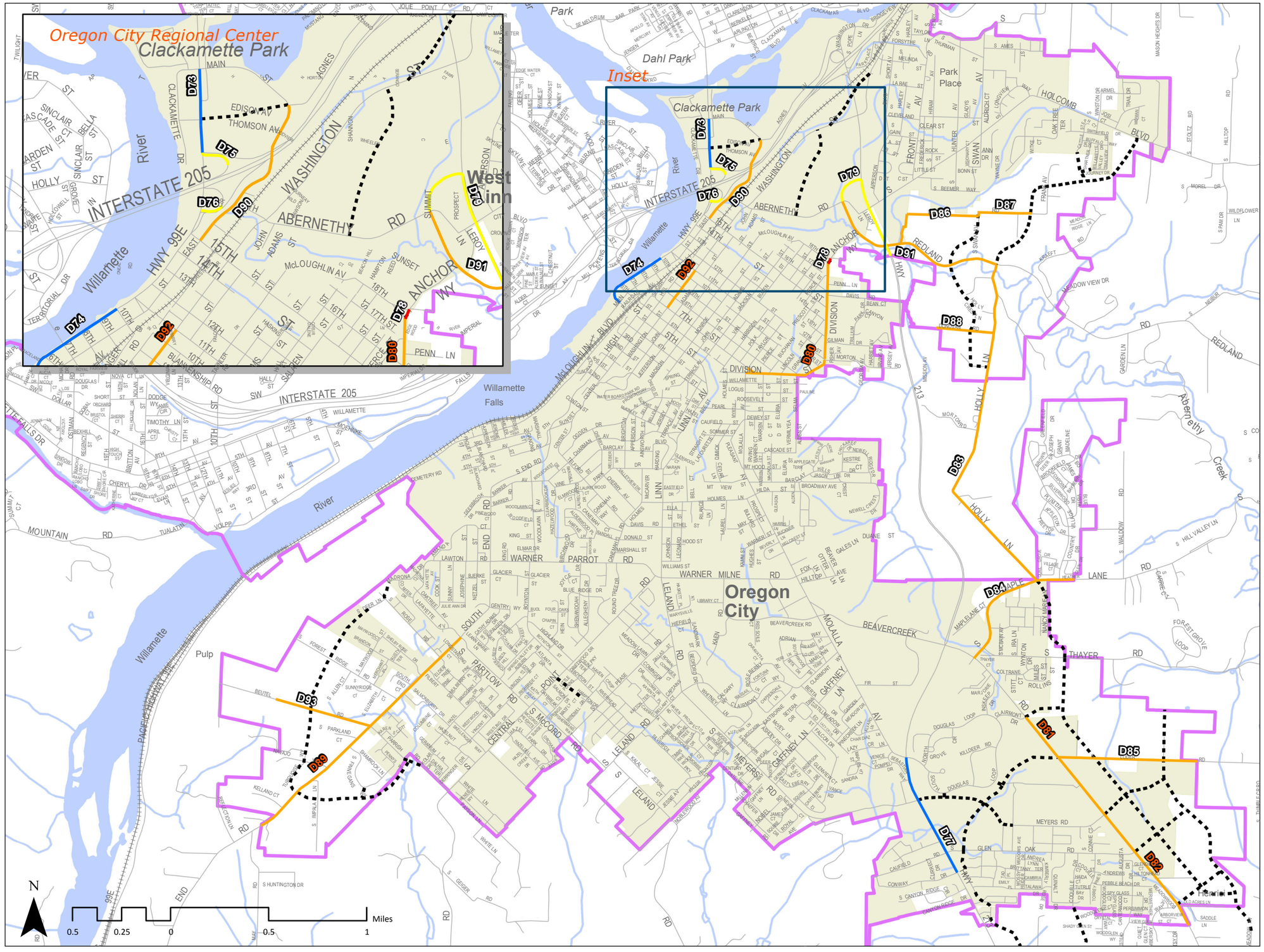


FIGURE 16

Planned Street and Intersection Expansions

Legend

Planned Street and Intersection Expansion Solutions

- Planned Intersection Widening
- Planned Street Widening
- Planned Street Realignment
- Planned Street Upgrade

- Financially Constrained System Project # (See Table 6)
- Planned Transportation System Project # (See Section I of the TSP Volume 2)

- Planned Street Extension (Conceptual Alignment)
- Railroad
- City Limit
- Urban Growth Boundary

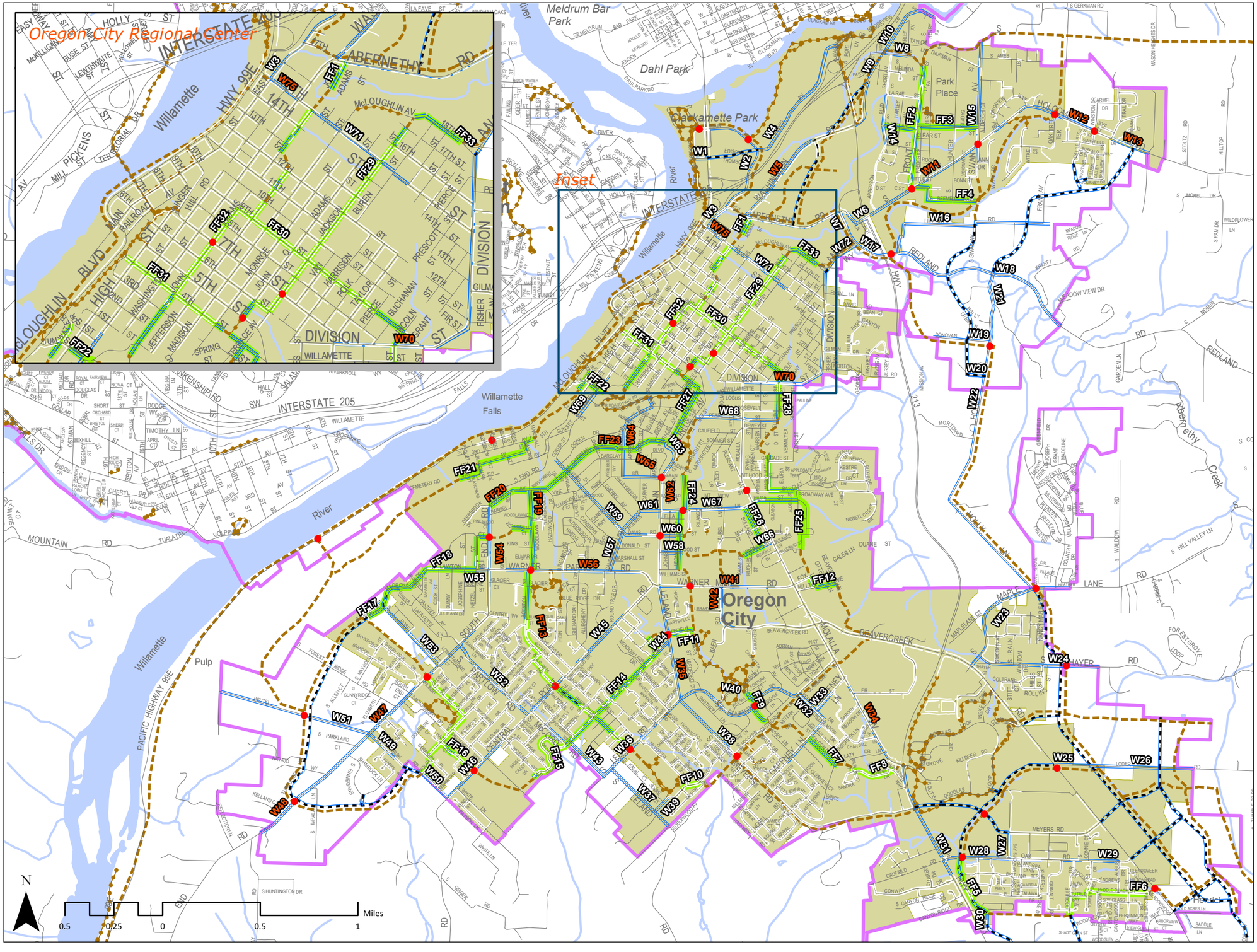


FIGURE 17

Walking Solutions

Legend

Existing Streets

- Existing Sidewalk
- Planned Sidewalk Infill- One Side of Street
- Planned Sidewalk Infill- Both Sides of Street

Planned Street Extensions (Conceptual Alignments)

- Planned Street Extension
- Planned Street Extension with Sidewalk on one Side
- Planned Street Extension with Sidewalks on both Sides
- Financially Constrained System Project # (See Table 6)
- Planned Transportation System Project # (See Section I of the TSP Volume 2)

Shared Walking and Biking Improvements (See Figure 19)

- Planned Family Friendly Route
- Street Crossing Improvement
- Planned Shared-Use Path (Conceptual Alignment)
- Existing Shared-Use Path
- City Limit
- Urban Growth Boundary

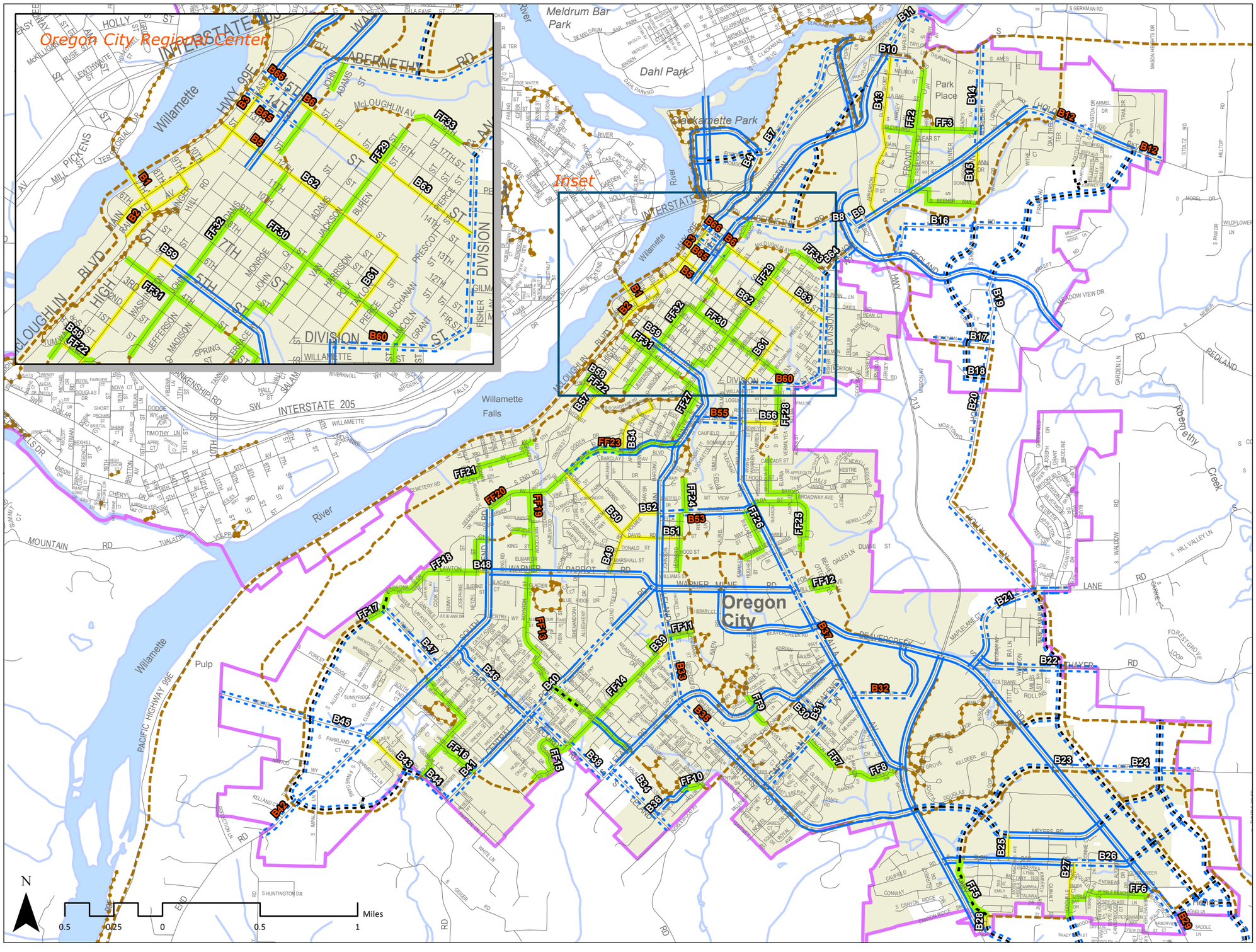




FIGURE 18

Biking Solutions

Legend

Existing Streets

- Existing Bike Lanes
- Planned Bike Lane- One Side of Street
- Planned Bike Lanes- Both Sides of Street
- Planned Shared Roadway

Planned Street Extensions (Conceptual Alignments)

- Planned Street Extension
- Planned Street Extension with Bike Lane on one Side
- Planned Street Extension with Bike Lanes on both Sides

- Financially Constrained System Project # (See Table 6)
- Planned Transportation System Project # (See Section I of the TSP Volume 2)

Shared Walking and Biking Improvements (See Figure 19)

- Planned Family Friendly Route
- Street Crossing Improvement
- Planned Shared-Use Path (Conceptual)
- Existing Shared-Use Path
- City Limit
- Urban Growth Boundary

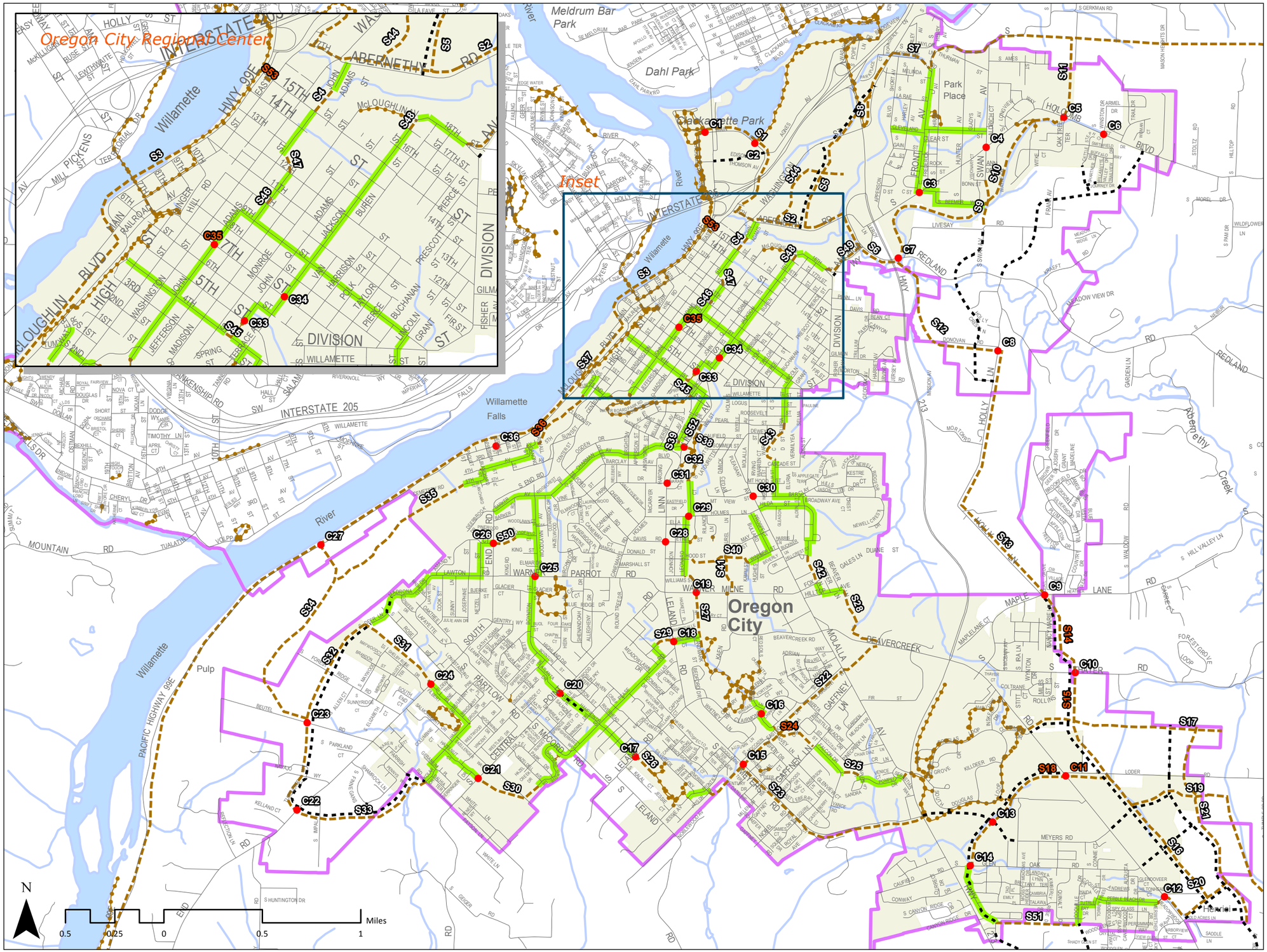




FIGURE 19

Shared Walking and Biking Solutions

Legend

Shared Walking and Biking Improvements

- Planned Family Friendly Route
- Street Crossing Improvement

Shared-Use Paths

- Existing Shared-Use Path
- Planned Shared-Use Path (Conceptual)

- Financially Constrained System Project # (See Table 6)
- Planned Transportation System Project # (See Section I of the TSP Volume 2)

- Planned Street Extension (Conceptual Alignment)
- City Limit
- Urban Growth Boundary


Section 8
THE OUTCOME

the outcome

The Oregon City TSP employed a performance based approach, focusing on measurable outcomes of investments to the transportation system. The approach allows the City to measure the degree to which its investments support regional and City-wide priorities. In this manner, the City is able to track how its investment decisions impact a set of performance objectives through 2035. While the performance objectives do not represent the complete picture, they do offer a baseline against which to assess how the policies, investments and planning decisions made in this plan may affect the future.



Tracking Performance of Transportation System Investments

Oregon City developed measures for safety, congestion, freight reliability, walking, biking, transit and non-single occupant vehicle (SOV), and climate change to help translate investment decisions to the community priorities of the TSP update. The performance measures included the following:

Safety

- Reduce fatalities and serious injuries by 50% from 2010 for drivers, walkers and bikers

Congestion

- Reduce vehicle hours of delay per person by 10% from 2010.
- Work towards meeting mobility targets for streets and intersections[2]

Freight Reliability

- Reduce vehicle hours of delay for truck trips by 10% from 2010.

Walking, Biking, Transit and Non-SOV

- Work toward achieving the non-SOV mode share targets of 45 to 55 percent for the Oregon City Regional Center and the 7th Street-Molalla Avenue Corridor and 40 to 45 percent for other areas of the City.
- Triple walking, biking and transit mode share from 2010.

[2] The Metro Regional Transportation Functional Plan includes Mid-day and PM peak mobility standards in the Regional Mobility Policy, Table 3.08-2

Climate Change

- Reduce vehicle miles traveled (VMT) per capita by 10 percent compared to 2010

Putting the Plan to the Test

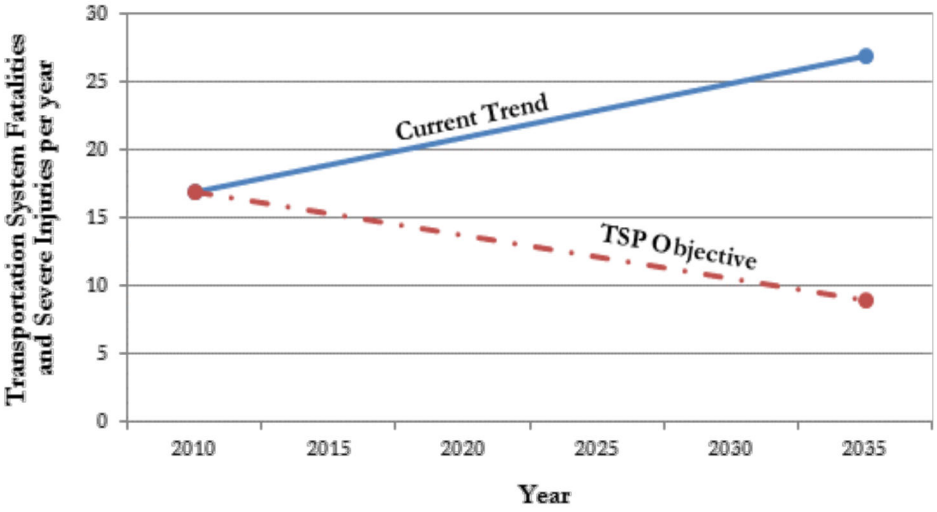
So how will investment decisions of the TSP, an estimated $221 million worth, improve the performance of the transportation network in Oregon City? To answer this question, the plan's investment decisions were evaluated against the performance measures to identify long-term trends through 2035. The results are presented in the following sections.

Safety is expected to improve despite the Current Trend

The future trend for total fatalities and severe injuries resulting from collisions along the transportation system in Oregon City is expected to move in the right direction despite what recent collision data suggests.[3] Although we are unable to forecast future collisions along the transportation system, with investments in improved street crossings, walking and biking facilities, and to high collision locations and congested intersections, the trend is expected to be more in line with the safety objective of the TSP (reducing fatalities and serious injuries by 50% from 2010).

Overall, there were two fatalities and 15 severe injuries in 2010. Pedestrians were involved in eight collisions, with two pedestrians sustaining severe injuries. While there were nine collisions involving a bicyclist in 2010, none of the cyclists sustained severe injuries. By 2035, Oregon City hopes to limit total fatalities and severe injuries to less than 10 in a year.

Figure 20: The Expected Trend for Safety



[3] The current trend was developed based on collision data between 2005 and 2010

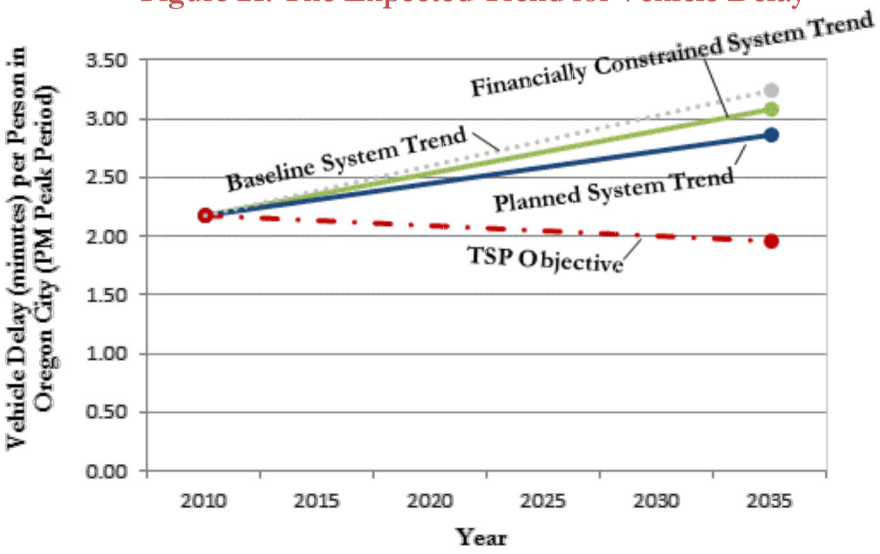
Progress is expected to be made towards meeting the Congestion Targets

To reduce congestion, Oregon City identified over $161 million worth of projects to improve driving, and approximately $60 million to enhance walking, biking and transit usage.

Vehicle hours of Delay[4]: The same dynamics that make Oregon City an attractive place to live and open a business- its access to major regional transportation routes including I-205, OR 213, OR 99E, and OR 43- poses a challenge for meeting this performance measure. The TSP objective envisions decreasing delay by approximately ten percent through 2035, to fewer than two minutes per person during the evening peak period. However, the future trend for delay along Oregon City streets during the evening peak period (after assuming the planned system investments) is expected to increase slightly through 2035, from about two minutes to just under three minutes per person. This is generally associated with increased delay along the regional routes (such as OR 99E and OR 213), a side effect of local and regional population and employment growth. Since these routes serve outlying communities such as Molalla and Canby, through trips (or drivers that have origins and destinations outside of Oregon City) would be expected to significantly contribute to the increased delay in Oregon City.

With delay trending away from the TSP objective even after nearly $221 million worth of transportation system investments, the limitations of relying on infrastructure improvements as a means of meeting this objective are evident as the benefits are difficult to assess. However, the City is working towards meeting this objective by decreasing delay nearly 15 percent from what would be expected without the $221 million worth of transportation system investments (see the Baseline System Trend).

Figure 21: The Expected Trend for Vehicle Delay



[4] Delay is defined as the amount of time spent in congestion greater than 0.90 v/c, page 5-7, 2035 Metro RTP

Mobility Targets for Streets: Metro's regional travel demand model was used to estimate if streets in Oregon City could handle the increased travel demand through 2035 assuming the TSP investments.[5] While transportation system investments were recommended throughout the City, financially feasible solutions could not be identified for the routes connecting Oregon City across the Willamette and Clackamas Rivers. These routes, including the Oregon City-West Linn Arch Bridge, OR 99E and I-205, are expected to be congested by 2035 (operating above a v/c of 1.00), and will likely meter traffic coming into the City during peak hours. Once demand exceeds the available capacity along these routes, drivers will be forced to adjust their travel to directly before or after the evening peak hour. Therefore, the evening peak hour congestion that Metro's regional travel demand model is forecasting throughout the Oregon City Regional Center and along routes connecting to it, including OR 99E, OR 213, South End Road, Singer Hill Road and Redland Road, is not expected since the travel demand across the rivers will be spread over more than one hour. Even with the excess travel demand across the rivers, all remaining streets in the City (beyond those mentioned above) are forecasted to comply with the Metro Regional Transportation Functional Plan mobility targets during the evening peak period. Overall, the street system investments in the TSP are expected to help the City work towards meeting mobility targets during the evening peak period.

During the midday peak hour[6], all streets in Oregon City are expected to comply with the mobility targets of the Metro Regional Transportation Functional Plan, with the exception of the routes connecting Oregon City across the Willamette River, including the southbound direction of the Oregon City-West Linn Arch Bridge and portions of I-205.

Mobility Targets at Intersections: 2035 intersection operations assuming the transportation system investments (Financially Constrained and Planned Systems) are shown in Table A1 in TSP Volume 2, Section J. With over $161 million worth of improvements to the street system, nearly all intersections reviewed are expected to meet mobility targets through 2035 during the evening peak period. Despite the investments in the transportation system, three of the intersections reviewed are still expected to be substandard by 2035 during the evening peak period (see Section J of the TSP Volume 2 for more detail), including the OR 99E/I-205 SB Ramps, OR 99E/I-205 NB Ramps and OR 213/Beavercreek Road intersections.

With the recommended improvements to the OR 99E/I-205 SB Ramp and OR 99E/I-205 NB Ramp intersections, compliance with the mainline mobility target (v/c of 1.10) is expected; however, the intersections would still be expected to operate above the freeway ramp terminal mobility target (v/c of 0.85). The investment decisions of the TSP allow these intersections to work towards meeting mobility targets and reduce the vehicle spillback onto the off-ramps from I-205 during the evening peak period,

[5] The raw model v/c plots for the mid-day and evening peak periods were reviewed as a qualitative assessment for this objective but detailed link capacity analysis was not performed.

[6] Metro's regional travel demand model was reviewed with RTP investments only during the midday peak period. Not all improvements from the Oregon City TSP were included, however, they will likely not impact travel patterns during the midday period due to limited congestion.

meeting the congestion objective of the TSP.

In addition, several projects have been previously planned that would reduce congestion at the OR 213/Beavercreek Road intersection. A planned project to replace the OR 213/Beavercreek Road intersection with an interchange was eliminated due to livability, multi-modal access and funding constraints within the 2035 planning horizon. The project should be reconsidered beyond the planning horizon since the intersection is expected to operate above the mobility target by 2035. Since the area surrounding the interchange could be developed before the planning horizon, ODOT should continue to obtain right-of-way in anticipation of a potential future need. The investment decisions of the TSP allow this intersection to work towards meeting mobility targets, satisfying the congestion objective of the TSP.

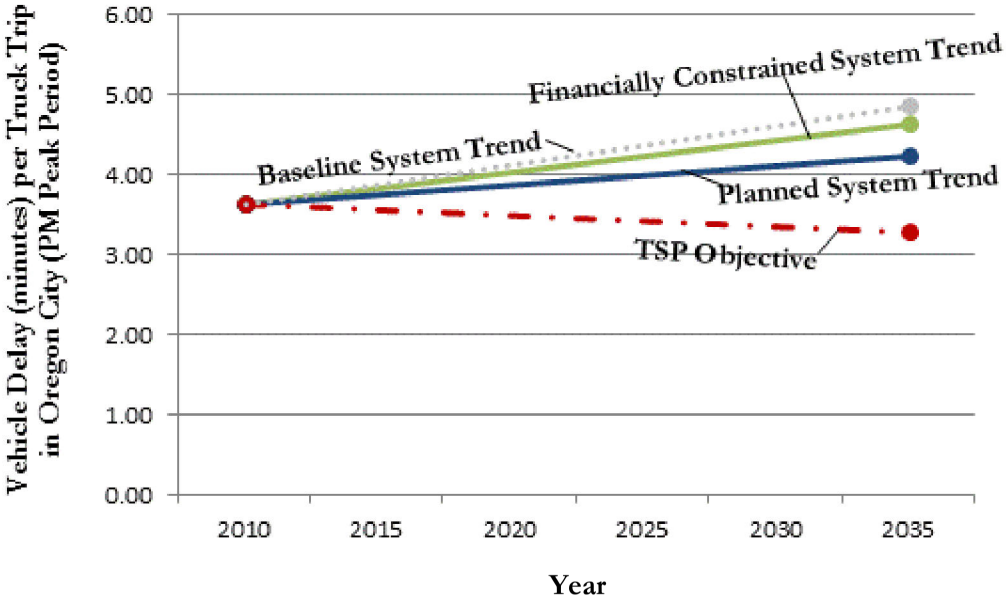
Progress is expected to be made towards reducing Freight Delay

Oregon City's access to major regional transportation routes including I-205, OR 213, OR 99E, and OR 43- again pose a challenge for meeting this performance measure (similar to the vehicle hours of delay measure). The TSP objective envisions decreasing delay by approximately ten percent through 2035, to just over three minutes per truck trip during the evening peak period. However, the future trend for truck delay in Oregon City during the evening peak period (after assuming the planned system investments) is expected to increase slightly through 2035, from about three and a half minutes to four minutes per person. This is generally associated with increased delay along the regional routes, since most trucks trips will occur on these routes. Since these routes serve outlying communities such as Molalla and Canby, through trips (or drivers that have origins and destinations outside of Oregon City) would be expected to significantly contribute to the increased truck delay in Oregon City. However, the City is working towards meeting this objective by decreasing truck delay 15 percent from what would be expected without the $221 million worth of transportation system investments (see the Baseline System Trend).

A Reduction in Single Occupant Vehicle Travel is expected

The future trend for non-single occupant vehicle (SOV) travel in Oregon City is expected to continue to increase through 2035.

Figure 22: The Expected Trend for Truck Delay



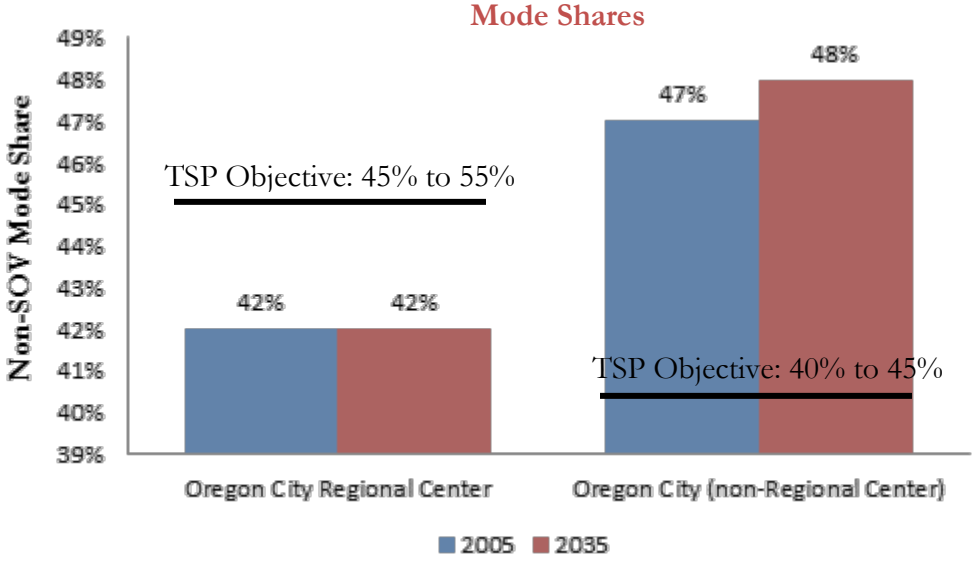
Non-Single Occupancy Vehicle (SOV) Travel: Metro's regional travel demand model was used to evaluate progress towards meeting transportation demand management (TDM) goals, specifically reducing reliance on the single occupancy vehicle.[7] Oregon City's non-SOV mode shares (outside of the Oregon City Regional Center) are expected to be above the TSP objective of 40 to 45 percent, with an estimated non-SOV mode share of 47 percent in 2005 and 48 percent in 2035. The non-SOV mode share in the Oregon City Regional Center is expected to remain steady through 2035, at around 42 percent, slightly below the TSP objective of 45 to 50 percent.

The TSP update makes investment decisions that further help the City work towards achieving the non-SOV mode share targets. The City is expected to continue to increase trip share via walking, biking, carpooling or public transportation with investment decisions including a planned project that would help implement a Transportation Management Association (TMA) program with employers and residents within the Oregon City Regional Center.

The Oregon City TSP also recommended solutions to decrease single occupancy vehicle travel by focusing on investments that encourage multi-modal travel, including increased walking and bicycling facilities and transit stop access and amenity improvements.

The TSP also recommended maximum public street spacing standards and maximum spacing between pedestrian crossings. Street connections to increase the convenience of walking and bicycling were also recommended throughout the City, including the Oregon City Regional Center.

Figure 23: Oregon City Non-Single Occupant Vehicle Mode Shares

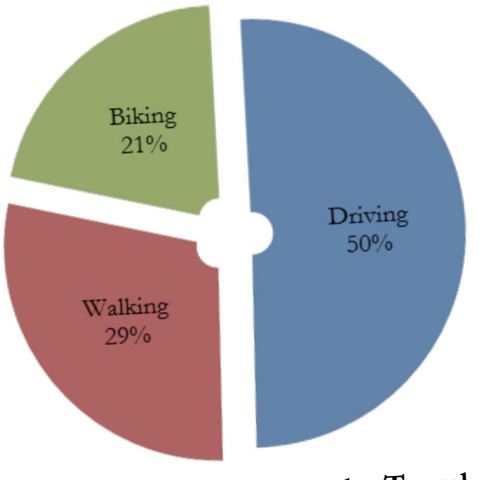


[7] The Metro RTP Financially Constrained Plan was utilized for the non-SOV mode share analysis; therefore, not all of the projects included in the TSP were captured in the analysis.

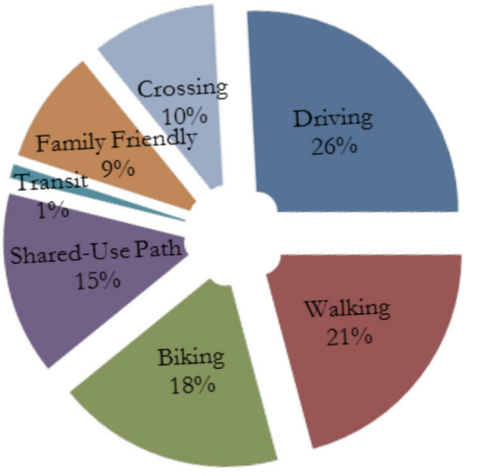
Walking, Biking and Transit Mode Share: Oregon City has identified nearly $60 million worth of investments with over 260 walking, biking, transit or other shared-use path projects in its TSP. This accounts for over 75 percent of the projects in the 2013 TSP and represents an increase of more than 25 percent when compared to the projects in the 2001 TSP. While no data is available to assess the impact of these walking, biking and transit investments in the City, they are expected to help the City work towards the TSP objective of tripling the walking, biking and transit mode share between 2010 and 2035.

The City not only identified investments to complete walking and biking gaps along the major street system, it went one step further in identifying a network of low-volume more comfortable walking and biking routes off the major street system to further encourage walking and biking to key destinations throughout the City.

Figure 24: Comparison of 2001 and 2013 TSP Investments



Percent of TSP Projects by Travel Mode (2001 TSP)

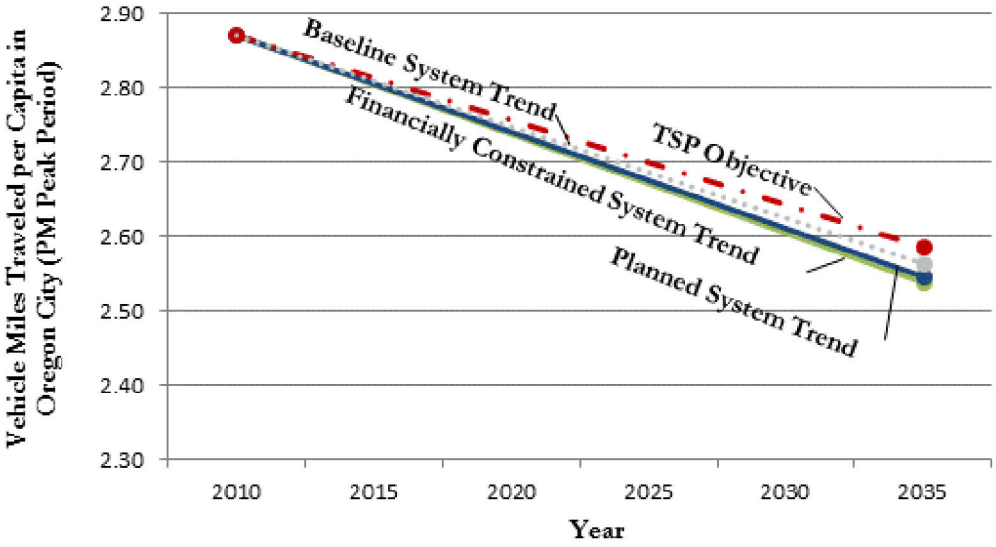


Percent of TSP Projects by Travel Mode (2013 TSP)

The Plan is expected to outperform the Climate Change Target

Despite healthy local and regional population and employment growth, vehicle miles traveled in Oregon City is expected to outperform the TSP objective through 2035. The TSP objective envisions decreasing vehicle miles traveled by approximately ten percent through 2035, to about 2.6 miles per person during the evening peak period. However, the future trend for vehicle miles traveled in Oregon City during the evening peak period (after assuming the planned system investments) is expected to decrease nearly 13 percent through 2035, from about 3 miles to 2.5 miles per person. This is likely representative of job growth in Oregon City, as more residents have the option to work closer to home. In addition, the $60 million worth of investments in over 260 walking, biking, transit or other shared-use path projects in the 2013 TSP help reduce the need to drive for local trips in the City.

Figure 25: The Expected Trend for Vehicle Miles Traveled



OREGON CITY

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Items to amend in the TSP:

- Add paragraph about ways to reduce speed. Police, design, etc.
- Remove arrow through Park on Connectivity analysis
- Change Figure 20 chart so it does not look like safety is being reduced.
- Add a new section describing the public involvement process of the TSP update.
- Change the labels from financially constrained system and planned transportation system to likely to be funded and not likely to be funded.
- Add a statement that the City, state, etc should work together to create an alternate method for mobility standards.
- Add statement that the City should pursue implementation of the parking management plan.
- Update code references.
- Additional findings will be provided regarding alternate mobility standards.

Draft Amendments to the Oregon City Municipal Code

April 15, 2013 DRAFT

The following are proposed amendments whose code sections are numbered as they would be in the OCMC and are presented in adoption-ready format. Where new language is proposed to be added, it is underlined; where it is proposed to be removed, it is ~~struck through~~. Items identified in red have been updated since the April 8, 2013 draft.

OCMC 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 50 percent of the 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 TSP and 12.04. In addition the frontage of the site shall comply with the following prioritized standards identified in this chapter:

1. Improve street pavement, construct curbs, gutter, sidewalks and planter strips; and
2. Plant street trees

The cost of compliance with the standards identified in this chapter is limited to ten (10%) 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 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.

12.04.007 Modifications.

The review body may consider modification as set forth in these standards, based upon the standards listed below and identified in the standard to be modified. Modifications shall be processed through a Type II Land Use application and may require a letter from a transportation engineer to verify compliance. Compliance with the following criteria is required:

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.

~~**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~~

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. Where future locations are not ~~shown~~ identified ~~in the development plan~~, 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.~~200~~185 shall be required to preserve the objectives of street extensions.

12.04.180 - Street design ~~Minimum right-of-way~~

~~All development shall provide adequate right-of-way and pavement width. Adequate right-of-way and pavement width shall be provided by:~~

~~A. Complying with the street design standards contained in the table provided in Chapter 12.04. The street design standards are based on the classification of streets that occurred in the Oregon City Transportation System Plan (TSP), in particular, the following TSP figures provide the appropriate classification for each street in Oregon City: Figure 5-1: Functional Classification System and New Roadway Connections; Figure 5-3: Pedestrian System Plan; Figure 5.6: Bicycle System Plan; and Figure 5.7: Public Transit System Plan. These TSP figures from the Oregon City Transportation System Plan are incorporated herein by reference in order to determine the classification of particular streets.~~

~~Road Classification~~	~~Right-of-Way Width~~	~~Pavement Width~~
~~Alley~~	~~20'~~	~~16'~~

~~Type of Street~~	~~Maximum Right-of-Way Width~~	~~Pavement Width~~
~~Major arterial~~	~~124 feet~~	~~98 feet~~
~~Minor arterial~~	~~114 feet~~	~~88 feet~~
~~Collector street~~	~~86 feet~~	~~62 feet~~
~~Neighborhood Collector street~~	~~81 feet~~	~~59 feet~~
~~Local street*~~	~~54 feet~~	~~32 feet~~
~~Alley~~	~~20 feet~~	~~16 feet~~

~~B. The applicant may submit an alternative street design plan that varies from the street design standards identified above. An alternative street design plan may be approved by the city engineer if it is found the alternative allows for adequate and safe traffic, pedestrian and bicycle flows and transportation alternatives and protects and provides adequate multi-modal transportation services for the development as well as the~~

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All development regulated by this Chapter shall provide street improvements in compliance with the standards in the Figure in 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.

ADD DIAGRAM

Figure 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
Major Arterial	Mixed Use or Commercial	116’	94’	0.5’	10.5’ sidewalk including 5’x5’ tree wells		6’	8’	(5) 12’ Lanes	6’
	Industrial	120’	88’	0.5’	5’	10.5’	6’	N/A	(5) 14’ Lanes	6’
	Residential	126’	94’	0.5’	5’	10.5’	6’	8’	(5) 12’ Lanes	6’

Road Classification	Comprehensive Plan Designation	Right-of-Way Width	Pavement Width	Public Access	Sidewalk	Landscape Strip	Bike Lane	Street Parking	Travel Lanes	Median
Minor Arterial	Mixed Use or Commercial	116’	94’	0.5’	10.5’ sidewalk including 5’x5’ tree wells		6’	8’	(5) 12’ Lanes	6’
	Industrial	118’	86’	0.5’	5’	10.5’	6’	7’	(5) 12’ Lanes	N/A
	Residential	100’	68’	0.5’	5’	10.5’	6’	7’	(3) 12’ Lanes	6’

Road Classification	Comprehensive Plan Designation	Right-of-Way Width	Pavement Width	Public Access	Sidewalk	Landscape Strip	Bike Lane	Street Parking	Travel Lanes	Median
Collector	Mixed Use or Commercial	86’	64’	0.5’	10.5’ sidewalk including 5’x5’ tree wells		6’	8’	(3) 12’ Lanes	N/A
	Industrial	88’	62’	0.5’	5’	7.5’	6’	7’	(3) 12’ Lanes	N/A
	Residential	85’	59’	0.5’	5’	7.5’	6’	7’	(3) 11’ Lanes	N/A

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 or Commercial	62’	40’	0.5’	10.5’ sidewalk including 5’x5’ tree wells		N/A	8’	(2) 12’ Lanes	N/A
	Industrial	60’	38’	0.5’	5’	5.5’	(2) 19’ Shared Space			N/A
	Residential	54’	32’	0.5’	5’	5.5’	(2) 16’ 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. 0.5’ curb included in landscape strip or sidewalk width.
4. Travel lanes may be through lanes or turn lanes.
5. The 0.5’ 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.

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 ~~10~~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.

12.04.194 Traffic Sight Obstructions

All new streets and driveways shall comply with the Traffic Sight Obstructions in chapter 10.32.

~~**12.04.195 – Minimum Street Intersection Spacing Standards**~~

~~A. All new development and redevelopment shall meet the following Public minimum street intersection spacing minimum standards as measured between the closest edges of the right-of-way centerline. The spacing standards within this section do not apply to alleys or driveways.~~

~~ADD DIAGRAM EXAMPLE~~

~~Table 12.04.040 - Public Street Intersection Spacing Standards~~

	~~Minimum Required Distance in Feet between Streets of Various Classifications~~								
	~~Between Arterial and Arterial~~	~~Between Arterial and Collector~~	~~Between Arterial and Neighborhood Collector~~	~~Between Arterial and Local Street~~	~~Between Collector Street and Collector Street~~	~~Between Neighborhood Collector Street and Neighborhood Collector Street~~	~~Between Collector and Local Street~~	~~Between Neighborhood Collector and Local Street~~	~~Between two adjacent Local Streets~~
~~Measured along an Arterial Street~~	~~1320~~	~~800~~	~~600~~	~~300~~	~~600~~	~~300~~	~~150~~	~~150~~	~~150~~
~~Measured along a Collector Street~~	~~800~~	~~800~~	~~600~~	~~300~~	~~600~~	~~300~~	~~150~~	~~150~~	~~150~~
~~Measured along a Neighborhood Collector Street~~	~~800~~	~~600~~	~~300~~	~~300~~	~~300~~	~~150~~	~~150~~	~~150~~	~~150~~
~~Measured along a Local Street~~	~~600~~	~~600~~	~~300~~	~~300~~	~~300~~	~~150~~	~~150~~	~~150~~	~~150~~

~~Note: With regard to public intersection spacing standards, same distances apply to both major arterial and~~

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~~minor arterial streets. In this table, the term "arterial" applies to both major arterial and minor arterial streets.~~

~~or~~

~~B. A lesser distance between intersections may be allowed, provided appropriate mitigation, in the judgment of the City Engineer, is provided to ensure that the reduction in intersection spacing will not pose a safety hazard.~~

12.04.195 – Spacing Standards

All new development and redevelopment shall meet the spacing standards identified in Table 12.04.195, as measured between the right-of-way centerlines. The spacing standards within this section do not apply to alleys.

Table 12.04.195 Required Spacing Standards for Streets

Street Functional Classification	Spacing Standards	Mixed-Use or Residential Comprehensive Plan Designation	Commercial or Industrial Comprehensive Plan Designation
Major Arterial Streets	Maximum Block Size (Street to Street)	530 ft.*	1,320 ft.
	Minimum Block Size (Street to Street)	350 ft.	500 ft.
	Minimum Driveway Spacing (Street to Driveway and Driveway to Driveway)	175 ft.	225 ft.
Minor Arterial Streets	Maximum Block Size (Street to Street)	530 ft.*	1,320 ft.
	Minimum Block Size (Street to Street)	265 ft.	400 ft.
	Minimum Driveway Spacing (Street to Driveway and Driveway to Driveway)	175 ft.	225 ft.
Collector Streets	Maximum Block Size (Street to Street)	530 ft.*	800 ft.
	Minimum Block Size (Street to Street)	265 ft.	300 ft.
	Minimum Driveway Spacing (Street to Driveway and Driveway to Driveway)	100 ft.	150 ft.
Local Streets	Maximum Block Size (Street to Street)	530 ft.*	530 ft.
	Minimum Block Size (Street to Street)	150 ft.	150 ft.
	Minimum Driveway Spacing (Street to Driveway and Driveway to Driveway)	25 ft.	25 ft.

*If the maximum block size is exceeded, pedestrian accessways must be provided every 330 feet, unless habitat quality or the length of a water feature crossing prevents a connection

~~**12.04.196 –Maximum Street Intersection Spacing Standard**~~

~~All new development and redevelopment shall have a maximum of 1,320 feet between intersections, as measured between the closest edges of the right-of-way. The spacing standards within this section do not apply to alleys, driveways and commercial, industrial and multi-family zoned sites less than two acres.~~

12.04.197 –Street Designation

All new streets shall be designed as local streets unless otherwise designated in the Transportation System Plan.

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~~**12.04. 198 Minimum Driveway Spacing from Street Intersections**~~

~~The minimum driveway spacing shall be measured from the nearest curb line at the intersection to the closest portion of the driveway, within the right-of-way. The spacing standards within this section do not apply to alleys. The City may require the driveway spacing be reviewed by a transportation engineer and deemed safe.~~

~~**Table 12.04. 198 Minimum Driveway Spacing from a Street Intersection**~~

	~~Mixed Use or Commercial Comprehensive Plan Designation~~	~~Industrial Comprehensive Plan Designation~~	~~Residential Comprehensive Plan Designation~~
~~Major Arterial~~	~~175 ft.~~	~~225 ft.~~	~~175 feet~~
~~Minor Arterial~~	~~175 ft.~~	~~225 ft.~~	~~175 ft.~~
~~Collector~~	~~100 ft.~~	~~150 ft.~~	~~100 ft.~~
~~Local~~	~~25 ft~~	~~25 ft.~~	~~25 ft.~~

~~1. If the spacing includes multiple Comprehensive Plan designations, the larger standard shall apply.~~

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.

A. Entry points shall align with pedestrian crossing points along adjacent streets and with adjacent street intersections.
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 ~~and two four-foot planter strips~~.
2. If an accessway also provides secondary fire access ~~or a public utility corridor~~, the right-of-way width shall be at least twenty-three feet wide with a fifteen-foot paved surface between a five- foot planter strip and a three foot planter strip.

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.
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. ~~Lamps shall include a high-pressure sodium bulb with an unbreakable lens.~~
E. Wherever practicable, accessways shall ~~have a maximum slope of five percent and avoid the use of stairways~~ comply with Americans with Disabilities Act ~~as possible~~.
F. The planter strips on either side of the accessway shall be landscaped along adjacent property by:

1. Within the three foot planter strip, a~~A~~n 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, t~~T~~wo-inch minimum caliper trees ~~shall be planted on both sides of the accessway in an alternating pattern and~~ with a maximum of ~~twenty feet~~ thirty-five feet of separation between the trees ~~on the opposite side of the path in order~~ 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.

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

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.

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.

J. The community development director may approve an alternative accessway design due to existing site constraints.

K. Ownership, liability and maintenance of accessways.

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

1 That the accessways be dedicated to the public as public right-of-way prior to the final approval of the development; or

2 That the developer incorporate 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.

~~**12.04.200 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~~	~~30 to 40 feet~~	~~20 to less than 32 feet~~

12.04.205 - Intersection ~~level of Service~~ Mobility Standards.

Delete existing section and replace with the following:

When evaluating the performance of the transportation system, the City of Oregon City requires all relevant intersections to be maintained at 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 hour before or after the first hour.

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A. For intersections within the regional center as defined in the Regional Transportation Plan, 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 main 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. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the main street. There is no performance standard for the minor street approaches..
   3. Intersections 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 the movements on the main 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. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to the movements on the major street. There is no performance standard for the minor street approaches.

C. For intersections outside the boundaries 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:
      a. 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.

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 ~~as described in 12.04.200~~ 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.

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

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such as ~~unstable soils~~ geologic hazards, wetland, natural or historic resource areas, dedicated open space, existing development patterns, ~~or~~ arterial access restrictions or similar as determined by the Community Development Director. When permitted, new cul-de-sacs and permanent dead-end streets shall limit the number of dwellings taking access to ~~have~~ a maximum of 25 dwelling units and a maximum street length of ~~three hundred fifty~~ 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 ~~and~~ include pedestrian/bicycle accessways as ~~provided in Section 17.90.220 of~~ required in this ~~code and~~ Chapter~~12.24~~. This section is not intended to preclude the use of curvilinear eyebrow widening of a street where needed ~~to provide adequate lot coverage~~.

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.

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 Tri-Met where the application impacts transit streets as identified on Figure 5.7: Public Transit System Plan of the Oregon City Transportation System Plan. Pedestrian/bicycle access ways shall be provided as necessary in conformance with the requirements in Section 17.90.220 of this code and Chapter ~~12.24~~ 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.

~~OCMC CHAPTER 12.24 PEDESTRIAN/BICYCLE ACCESSWAYS~~

Delete entire chapter. Standards integrated into Chapter 12.04.

OCMC CHAPTER 16.12 - MINIMUM IMPROVEMENTS AND DESIGN STANDARDS FOR LAND DIVISIONS

~~16.12.025 - Blocks—Length.~~

~~Block lengths for local streets and collectors shall not exceed five hundred feet between through streets, as measured between nearside right-of-way lines.~~

~~16.12.035 - Blocks—Pedestrian and bicycle access.~~

~~A. To facilitate the most practicable and direct pedestrian and bicycle connections to adjoining or nearby neighborhood activity centers, public rights-of-way, and pedestrian/bicycle accessways which minimize out-of-direction travel, subdivisions shall include pedestrian/bicycle access-ways between discontinuous street right-of-way where the following applies:~~

~~1. Where a new street is not practicable;~~

~~2. Through excessively long blocks at intervals not exceeding five hundred feet of frontage as measured between nearside right-of-way lines;~~

~~3. Where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips.~~

~~B. Pedestrian/bicycle accessways shall be provided:~~

~~1. To provide direct access to nearby neighborhood activity centers, transit streets and other transit facilities;~~

~~2. Where practicable, to provide direct access to other adjacent developments and to adjacent undeveloped property~~

~~likely to be subdivided or otherwise developed in the future;~~
~~3. To provide direct connections from cul-de-sacs and internal private drives to the nearest available street or neighborhood activity center;~~
~~4. To provide connections from cul-de-sacs or local streets to arterial or collector streets.~~
~~C. An exception may be made where the community development director~~ or city engineer ~~determines that construction of a separate accessway is not feasible due to physical or jurisdictional constraints. Such evidence may include but is not limited to:~~
~~1. That other federal, state or local requirements prevent construction of an accessway;~~
~~2. That the nature of abutting existing development makes construction of an accessway impracticable;~~
~~3. That the accessway would cross an area affected by an overlay district in a manner incompatible with the purposes of the overlay district;~~
~~4. That the accessway would cross topography consisting predominantly of slopes over twenty-five percent;~~
~~5. That the accessway would terminate at the urban growth boundary and extension to another public right-of-way is not part of an adopted plan.~~
~~D. Pedestrian/bicycle accessways shall comply with the development standards set out in Section 12.2404 of this code, with the ownership, liability and maintenance standards in Section 12.2404 of this code, and with such other design standards as the city may adopt.~~

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.
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.
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.

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.

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.

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.

G. Street Name Signs and Traffic Control Devices. ~~The applicant shall pay the city and the city installs street name signs at all street intersections.~~ The applicant shall install street signs and traffic control devices as directed by the city engineer. Street name signs and traffic control de-vices shall be in conformance with all applicable city regulations and standards.

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.

I. Street Trees. Refer to Chapter 12.08, Street Trees.

J. Bench Marks. At least one bench mark shall be located within the subdivision boundaries using datum plane specified by the city engineer.

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.

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.

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.

OCMC CHAPTER 17.04 – DEFINITIONS

17.04.030 "Accessway, pedestrian/bicycle" means any off-street path or way as described in Chapter ~~12.24~~ 12.04, intended primarily for pedestrians or bicycles and which provides direct routes within and from new developments to residential areas, retail and office areas, transit streets and neighborhood activity centers.

17.04.712 “Major transit stop” means transit centers, high capacity transit stations, major bus stops, inter-city bus passenger terminals, inter-city rail passenger terminals, and bike-transit facilities as shown in the Regional Transportation Plan.

17.04.800 "Neighborhood activity center" refers to land uses which attract or are capable of attracting a ~~greater than average level of pedestrian activity. Neighborhood activity centers include, but are not limited to, parks, schools, retail store and service areas, shopping centers, recreational centers, meeting rooms, theaters, museums, transit stops and other pedestrian-oriented uses.~~ substantial amount of pedestrian use. Neighborhood activity centers include, but are not limited to, parks, schools, retail store and service areas, shopping centers, recreational centers, meeting rooms, theaters, museums and other pedestrian oriented uses.

17.04.1310 "Transit street" means any street identified as an existing or planned bus or ~~light rail~~ mass transit route as shown in the city's transportation ~~master~~ plan (~~1989~~ 2001 or as subsequently amended) or a street which transit operates.

17.04.1312 “Transportation facilities” shall include construction, operation, and maintenance of travel lanes, bike lanes and facilities, curbs, gutters, drainage facilities, sidewalks, transit stops, landscaping, and related improvements located within rights-of-ways controlled by a public agency, consistent with the City Transportation System Plan.

THE FOLLOWING IS TO BE IDENTIFIED AS A PERMITTED USE IN ALL ZONING DESIGNATIONS

17.08.020.J. Transportation facilities
17.10.020.J. Transportation facilities
17.12.020.J. Transportation facilities
17.14.020.J. Transportation facilities
17.16.020.K. Transportation facilities
17.18.020.I. Transportation facilities
17.29.020.AA. Transportation facilities
17.31.020.Q. Transportation facilities
17.36.020.O. Transportation facilities
17.37.020.O. Transportation facilities
17.39.020.G. Transportation facilities

OCMC CHAPTER 17.34 "MUD"—MIXED-USE DOWNTOWN DISTRICT

~~**17.34.070 Mixed-use downtown dimensional standards—For properties located within the downtown design district.**~~

~~H. Parking Standards. The minimum number of off-street vehicular parking stalls required in Chapter 17.52 may be reduced by fifty percent.~~

OCMC CHAPTER 17.52 OFF-STREET PARKING AND LOADING

17.52.15 Planning Commission Adjustment of Parking Standards.

A. Purpose: The purpose of permitting a Planning Commission Adjustment to Parking Standards is to provide for flexibility in modifying parking standards in all zoning districts, without permitting an adjustment that would adversely impact the surrounding or planned neighborhood. The purpose of an adjustment is to provide flexibility to those uses which may be extraordinary, unique or to provide greater flexibility for areas that can accommodate a denser

development pattern based on existing infrastructure and ability to access the site by means of walking, biking or transit. An adjustment to a minimum or maximum parking standard may be approved based on a determination by the Planning Commission that the adjustment is consistent with the purpose of this Code, and the approval criteria can be met.

B. Procedure: A request for a Planning Commission Parking Adjustment shall be initiated by a property owner or authorized agent by filing a land use application. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development and parking plan, the extent of the adjustment requested along with findings for each applicable approval criteria. A request for a parking adjustment shall be processed as a Type III application as set out in Chapter 17.50.

C. Approval criteria for the adjustment are as follows:

1. Documentation: The applicant shall document that the individual project will require the amount of parking which is different from that required after all applicable reductions have been taken.

2. Parking analysis for surrounding uses and on- street parking availability- The applicant must show that there is a continued 15% parking vacancy in the area adjacent to the use during peak parking periods and that the applicant has permission to occupy this area to serve the use. For the purposes of demonstrating the availability of parking, the applicant shall undertake a parking study during time periods specified by the Community Development Director. The time periods shall include those during which the highest parking demand is anticipated by the proposed use. Multiple observations during multiple days shall be required. The calculation of the available on-street parking shall be adjusted based on the proximity of that parking to the site and be adjusted according to distance as follows:

a. Vacant spaces within 300 feet of the site are to be counted at 50 percent;

b. Vacant spaces between 300 and 600 feet of the site are to be counted at 20 percent.

Distances are to be calculated as traversed by a pedestrian utilizing sidewalks and legal crosswalks or an alternative manner as accepted by the Community Development Director.

3. Function and Use of Site: The applicant shall demonstrate that modifying the amount of required parking spaces will not significantly impact the use or function of the site and/or adjacent sites;

4. Compatibility: The proposal is compatible with the character, scale and existing or planned uses of the surrounding neighborhood;

5. Safety: The proposal does not significantly impact the safety of adjacent properties and Rights-of-Way.

6. Services: The proposal will not create a significantly impact to public services, including fire and emergency services.

17.52.020 Number of automobile spaces required.

A. The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet ~~gross~~ net leasable area unless otherwise stated.

Table 17.52.020 Number of automobile spaces required. LAND USE	*PARKING REQUIREMENTS*	
	MINIMUM	*MAXIMUM*
Single-Family Dwelling	1.00 per unit	2.50 per unit
Multi-Family: Studio	1.00 per unit	1.5 per unit
Multi-Family: 1 bedroom	1.25 per unit	2.00 per unit
Multi-Family: 2 bedroom	1.5 per unit	2.00 per unit
Multi-Family: 3 bedroom	1.75 per unit	2.50 per unit

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Hotel,~~/~~Motel	1.0 per guest room	1.25 per guest room
~~Welfare/~~Correctional Institution	1 per 7 beds	1 per 5 beds
Senior housing, including congregate care, residential care and assisted living facilities; nursing homes and other types of group homes;	1 per 7 beds	1 per 5 beds
Hospital	2.00	4.00
~~Religious Assembly Building~~	~~0.25 per seat~~	~~0.5 per seat~~
Preschool Nursery/Kindergarten	2.00	3.00
Elementary/Middle School	1 per classroom	1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium
High School,~~/~~College,~~/~~Commercial School for Adults	0.20 per # staff and students	0.30 per # staff and students
Auditorium,~~/~~Meeting Room,~~/~~Stadium,~~/~~ Religious Assembly Building, ~~/~~movie theater,	.25 per seat	0.5 per seat
Retail Store,~~/~~Shopping Center,~~/~~Restaurants	4.10	5.00
Office	2.70	3.33
Medical or Dental Clinic	2.70	3.33
Sports Club,~~/~~Recreation Facilities	Case Specific	5.40
Storage Warehouse,~~/~~Freight Terminal	0.30 ~~per gross thousand square feet ft.~~	0.40 ~~per gross thousand square feet~~
Manufacturing,~~/~~Wholesale Establishment	1.60 ~~per gross thousand square feet~~	1.67 ~~per gross thousand square feet~~
Light Industrial,~~/~~Industrial Park	1.3	1.60

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 vehicles 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 and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage.

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B. Parking requirements can be met either onsite, or offsite by meeting the following conditions:

1.Mixed uses. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (i.e., the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced accordingly, up to a maximum reduction of 50%, as determined by the community development director.

2.Shared parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlay (e.g., uses primarily of a daytime versus nighttime nature), that the shared parking facility is within 1,000 feet of the potential uses, and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument authorizing the joint use.

3. On-Street Parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:

a. Dimensions. The following constitutes one on-street parking space:

1. Parallel parking, each [22] feet of uninterrupted and available curb;
2. [45/60] degree diagonal, each with [15] feet of curb;
3. 90 degree (perpendicular) parking, each with [12] feet of curb.
4. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.

C. Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced in the following situations:

Downtown Parking Overlay District: 50% reduction in the minimum number of spaces required is allowed prior to seeking further reductions in sections 2 and 3 below

McLoughlin Commercial Parking Overlay District: 35% reduction in the minimum number of spaces required is allowed prior to seeking further reductions in sections 2 and 3 below

1. Transit Oriented Development. For projects not located within the Downtown or McLoughlin Commercial Parking Overlay Districts, The Community Development Director may reduce the required number of parking stalls up to 25% when it is determined that a proposed commercial center (60,000 square feet or greater of retail or office use measured cumulatively within a 500 foot radius) or multi-family project with over 80 units, is adjacent to or within 1,320 feet of an existing or planned public transit and is within 1,320 square feet of the opposite use (commercial center or multi-family project with over 80 units) Reduction in Parking for Tree Preservation. The Community Development Director may grant an adjustment to any standard of this provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction can be determined only after taking into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the Community Development Director. This reduction is discretionary and subject to the approval of the Community Development Director.
2. Transportation Demand Management. The Community Development Director may reduce the required number of parking stalls up to 25% when a parking-traffic study prepared by a traffic engineer demonstrates:
    a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of

DRAFT

Transportation Engineers vehicle trip generation rates and further that the TDM program promotes or achieves parking utilization lower than minimum city parking requirements.

b. Transportation Demand Management (TDM) Program has been developed for approval by the City Engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the City determines the plan is not successful, the plan may be revised. If the City determines that no good-faith effort has been made to implement the plan, the City may take enforcement actions.

17.52.030.E - Standards for automobile parking.

Carpool and Vanpool Parking. New ~~office and industrial~~ developments with seventy-five or more parking spaces, and new hospitals, government offices, group homes, nursing and retirement homes, schools and transit park-and-ride facilities with fifty or more parking spaces, shall identify the spaces available for employee, student and commuter parking and designate at least five percent, but not fewer than two, of those spaces for exclusive carpool and vanpool parking. Carpool and vanpool parking spaces shall be located closer to the main employee, student or commuter entrance than all other employee, student or commuter parking spaces with the exception of handicapped parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only."

17.52.040 - Bicycle parking standards.

A. Purpose-Applicability. To encourage bicycle transportation to help reduce principal reliance on the automobile, and to ensure bicycle safety and security, bicycle parking shall be provided in conjunction with all uses other than single-family dwellings or duplexes.

B. Number of Bicycle Spaces Required. For any use not specifically mentioned in Table A, the bicycle parking requirements shall be the same as the use which, as determined by the community development director is most similar to the use not specifically mentioned. Calculation of the number of bicycle parking spaces required shall be determined in the manner established in Section 17.52.020 for determining automobile parking space requirements. Modifications to bicycle parking requirements may be made through the Site Plan and Design, Conditional Use, or Master Plan review process.

TABLE A Required Bicycle Parking Spaces*

Where two options for a requirement are provided, the option resulting in more bicycle parking applies. Where a calculation results in a fraction, the result is rounded up to the nearest whole number.

USE	**MINIMUM BICYCLE PARKING**	**MINIMUM BICYCLE PARKING – COVERED** – The following percentage of bicycle parking is required to be covered
~~Multiple~~ Multi-family (three or more units)	1 per 10 units (minimum of 2)	50% (minimum of 1)
Institutional		
~~Welfare institution~~	~~1 per 2010 auto spaces~~	
Correctional institution	1 per ~~30~~15 auto spaces (minimum of 2)	30% (minimum of 1)
Nursing home or care facility, ~~sanitarium~~	1 per 30 auto spaces (minimum of 2)	30% (minimum of 1)
Hospital	1 per 20 auto spaces (minimum of 2)	30% (minimum of 1)
Park-and-ride lot	~~5~~ 1 per 5 auto spaces ~~acre,~~	50% (minimum of 1)

DRAFT

USE	MINIMUM BICYCLE PARKING	MINIMUM BICYCLE PARKING – COVERED – The following percentage of bicycle parking is required to be covered
	~~at least one of which is a locker~~ (minimum of 2)	
Transit center	~~5~~1 per 5 auto spaces ~~center at least one of which is a locker~~ (minimum of 2)	50% (minimum of 1)
Parks and open space	~~2, or~~ 1 per 10 auto spaces (minimum of 2)	0%
Public parking lots	1 per ~~20~~10 auto spaces (minimum of 2)	50% (minimum of 1)
Automobile parking structures	1 per ~~20~~10 auto spaces (minimum of 4)	80% (minimum of 2)
Religious institutions, movie theater, auditorium or meeting room	1 per ~~20~~10 auto spaces (minimum of 2)	30% (minimum of 1)
Libraries, museums	1 per ~~10~~5 auto spaces (minimum of 2)	30% (minimum of 1)
Preschool, nursery, kindergarten	2 per classroom (minimum of 2)	50% (minimum of 1)
Elementary~~, junior high~~	4 per classroom (minimum of 2)	50% (minimum of 1)
Junior high and High school	2 per classroom (minimum of 2)	50% (minimum of 2)
College, business/commercial schools	2 per classroom (minimum of 2)	50% (minimum of 1)
~~Other auditorium/meeting room~~	~~1 per 20 auto spaces (minimum of 2)~~	
Swimming pools, gymnasiums, ball courts	1 per 10 auto spaces (minimum of 2)	30% (minimum of 1)
Retail stores and shopping centers	1 per 20 auto spaces (minimum of 2)	50% (minimum of 2)
Retail stores handling exclusively bulky merchandise such as automobile, boat or trailer sales or rental	1 per 40 auto spaces (minimum of 2)	0%
Bank, office	1 per 20 auto spaces (minimum of 2)	50% (minimum of 1)
Medical and dental clinic	1 per 20 auto spaces (minimum of 2)	50% (minimum of 1)
~~Convenience food store~~	~~1 per 10 auto spaces~~	
~~Furniture and appliance stores~~	~~1 per 40 auto spaces~~	
Eating and drinking establishment,	1 per 20 auto spaces	0%

DRAFT

USE	**MINIMUM BICYCLE PARKING**	**MINIMUM BICYCLE PARKING – COVERED** – The following percentage of bicycle parking is required to be covered
	(minimum of 2)	
Gasoline service station	1~~2~~ per 10 auto spaces (minimum of 2)	0%

*Covered bicycle parking is not required for develops with 2 or fewer stalls.

C. Security of Bicycle Parking ~~Location 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 on-site, 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.

~~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 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.~~

~~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 public sidewalk where this does not conflict with pedestrian accessibility.~~

~~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.~~

D. 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

DRAFT

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 walks.

b. Outdoor bicycle parking areas shall have direct access to a ~~public~~ 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 50 feet, whichever is less, unless otherwise determined by the community development director, city engineer, or planning commission.

~~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.~~

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.

17.52.090 - Loading Areas

A. Purpose.

1. The purpose of Section 17.52.090 is to provide adequate loading areas for commercial, office, retail and industrial uses that do not interfere with the operation of adjacent streets.

B. Applicability.

1. Section 17.52.090 applies to uses that are expected to have service or delivery truck visits. It applies only to uses visited by trucks with a 40-foot or longer wheelbase, at a frequency of one or more vehicles per week. The City Engineer and decision maker shall determine through Site Plan and Design Review the number, size, and location of required loading areas, if any.

C. Standards.

1. The off-street loading space shall be large enough to accommodate the largest vehicle that is expected to serve the use without obstructing vehicles or pedestrian traffic on adjacent streets and driveways. The City engineer or decision maker may restrict the use of other public rights-of-way, so applicants are advised to provide complete and accurate information about the potential need for loading spaces.

2. Where parking areas are prohibited between a building and the street, loading areas are also prohibited.

3. The City Engineer and decision maker, through Site Plan and Design Review, may approve a loading area adjacent to or within a street right-of-way when all of the following loading and unloading operations conditions are met:

a. Short in duration (*i.e.*, less than one hour);

b. Infrequent (less than three operations daily between 5:00 a.m. and 12:00 a.m. or all operations between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);

c. Does not obstruct traffic during peak traffic hours;

d. Does not interfere with emergency response services; and

e. Is acceptable to the applicable roadway authority.

OCMC CHAPTER 17.62 - SITE PLAN AND DESIGN REVIEW

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.

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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. Driveways that are at least 24 feet wide shall align with existing or planned streets on adjacent sites.

~~g~~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. Such easements shall be required in addition to required ~~public~~ street dedications as required in Chapter 12.04.

h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed not practicable by the city.

i. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.

j. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the dead-end street.

k. Parcels larger than two acres shall provide streets as required in chapter 12.04. The streets shall connect with existing or planned streets adjacent to the site.

l~~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.

m~~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.

17.62.050.A.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, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the Transportation System Plan.

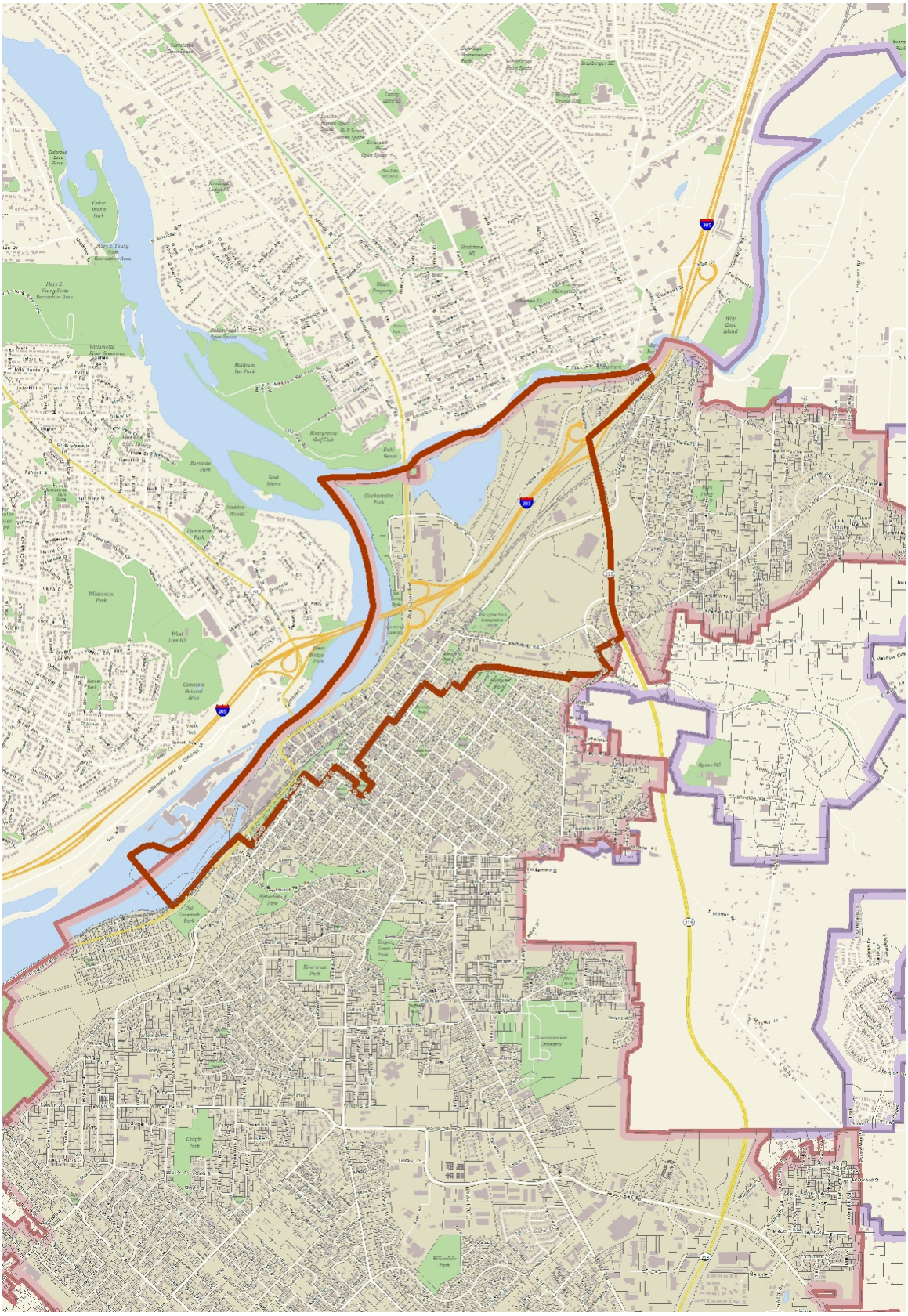
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Highlights of the Propose TSP OCMC Code Amendments

Code	Summary of Change
12.04.003	This is a new section which explains the applicability of this chapter. This section will now require public improvements for single-family residences and duplexes.
12.04.007	This new section provides criteria for modification to the standards in the chapter.
12.04.045	Section deleted. The minimum constrained street standards section was deleted and the street widths are integrated into 12.04.180.
12.04.175	Require notification for future street extension on stub streets
12.04.180	Clarified street design standards. The code provides a context sensitive design with multiple street sections were depending on the functional classification of the street and the Comprehensive Plan designation. Also requires garage access be provided from the alley.
12.04.190	Maximum intersection offsets was reduced from 10 to 5 feet.
12.04.194	This is a new section that streets and driveways shall comply with the Traffic Sight Obstructions in chapter 10.32.
12.04.195	Replaced existing section to create minimum and maximum block sizes and driveway spacing standards by Comprehensive Plan designation.
12.04.196	Proposed section deleted and integrated into 12.04.195.
12.04.197	This is a new section clarifying that all new streets shall be constructed as local streets unless designated otherwise in the TSP.
12.04.198	Proposed section deleted and integrated into 12.04.195.
12.04.199	Pedestrian and bicycle access standards moved from 12.24 and 16.12 and the landscaping design adjacent to the paths was altered to allow a larger space for trees to grow and adequate lighting.
12.04.200	Section deleted and consolidated in 12.04.180
12.04.205	Revised mobility standards to allow greater congestion during peak operating hours and provide separate standards for within and outside of the regional center.
12.04.220	Clarify standards for when the remainder of an existing half-street improvement is made.
12.04.225	Reduce maximum cul-de-sac lengths from 350 feet to 200 feet and restrict the number of dwelling units which take access from a cul-de-sac to 25.
12.04.260	Code reference changed.
12.24	Chapter deleted and integrated into 12.04.199
16.12.025	Section deleted and replaced with maximum intersection spacing standards and other land division criteria.
16.12.035	Section deleted and consolidated in 12.04.199.
16.12.095	Require applicant to install street signs rather than pay the City to do so.
17.04.030	Changed code reference
17.04.712	New definition of major transit stop
17.04.800	Revise the definition of neighborhood activity center
17.04.1310	Revise the definition of transit street
17.04.1312	New definition of transportation facilities
17.08.020-17.39.020	Transportation facilities are added as a permitted use in each zoning designation
17.34.060.J	Delete parking reductions specifically for the MUD district.

17.34.070.H	Delete parking reductions specifically for the MUD district.
17.52.020	Base parking standards on net leasable area rather than gross leasable area. Consolidate uses and clarify standards. Reorganize and reformat existing parking standards for better readability Creation of McLoughlin Commercial and Downtown Parking Overlay Districts parking reductions as a Type II process. Provide revised definition of Transit Oriented Development, increase reduction up to 25% from 10%. Indicate that it cannot be utilizes in the McLoughlin and Downtown Overlay parking districts.
17.52.015	Add Planning Commission adjustment for parking standards.
17.52.030.E	Add group homes as a use requiring carpool and vanpool parking.
17.52.040	Consolidate bicycle parking uses. Add requirement for covered bicycle parking.
17.52.090	Add loading area criteria
17.62.050.A.2	Requirement to align driveways with streets on adjacent sites. Explicitly state that allow public easements where streets are not practicable. Parcels larger than 2 acres shall provide streets as required in OCMC 12.04.

Oregon City Regional Center



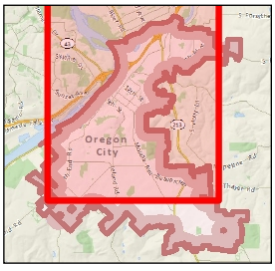
Legend

- Taxlots
- Regional Center (1998)
- City Limits
- UGB

Notes

The boundary of the Oregon City Regional Center has not been adopted by the City of Oregon City or Metro. This map of the Regional Center was used for the Transportation System Plan Update.

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.

N

0 3,041 Feet

1: 36,495

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Map created 3/19/2013

Downtown Parking Overlay District

McLoughlin Commercial Parking Overlay District

Date: April 8, 2013; Map: Proposed Downtown Parking Overlay District - 18x24P.mxd; Plot: Proposed Downtown Parking Overlay District - 18x24P - 20130408.pdf



EXHIBIT 6
FINDINGS OF COMPLIANCE WITH THE RTFP AND TPR

This exhibit provides findings of compliance of the proposed Oregon City Transportation System Plan (TSP) update and the existing and proposed amendments to the Oregon City Municipal Code (OCMC or "code") with the requirements set out in the Metro Regional Transportation Functional Plan (RTFP). As established in the RTFP, demonstrating compliance with the RTFP constitutes compliance with the Regional Transportation Plan (RTP).

The RTFP-related findings are included in Table 1; Table 2 includes findings of compliance for the Transportation Planning Rule (TPR), OAR 660-012. The findings address the relevant sections of the TPR including Section -0045 (Implementation of the TSP) and Section -0060 (Plan and Land Use Regulation Amendments). In some cases, there are cross-references in sub-sections of the TPR to requirements in the RTFP.

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Table 1: Findings of Compliance of the Municipal Code with the RTFP

Regional Transportation Functional Plan Requirement	Findings of Compliance – Municipal Code
Allow complete street designs consistent with regional street design policies **(Title 1, Street System Design Sec 3.08.110A(1))**	Existing code and the updated TSP (Exhibit 1) meet these RTFP requirements in the following ways. OCMC 12.04.180 (Street design) addresses street design in terms of minimum right-of-way and pavement widths. The section refers to the TSP for the functional classifications of roadways that correspond to the minimum widths. Exceptions to the minimum standards are permitted through a public review process if the modification criteria in OCMC 12.04.007 are met. Complete street designs, green street designs, and transit-supportive street designs are permitted and supported by this code language. In particular, OCMC 12.04.260 (Street design—Transit) facilitates transit-supportive street design in requiring the applicant to coordinate with TriMet when the applicant's site potentially impacts transit streets as identified in the TSP. Street designs that are provided in the updated TSP and proposed amendments reflect the surrounding land use designations and multi-modal use of the streets (TSP Volume 1, Tables 1-4, Exhibit 1; TSP Volume 2, Section K, OCMC Tables 12.04.180-183, Exhibit 1).
Allow green street designs consistent with federal regulations for stream protection **(Title 1, Street System Design Sec 3.08.110A(2))**	
Allow transit-supportive street designs that facilitate existing and planned transit service pursuant 3.08.120B **(Title 1, Street System Design Sec 3.08.110A(3))**	
Allow implementation of: • Narrow streets (<28 ft curb to curb); • Wide sidewalks (at least five feet of through zone); • Landscaped pedestrian buffer strips or paved furnishing zones of at least five feet, that include street trees; • Traffic calming to discourage traffic infiltration and excessive speeds; • Short and direct right-of-way routes and shared-use paths to connect residences with commercial services, parks, schools, hospitals, institutions, transit corridors, regional trails and other neighborhood activity centers; • Opportunities to extend streets in an incremental fashion, including posted notification on streets to be extended.	Existing code, proposed code amendments (TSP Volume 2, Section K, Exhibit 1), and the updated TSP (Exhibit 1) meet these RTFP requirements as follows: • Narrow streets: The cross-section standard for local streets in the 2013 TSP show pavement widths from 32 to 40 feet (TSP Volume 1, Table 4, Exhibit 1) depending on the street type (per land use context). These cross-sections are included in the proposed amendments as OCMC Tables 12.04.180 (TSP Volume 2, Section K, Exhibit 1). The minimum pavement width in OCMC 12.04.180 is 16 feet. and allowed with a modification per OCMC 12.04.007. • Wide sidewalks and landscaped pedestrian buffer strips or paved furnishing zones: OCMC 12.04.180 (Street design) specifies right-of-way and

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Regional Transportation Functional Plan Requirement	Findings of Compliance – Municipal Code
(Title 1, Street System Design Sec 3.08.110B)	pavement widths and street design. A landscape strip, sidewalk, a public access is required for all streets, providing at least 21 feet from the pavement width to the edge of the right-of-way. The code and TSP both refer to planting strips and OCMC 12.04.265 (Street design—Planter strips) specifically addresses planting strips. OCMC 12.08.015 (Street tree planting and maintenance requirements) requires street trees for every 35 feet of frontage, to be evenly distributed along the frontage, for all new development and major redevelopment. OCMC 12.04.010 (Construction specifications—Improved streets) requires all sidewalks to be constructed to City standards and widths specified in the TSP. The TSP requires sidewalks for all roads functionally classified as arterials, collectors, and local streets, with widths no less than five feet (TSP Volume 1, Tables 1-4, Exhibit 1). • Traffic calming: Traffic calming is acknowledged in the 2001 TSP, and is more appropriately addressed in the TSP than the code. The updated TSP addresses traffic calming in projects proposed in the Financially Constrained and Planned Transportation Systems (TSP Volume 1, Table 5 and TSP Volume 2, Section I, Table 2). • Short and direct right-of-way routes and shared-use paths: OCMC 12.04.199 (Pedestrian and Bicycle Accessways) establishes standards "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." Multimodal circulation within a site or land division is supported by the provisions in OCMC 16.08.025.B (Traffic/Transportation Plan), 17.52 (Off-Street Parking and Loading), and 17.62 (Site Plan and Design Review). A detailed site circulation plan is required that shows proposed vehicular, bicycle, transit and pedestrian circulation

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Regional Transportation Functional Plan Requirement	Findings of Compliance – Municipal Code
	within a site and connections to the existing transportation system, to existing rights-of-way or adjacent tracts, and to parking and loading areas. The code also establishes pedestrian and bicycle accessways, which are defined in OCMC 17.04.030 as " any off-street path or way as described in Chapter 12.04, intended primarily for pedestrians or bicycles and which provides direct routes within and from new developments to residential areas, retail and office areas, transit streets and neighborhood activity centers". Accessways, pursuant to OCMC 12.04, are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding 330 feet of frontage; or where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips.land divisions, master plans, commercial and multi-family developments (OCMC Chapters 16.08, 16.16, 17.68 and 17.62). In these ways, existing code provisions ensure that bicycle and pedestrian paths and connections can be required through the development and land division permitting process. • Opportunities to extend streets: The code generally discourages dead-end and stub streets but Subsection B of OCMC 12.04.175 (Street design—Generally) allows for stubbing streets when necessary to create connections to future adjacent development. Likewise, OCMC 17.62.050.A.2.g. in Site Design Review states that "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." For land divisions, OCMC 16.08.025.B (Traffic/Transportation Plan) requires that a detailed site circulation plan show "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." Proposed amendments to the OCMC require that notification be posted on streets to be extended (see amendments to OCMC 12.04.175 in TSP Volume 2, Section K, Exhibit 1).

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Regional Transportation Functional Plan Requirement	Findings of Compliance – Municipal Code
Require new residential or mixed-use development (of five or more acres) that proposes or is required to construct or extend street(s) to provide a site plan (consistent with the conceptual new streets map required by Title 1, Sec 3.08.110D) that: • Provides full street connections with spacing of no more than 530 feet between connections except where prevented by barriers • Provides a crossing every 800 to 1,200 feet if streets must cross water features protected pursuant to Title 3 UGMFP (unless habitat quality or the length of the crossing prevents a full street connection) • Provides bike and pedestrian accessways in lieu of streets with spacing of no more than 330 feet except where prevented by barriers • Limits use of cul-de-sacs and other closed-end street systems to situations where barriers prevent full street connections • Includes no closed-end street longer than 220 feet or having no more than 25 dwelling units **(Title 1, Street System Design Sec 3.08.110E)**	Existing code and proposed code amendments (TSP Volume 2, Section K, Exhibit 1) meet these RTFP requirements as follows: • In general, multimodal circulation within a site or land division is supported by OCMC 16.08.025.B (Traffic/Transportation Plan). • Street connections with spacing of no more than 1,320 feet between intersections is proposed in OCMC 12.04.196 (Maximum Street intersection Spacing).Accessways, pursuant to OCMC 12.04, are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding 330 feet of frontage; or where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips. (See TSP Volume 2, Section K, Exhibit 1for proposed amendments). • Cul-de-sacs and closed-end streets: OCMC 12.04.225 (Street design—Cul-de-sacs and dead-end streets) currently limits the use of cul-de-sacs and dead-end streets in Oregon City. When they are proposed, they are required to be less than 350 feet long. OCMC 12.04.225 (Pedestrian and bicycle accessways) requires pedestrian and bicycle accessways from cul-de-sacs. Proposed amendments to OCMC 12.04.225 reduce the street length to 220 feet and limit housing on the street segment to 25 dwelling units for new cul-de-sacs in order to fully comply with this RTFP requirement (see TSP Volume 2, Section K, Exhibit 1).
Establish city/county standards for local street connectivity, consistent with Title 1, Sec 3.08.110E, that applies to new residential or mixed-use development (of less than five acres) that proposes or is required to construct or extend street(s). **(Title 1, Street System Design Sec 3.08.110F)**	Existing code language meets this requirement. Preliminary plat standards for subdivisions in OCMC 16.08.025.B require a transportation plan shows a circulation system that is connected to the surrounding transportation system and demonstrates compliance with other code transportation standards. This includes compliance with block length standards in street connections with spacing of no more than 1,320 feet between intersections is proposed in OCMC 12.04.196 (Maximum Street intersection Spacing), as well as required connections

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Regional Transportation Functional Plan Requirement	Findings of Compliance – Municipal Code
	with future adjacent development (OCMC 12.04.196, and 17.62.050.A.2.f).
Applicable to both Development Code and TSP To the extent feasible, restrict driveway and street access in the vicinity of interchange ramp terminals, consistent with Oregon Highway Plan Access Management Standards, and accommodate local circulation on the local system. Public street connections, consistent with regional street design and spacing standards, shall be encouraged and shall supersede this access restriction. Multimodal street design features including pedestrian crossings and on-street parking shall be allowed where appropriate. **(Title 1, Street System Design Sec 3.08.110G)**	Existing code, proposed code amendments (TSP Volume 2, Section K, Exhibit 1), and the updated TSP (Exhibit 1) meet this RTFP requirement in the following ways. OCMC 12.04.005.A (Jurisdiction and management of the public rights-of-way) acknowledges that ODOT and Clackamas County also have rights-of-way in the city and, for facilities not under City jurisdiction, defers to the applicable jurisdiction and their permitting standards. Proposed street spacing standards (TSP Volume 1, Tables 1-4, Exhibit 1) allow for more connectivity than the requirements in RTFP Section 3.08.110G and C (major arterial spacing of one mile and minor arterial and collector spacing of a half mile). Street connections with spacing of no more than 1,320 feet between intersections is proposed in OCMC 12.04.196 (Maximum Street intersection Spacing) to provide connectivity and nonlocal streets shall be constructed as identified in the Functional Classification Map in the TSP (OCMC 12.04.180). Pedestrian crossings are addressed in proposed projects in the TSP Financially Constrained and Planned Transportation Systems (TSP Volume 1, Table 5 and TSP Volume 2, Section I, Table 2, Exhibit 1). Amendments to support crossings in the vicinity of transit stops are proposed for OCMC 17.62.050(A)(16) (see TSP Volume 2, Section K, Exhibit 1).
Include Site design standards for new retail, office, multi-family and institutional buildings located near or at major transit stops shown in Figure 2.15 in the RTP: • Provide reasonably direct pedestrian connections between transit stops and building	Existing code and proposed code amendments (TSP Volume 2, Section K, Exhibit 1) meet these RTFP requirements in the following ways. Subsection A.9 of OCMC 17.62.050, Site Plan and Design Review,

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Regional Transportation Functional Plan Requirement	Findings of Compliance – Municipal Code
entrances and between building entrances and streets adjoining transit stops; • Provide safe, direct and logical pedestrian crossings at all transit stops where practicable At major transit stops, require the following: • Locate buildings within 20 feet of the transit stop, a transit street or an intersection street, or a pedestrian plaza at the stop or a street intersections; • Transit passenger landing pads accessible to disabled persons to transit agency standards; • An easement or dedication for a passenger shelter and an underground utility connection to a major transit stop if requested by the public transit provider; • Lighting to transit agency standards at the major transit stop; • Intersection and mid-block traffic management improvements as needed and practicable to enable marked crossings at major transit stops. **(Title 1, Transit System Design Sec 3.08.120B(2))**	establishes extensive criteria for pedestrian circulation on-site. OCMC 17.62.080 specifically addresses development along transit streets, including requirements for maximum setbacks and for all buildings to face the street and to have a direct pedestrian connection with the transit street. OCMC 12.04.260 (Street design—Transit) requires the applicant to coordinate with TriMet when the applicant's site potentially impacts transit streets as identified in the City TSP. Amendments to support crossings in the vicinity of transit stops are proposed for OCMC 17.62.050(A)(16) (see TSP Volume 2, Section K, Exhibit 1). Standards in both OCMC Chapter 12.04 (Streets, Sidewalks and Public Places) and Chapter 17.62 (Site Plan and Design Review) address street and site plan design to accommodate transit amenities and facilities. OCMC 12.04.260 (Street design—Transit), 17.62.080 (Special development standards along transit streets), and 17.62.050.A.15 of Site Plan and Design Review allow decision makers to require transit-supportive elements such as direct pedestrian and bicycle connections to transit streets and stops, as well as easements, stops, shelters, pullouts, and pads, when the site is adjacent to a designated transit street.
(Could be in Comprehensive plan or TSP as well) As an alternative to implementing site design standards at major transit stops (section 3.08.120B(2), a city or county may establish pedestrian districts with the following elements: • A connected street and pedestrian network for the district; • An inventory of existing facilities, gaps and deficiencies in the network of pedestrian routes; • Interconnection of pedestrian, transit and bicycle systems; • Parking management strategies;	The "alternative approach" of establishing pedestrian districts, as allowed for in this RTFP requirement, is not necessary. The City's existing and proposed development requirements are transit supportive and consistent with RTFP requirements as demonstrated in the findings above.

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Regional Transportation Functional Plan Requirement	Findings of Compliance – Municipal Code
• Access management strategies; • Sidewalk and accessway location and width; • Landscaped or paved pedestrian buffer strip location and width; • Street tree location and spacing; • Pedestrian street crossing and intersection design; • Street lighting and furniture for pedestrians; • A mix of types and densities of land uses that will support a high level of pedestrian activity. **(Title 1, Pedestrian System Design Sec 3.08.130B)**	
Require new development to provide on-site streets and accessways that offer reasonably direct routes for pedestrian travel. **(Title 1, Pedestrian System Design Sec 3.08.130C)**	Existing code meets this RTFP requirement. OCMC 17.62.050.A.9 for Site Plan and Design Review establishes extensive criteria for on-site pedestrian circulation. Pedestrian circulation is also addressed by OCMC Chapter 12.04.199(Pedestrian and Bicycle Accessways) and OCMC 16.08.025.B (Traffic/Transportation Plan).
Establish parking ratios, consistent with the following: • No minimum ratios higher than those shown on Table 3.08-3. • Mo maximum ratios higher than those shown on Table 3.08-3 and illustrated in the Parking Maximum Map. If 20-minute peak hour transit service has become available to an area within a one-quarter mile walking distance from bus transit one-half mile walking distance from a high capacity transit station, that area shall be removed from Zone A. Cities and counties should designate Zone A parking ratios in areas with good pedestrian access to commercial or employment areas (within one-third mile walk) from adjacent residential areas. • Establish a process for variances from minimum and maximum parking ratios that include criteria for a variance.	Existing code and proposed code amendments (TSP Volume 2, Section K, Exhibit 1) meet these RTFP requirements as follows: • Parking ratios and maximums: Current City parking ratios and maximums are presented in Table 17.52.020 of OCMC Chapter 17.52 (Off-Street Parking and Loading) and are consistent with those in RTFP Table 3.08-3, • Creation of of a type II parking reduction for the Downtown Parking Overlay District: (50% reduction in the minimum number of spaces required)and the McLoughlin Commercial Parking Overlay District: (35% reduction in the minimum number of spaces required). Reduction of spaces based on areas that can accommodate a denser development pattern based on existing land use, infrastructure and ability to access the site by means of walking, biking or transit

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Regional Transportation Functional Plan Requirement	Findings of Compliance – Municipal Code
• Require that free surface parking be consistent with the regional parking maximums for Zones A and B in Table 3.08-3. Following an adopted exemption process and criteria, cities and counties may exempt parking structures; fleet parking; vehicle parking for sale, lease, or rent; employee car pool parking; dedicated valet parking; user-paid parking; market rate parking; and other high-efficiency parking management alternatives from maximum parking standards. Reductions associated with redevelopment may be done in phases. Where mixed-use development is proposed, cities and counties shall provide for blended parking rates. Cities and counties may count adjacent on-street parking spaces, nearby public parking and shared parking toward required parking minimum standards. Use categories or standards other than those in Table 3.08-3 upon demonstration that the effect will be substantially the same as the application of the ratios in the table. • Provide for the designation of residential parking districts in local comprehensive plans or implementing ordinances. • Require that parking lots more than three acres in size provide street-like features along major driveways, including curbs, sidewalks and street trees or planting strips. Major driveways in new residential and mixed-use areas shall meet the connectivity standards for full street connections in section 3.08.110, and should line up with surrounding streets except where prevented by topography, rail lines, freeways, pre-existing development or leases, easements or covenants that existed prior to May 1, 1995, or the requirements of Titles 3 and 13 of the UGMFP. • Require on-street freight loading and unloading areas at appropriate locations in centers. Establish short-term and long-term bicycle parking minimums for: • New multi-family residential developments of four units or more; • New retail, office and institutional developments; • Transit centers, high capacity transit stations, inter-city bus and rail passenger terminals; and • Bicycle facilities at transit stops and park-and-ride lots.	• Variances and exemptions: Creation of a Planning Commission Parking Adjustment Process to provide for flexibility in modifying parking standards in all zoning districts, without permitting an adjustment that would adversely impact the surrounding or planned neighborhood. • Residential parking districts: The City has an eixsitng parking permit program. • Parking lot landscaping and pedestrian circulation: OCMC 17.52.060 (Parking lot landscaping) includes requirements for pedestrian accessways, trees, and landscaping along the perimeter and in the interior of parking lots. Proposed amendments require that wide driveways align with existing or planned streets on adjacent sites (TSP Volume 2, Section K, Exhibit 1). • On-street loading: Proposed amendments to create OCMC 17.52.090, a new section in OCMC Chapter 17.52 (Off-Street Parking and Loading), address off-street and on-street loading and unloading (see TSP Volume 2, Section K, Exhibit 1). • Long-term bicycle parking: OCMC 17.52.040 (Bicycle parking standards) addresses the amount of bicycle parking, and parking location and design. The section addresses parking for the uses specified in the RTFP requirement, but it does not specifically address long-term bicycle parking. So it is proposed that OCMC 17.52.040 (Bicycle parking standards) be amended to include requirements for long-term bicycle parking in multi-family, retail, office, institutional, and transit facility development. (See proposed amendments in TSP Volume 2, Section K, Exhibit 1).

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Regional Transportation Functional Plan Requirement	Findings of Compliance – Municipal Code
(Title 4, Parking Management Sec 3.08.410)	

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Table 3: Findings of Compliance of the Comprehensive Plan with the RTFP

Regional Transportation Functional Plan Requirement	Findings of Compliance – Comprehensive Plan
When proposing an amendment to the comprehensive plan or to a zoning designation, consider the strategies in subsection 3.08.220A as part of the analysis required by OAR 660-012-0060. If a city or county adopts the actions set forth in 3.08.230E (parking ratios, designs for street, transit, bicycle, pedestrian, freight systems, TSMO projects and strategies, and land use actions) and section 3.07.630.B of Title 6 of the UGMFP, it shall be eligible for an automatic reduction of 30 percent below the vehicular trip generation rates recommended by the Institute of Transportation Engineers when analyzing the traffic impacts, pursuant to OAR 660-012-0060, of a plan amendment in a Center, Main Street, Corridor or Station Community. **(Title 5, Amendments of City and County Comprehensive and Transportation System Plans Sec 3.08.510A,B)**	The strategies and actions in RTFP Sections 3.08.220A and 3.08.230E were integrated into the updated TSP. Instead of the 30% trip reduction offered in RTFP Section 3.08.510, the City is considering designation of a Multimodal Mixed-Use Area (MMA) in Downtown or as part of the Regional Center. The MMA designation, allowed by the Transportation Planning Rule (OAR 660-012-0060(10)), could help address areas that do not currently or are not projected to meet mobility standards. Designation of a MMA would occur as a separate Comprehensive Plan amendment process. In preparation for a potential MMA designation, the OCMC was preliminarily assessed for consistency with MMA requirements that are established in OAR 660-012-0060(10). It was found that existing code meets most of the MMA requirements except for parking provisions. To address this, proposed code amendments to reduce minimum parking requirements for the Downtown Parking Overlay District, which would likely be the core of a MMA along with the creation of a new Planing Commission Parking Adjustment process meets the intent of the MMA standards for minimum parking.(See proposed amendments to OCMC 17.52.20.
(Could be located in TSP or other adopted policy document) Adopt parking policies, management plans and regulations for Centers and Station Communities. Plans may be adopted in TSPs or other adopted policy documents and may focus on sub-areas of Centers. Plans shall include an inventory of parking supply and usage, an evaluation of bicycle parking needs with consideration of *TriMet Bicycle Parking Guidelines*. Policies shall be adopted in the TSP. Policies, plans and regulations must consider and may include the following range of strategies: • By-right exemptions from minimum parking requirements; • Parking districts; • Shared parking; • Structured parking;	Chapter 17.52 (Off-Street Parking and Loading) of the City code addresses shared parking, bicycle parking, and carpool/vanpool employee parking. The 2009 Downtown Oregon City Parking Study recommends several parking strategies that can be worked into a parking management plan and other implementation strategies. Funding is needed to indicate future plans for a parking management plan for the Downtown/Regional Center.

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• Bicycle parking; • Timed parking; • Differentiation between employee parking and parking for customers, visitors and patients; • Real-time parking information; • Priced parking; • Parking enforcement. **(Title 4, Parking Management Sec 3.08.410I)**	

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Regional Transportation Functional Plan Requirement	Findings of Compliance – Comprehensive Plan
When proposing an amendment to the comprehensive plan or to a zoning designation, consider the strategies in subsection 3.08.220A as part of the analysis required by OAR 660-012-0060. If a city or county adopts the actions set forth in 3.08.230E (parking ratios, designs for street, transit, bicycle, pedestrian, freight systems, TSMO projects and strategies, and land use actions) and section 3.07.630.B of Title 6 of the UGMFP, it shall be eligible for an automatic reduction of 30 percent below the vehicular trip generation rates recommended by the Institute of Transportation Engineers when analyzing the traffic impacts, pursuant to OAR 660-012-0060, of a plan amendment in a Center, Main Street, Corridor or Station Community. **(Title 5, Amendments of City and County Comprehensive and Transportation System Plans Sec 3.08.510A,B)**	The strategies and actions in RTFP Sections 3.08.220A and 3.08.230E were integrated into the updated TSP. Instead of the 30% trip reduction offered in RTFP Section 3.08.510, the City is considering designation of a Multimodal Mixed-Use Area (MMA) in Downtown or as part of the Regional Center. The MMA designation, allowed by the Transportation Planning Rule (OAR 660-012-0060(10)), could help address areas that do not currently or are not projected to meet mobility standards. Designation of a MMA would occur as a separate Comprehensive Plan amendment process. In preparation for a potential MMA designation, the OCMC was preliminarily assessed for consistency with MMA requirements that are established in OAR 660-012-0060(10). It was found that existing code meets most of the MMA requirements except for parking provisions. To address this, proposed code amendments remove minimum parking requirements for the Mixed-Use Downtown (MUD) District, which would likely be the core of a MMA. (See proposed amendments to OCMC 17.34.060 (Mixed-use downtown dimensional standards—For properties located outside of the downtown design district), OCMC 17.34.070 (Mixed-use downtown dimensional standards—For properties located within the downtown design district), and OCMC 17.52.020(Number of automobile spaces required) in TSP Volume 2, Section K, Exhibit 1).
(Could be located in TSP or other adopted policy document) Adopt parking policies, management plans and regulations for Centers and Station Communities. Plans may be adopted in TSPs or other adopted policy documents and may focus on sub-areas of Centers. Plans shall include an inventory of parking supply and usage, an evaluation of bicycle parking needs with consideration of *TriMet Bicycle Parking Guidelines*. Policies shall be adopted in the TSP. Policies, plans and regulations must consider and may include the following range of strategies: • By-right exemptions from minimum parking requirements; • Parking districts;	Chapter 17.52 (Off-Street Parking and Loading) of the City code addresses shared parking, bicycle parking, and carpool/vanpool employee parking. The 2009 Downtown Oregon City Parking Study recommends several parking strategies that can be worked into a parking management plan and other implementation strategies. Funding is needed to indicate future plans for a parking management plan for the Downtown/Regional Center.

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• Shared parking; • Structured parking; • Bicycle parking; • Timed parking; • Differentiation between employee parking and parking for customers, visitors and patients; • Real-time parking information; • Priced parking; • Parking enforcement. **(Title 4, Parking Management Sec 3.08.410I)**	

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Table 2: Findings of Compliance with the TPR (OAR 660-012-0045 and -0060)

OAR 660-012-0045 Implementation of the TSP	**Findings of Compliance**
(1) Each local government shall amend its land use regulations to implement the TSP.	
(b) To the extent, if any, that a transportation facility, service, or improvement concerns the application of a comprehensive plan provision or land use regulation, it may be allowed without further land use review if it is permitted outright or if it is subject to standards that do not require interpretation or the exercise of factual, policy or legal judgment.	It is proposed that the OCMC be amended to specify transportation facilities and improvements as permitted uses in its City zoning districts (TSP Volume 2, Section K, Exhibit 1).
(c) Where a transportation facility, service or improvement is determined to have a significant impact on land use or requires interpretation or the exercise of factual, policy or legal judgment regarding the application of a comprehensive plan or land use regulation, the local government shall provide a review and approval process that is consistent with 660-012-0050 (Transportation Project Development). Local governments shall amend regulations to provide for consolidated review of land use decisions required to permit a transportation project.	Notice provisions in OCMC 17.50.090 (Public notices) already require agencies like TriMet and ODOT to be contacted in cases of legislative applications (Subsection C).
(2) Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities for their identified functions.	
(a) Access control measures.	Block lengths and spacing standards are addressed by the new street design criteria in the TSP (TSP Volume 1, Tables 1-4, Exhibit 1). Text and tables in OCMC 12.04.180 (Street design—OCMC 12.04.195 (Minimum street intersection spacing standards), and 12.04.196 (Maximum Street Intersection Spacing Standards) are proposed to be replaced with street design and spacing standards tables from the updated TSP (TSP Volume 2, Section K, Exhibit 1).
(b) Standards to protect the future operations of roadways and transit corridors	Traffic impact studies are required for subdivisions pursuant to OCMC 16.08.025(B), and are enabled for Site Plan and Design Review in OCMC 17.62.040(I). Mobility standards for roadways in the city are established in the OHP for state roadways, in the RTP and RTFP for regional roadways, and in the City TSP for local roadways (TSP Volume 1, Section 4, Standards). City mobility standards are proposed to be changed to be more accommodating of peak hour congestion and to

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OAR 660-012-0045 Implementation of the TSP	Findings of Compliance
	not over-design streets so that they are wide and difficult to bike along or to cross. OCMC 12.04.205 (Intersection level of service standards) is proposed to be amended to reflect the updated standards proposed in the TSP (TSP Volume 2, Section K, Exhibit 1). Zone change amendment criteria (OCMC 17.68.020) require that sufficient public facilities be provided and that Statewide Planning Goals, such as transportation, be complied with.
(d) Coordinated review of future land use decisions affecting transportation facilities, corridors or sites	See response and proposed amendments related to -0045(1)(c).
(e) Process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities	Pursuant to OCMC 17.50.130(A), "(a)ll city decision-makers have the authority to impose reasonable conditions of approval designed to ensure that all applicable approval standards are, or can be, met."
(f) Regulations to provide notice to public agencies providing transportation facilities and services, MPOs, and ODOT of: land use applications that require public hearings, subdivision and partition applications, applications which affect private access to roads, applications within airport noise corridor and imaginary surfaces which affect airport operations.	See response and proposed amendments related to -0045(1)(c).
g) Regulations assuring amendments to land use designations, densities, design standards are consistent with the function, capacities, and levels of service of facilities designated in the TSP.	OCMC 17.68.020(C) requires, for proposed zoning designation amendments, that "(t)he 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."
(3) Local governments shall adopt land use or subdivision regulations for urban areas and rural communities as set forth in 660-012-0040(3)(a-d):	
(a) Provide bicycle parking in multifamily developments of 4 units or more, new retail, office and institutional developments, transit transfer stations and park-and-ride lots	***Addressed by RTFP, Title 4: Regional Parking Management, 3.08.410.I.*** Bicycle parking requirements are established for all uses in Oregon City Municipal Code (OCMC) Section 17.52.040 (Bicycle Parking

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OAR 660-012-0045 Implementation of the TSP	Findings of Compliance
	Standards).
(b) Provide "safe and convenient" (per subsection 660-012-0045.3(d)) pedestrian and bicycle connections from new subdivisions/multifamily development to neighborhood activity centers; bikeways are required along arterials and major collectors; sidewalks are required along arterials, collectors, and most local streets in urban areas except controlled access roadways	***Addressed by RTFP, Title 1: Pedestrian System Design, 3.08.130, and Title 1: Bicycle System Design, 3.08.140*** Section -050 (Standards) of Chapter 17.62 (Site Plan and Design Review) sets requirements for street connectivity and a "well-marked, continuous and protected on-site pedestrian circulation system." Section 025.B of Chapter 16.08 (Subdivisions – Process and Standards) requires a detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the existing system, and circulation patterns and connectivity to existing rights-of-way or adjacent tracts. Section 12.04.199 (Pedestrian and bicycle accessways) requires pedestrian and bicycle access to activity centers, where this access is not provided via street right-of-way. Roadway cross-sections shown in Figures 5-2A and 5-2B in the 2001 TSP include bike lanes for all roads other than local streets and sidewalks for all roads.
(c) Off-site road improvements required as a condition of development approval must accommodate bicycle and pedestrian travel, including facilities on arterials and major collectors	Where off-site improvements are required, the existing roadway cross-sections will govern and currently they require pedestrian and bicycle facilities.
(e) Provide internal pedestrian circulation within new office parks and commercial developments	***Addressed by RTFP, Title 1: Street System Design, 3.08.110E***

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OAR 660-012-0045 Implementation of the TSP	**Findings of Compliance**
	Site Plan and Design Review is required for all new non-residential development, as well as conditional uses, cottage housing development, and multi-family uses in all zones Section -050 (Standards) of Chapter 17.62 (Site Plan and Design Review) requires a "well-marked, continuous and protected on-site pedestrian circulation system" for all proposed development.
(4) To support transit in urban areas containing a population greater than 25,000, where the area is already served by a public transit system or where a determination has been made that a public transit system is feasible, local governments shall adopt land use and subdivision regulations as provided in (a)-(g) below:	
(a) Transit routes and transit facilities shall be designed to support transit use through provision of bus stops, pullouts and shelters, optimum road geometrics, on-road parking restrictions and similar facilities, as appropriate;	***Addressed by RTFP, Title 1: Transit System Design, 3.08.120*** Section 12.04.260 (Street design – Transit) requires that streets be designed and constructed in a way that supports pedestrian and bicycle circulation and that applicants coordinate with TriMet when development impacts transit streets identified in Figure 5.7 (Public Transit System Plan) of the TSP. The section allows decision makers to require transit and transit-related facilities where they have been identified and planned.
(b) New retail, office and institutional buildings at or near major transit stops shall provide for convenient pedestrian access to transit through the measures listed in (A) and (B) below. (A) Walkways shall be provided connecting building entrances and streets adjoining the site; (B) Pedestrian connections to adjoining properties shall be provided except where such a connection is impracticable as provided for in OAR 660-012-0045(3)(b)(E). Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways that abut the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property;	***Addressed by RTFP, Title 1: Transit System Design, 3.08.120*** Section 12.04.260 (Street design – Transit) requires pedestrian and bicycle accessways be provided (in accordance with OCMC Section 17.90.220 and Chapter 12.24) to minimize travel distance and support access to transit streets, transit stops, and neighborhood activity centers
(C) In addition to (A) and (B) above, on sites at major transit stops provide the following: (i) Either locate buildings within 20 feet of the transit stop, a transit street or an intersecting street	***Addressed by RTFP Title 1: Pedestrian System Design, 3.08.130B*** OCMC 12.04.260 (Street design – Transit) requires the applicant to

DRAFT

OAR 660-012-0045 Implementation of the TSP	Findings of Compliance
or provide a pedestrian plaza at the transit stop or a street intersection; (ii) A reasonably direct pedestrian connection between the transit stop and building entrances on the site; (iii) A transit passenger landing pad accessible to disabled persons; (iv) An easement or dedication for a passenger shelter if requested by the transit provider; and (v) Lighting at the transit stop.	consult with TriMet when the application impacts transit streets.
(d) Designated employee parking areas in new developments shall provide preferential parking for carpools and vanpools;	Subsection E of Section 17.52.030 (Standards for automobile parking) establishes requirements for carpool and vanpool parking that comply with this provision.
(e) Existing development shall be allowed to redevelop a portion of existing parking areas for transit-oriented uses, including bus stops and pullouts, bus shelters, park and ride stations, transit-oriented developments, and similar facilities, where appropriate;	Subsection B of Section 17.52.020 (Number of automobile spaces required) allows for reductions in the required amount of parking in the case of transit-oriented and multi-family housing development. outside of the Downtown and McLoughlin Commercial Parking Overlay Districts. Reduction to minimum parking stamdards has been increased up to 25% from 10%. Revised definition of Transit Oriented Development creates a simplified Type II process for reduction.
(f) Road systems for new development shall be provided that can be adequately served by transit, including provision of pedestrian access to existing and identified future transit routes. This shall include, where appropriate, separate accessways to minimize travel distances;	***Addressed by RTFP Title 1: Street System Design, 3.08.110E, and Title 1: Transit System Design, 3.08.120, and Title 1: Pedestrian System Design, 3.08.130*** Section 12.04.260 (Street design – Transit) requires pedestrian and bicycle accessways be provided (in accordance with OCMC Section 12.04.199) to minimize travel distance and support access to transit streets, transit stops, and neighborhood activity centers.
(g) Along existing or planned transit routes, designation of types and densities of land uses adequate to support transit.	Zoning along transit lines in Oregon City is generally consistent with this TPR provision. Line 32 – In downtown Oregon City, this line is adjacent mostly to

DRAFT

OAR 660-012-0045 Implementation of the TSP	Findings of Compliance
	MUD (Mixed Use Downtown), MUE (Mixed Use Employment), R3.5 (Single Family Residential, minimum 3,500 sf lot), and R6 (Single Family Residential, minimum 6,000 sf lot) zoning. As the line travels south of downtown on Molalla, the zoning is mainly MUC (Mixed Use Corridor). In reaching its destination of the Clackamas Community College campus, it is surrounded by a mixture of MUC, C (General Commercial), R2 (Single Family Residential, minimum 2,000 sf lot), GI (General Industrial), and I (Institutional) zoning. So the zoning along this line is generally consistent with this TPR provision. It is only the GI zoning that appears inconsistent; however, the route passes this zoning as part of reaching the college campus, so this inconsistency may be acceptable in this case. Line 33 – In downtown Oregon City, this line is adjacent mostly to MUC, MUD, R3.5, and I zoning. As the route moves south of downtown on Linn, it is surrounded mainly by R2, R6, R8 (Single Family Residential, minimum 8,000 sf lot), and R10 (Single Family Residential, minimum 10,000 sf lot) zoning. Residential areas with minimum lot sizes of 8,000 square feet and 10,000 square feet may be less adequate to support transit. However, this part of the route is located between downtown to the north and MUC, MUE, C, R2, R3.5, and I zoning to the south along Warner Milne, Beavercreek, and Molalla to the Clackamas Community College campus, so again this may be acceptable overall. Line 34 – This line travels through downtown Oregon City, surrounded primarily by MUD zoning, before heading east/northeast on Abernethy and Holcomb to serve primarily residential areas in this part of the city. The zoning is mainly R 3.5, R6, R8, and R10. Again, R8 and R10 may not be entirely appropriate for transit routing but the route terminates and loops in a large area of R3.5 zoning, whose higher density helps justify the routing of this line. In addition, this route is one that operates during peak hours only for commuters, further allowing in particular for the range of

DRAFT

OAR 660-012-0045 Implementation of the TSP	Findings of Compliance
	residential zoning found along it. Line 99 – This line takes its own route on 7th through downtown Oregon City, where it is adjacent to MUC zoning. For the remainder of its route in the city, it coincides with Lines 32 and 33; see the comments pertaining to those routes. Lines 35, 79, and 154 – These three routes enter the city as far as downtown and are adjacent to MUD zoning, which is appropriate for transit routing and service.
(5) In MPO areas, local governments shall adopt land use and subdivision regulations to reduce reliance on the automobile which:	
(a) Allow transit-oriented developments (TODs) on lands along transit routes;	See OAR 660-012-0045(4)(g) above. While not allowed on all land along transit routes in Oregon City, there is a significant amount of mixed use zoning along the routes that will allow this type of development.
(b) Implements a demand management program to meet the measurable standards set in the TSP;	Subsection B of Section 17.52.030 (Number of automobile spaces required) allows for reductions in the required amount of parking in the case of TDM programs. TDM program elements are included in the Financially Constrained and Planned Transportation Systems (TSP Volume 1, Table 5 and TSP Volume 2, Section I, Table 2). The projected performance of these systems is provided in Section 8 (Outcomes) of the TSP.
(c) Implements a parking plan which: (A) Achieves a 10% reduction in the number of parking spaces per capita in the MPO area over the planning period. This may be accomplished through a combination of restrictions on development of new parking spaces and requirements that existing parking spaces be redeveloped to other uses; (B) Aids in achieving the measurable standards set in the TSP in response to OAR 660-012-	A parking management plan will be addressed in TSP policy as a plan to be prepared for Downtown/the Regional Center. ***OR***

DRAFT

OAR 660-012-0045 Implementation of the TSP	**Findings of Compliance**
0035(4) [reducing reliance on the automobile]; (C) Includes land use and subdivision regulations setting minimum and maximum parking requirements in appropriate locations, such as downtowns, designated regional or community centers, and transit oriented-developments; and (D) Is consistent with demand management programs, transit-oriented development requirements and planned transit service. ***OR*** (d) As an alternative to (c) above, local governments in an MPO may instead revise ordinance requirements for parking as follows: (A) Reduce minimum off-street parking requirements for all non-residential uses from 1990 levels; (B) Allow provision of on-street parking, long-term lease parking, and shared parking to meet minimum off-street parking requirements; (C) Establish off-street parking maximums in appropriate locations, such as downtowns, designated regional or community centers, and transit-oriented developments; (D) Exempt structured parking and on-street parking from parking maximums; (E) Require that parking lots over 3 acres in size provide street-like features along major driveways (including curbs, sidewalks, and street trees or planting strips); and (F) Provide for designation of residential parking districts.	Off-street parking requirements for non-residential uses have been reduced from 1990 levels because Oregon City adopted RTP parking ratios as part of its last TSP update. Off-street parking is allowed according to roadway cross-sections and Subsection 17.52.020(B)(3) and (5) make provisions for shared parking and off-street parking. Section and Table 17.52.020 (Number of automobile spaces required) establish both minimum and maximum parking space requirements. No exemptions are made for structured parking. Structured parking is a conditional use subject to other review and requirements. Section 17.52.060 (Parking lot landscaping) sets standards for walkways/sidewalks and landscaping the perimeters and interiors of parking areas. Residential parking districts can be established through an existing permit parking program.
(e) Require all major industrial, institutional, retail and office developments to provide either a transit stop on site or connection to a transit stop along a transit trunk route when the transit operator requires such an improvement.	Section 12.04.260 (Street design – Transit) requires that applicants coordinate with TriMet when development impacts transit streets identified in Figure 5.7 (Public Transit System Plan) of the TSP.
OAR 660-012-0060 Plan and Land Use Regulation Amendments	**Findings**
Amendments to functional plans, acknowledged comprehensive plans, and land use regulations	OCMC 17.68.020(C) requires, for proposed amendments, that "(t)he land uses authorized by the proposal are consistent with the existing

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OAR 660-012-0045 Implementation of the TSP	Findings of Compliance
that significantly affect an existing or planned transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility.	or planned function, capacity and level of service of the transportation system serving the proposed zoning district."

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Oregon City Planning Commission
Meeting of April 22nd, 2013

RE: Citizen Comments

Testimony of: Christine Kosinski, Unincorporated Clackamas County

I would like to address a comment made by Commissioner Geil a few weeks ago, which was that the people of Holly Lane are not against growth or development, but rather are seeking Smart Development. Holly Lane sits in a unique position, yes, it is the only North/South connector between Beavercreek and Redland roads, however as the City has brought more and more development up to these County boundaries, safety and livability have been sacrificed when there is no need for this to happen if development is appropriately planned. We have seen a 16 yr old cling to life in an auto accident, we are first responders and the victims of hundreds of accidents that occur in the ditches and at the curve. Most of our pets have been killed, we worry whether one of us will be next. We took an active role in the Park Place Concept Plan, we met with the Developer on a few occasions to speak about solutions, knowing that heavy density here would be an unsafe undertaking.

The best Geologists in the area came out to help Holly Ln, they pointed out areas that were good to build in and those that were not. The developer came to the City stating he could build beautiful upscale homes on 2-5 acre parcels, adding more property value to the tax rolls. It is easier to site homes on large lots for stability in a landslide zone and less homes would reduce incidents of travel. The requests for less density were denied, stating that the City had to meet Metro density requirements. So, Holly Lane was left with a concept plan to the north and yet another to the South, with both plans and a Commercial center adding more than 50,000 ADT's per day to the transportation system, with many motorists choosing to use Holly. All the people of Holly Ln sought was safety and livability for their children and families, but what they got was more and more volumes of traffic, some of which travel Holly at more than 91 MPH!

Is it any wonder that we asked for Smart Development because as you can see, we tried, we worked hard to achieve this in the Concept process, however in the end, the concerns for our people were turned away. Please do not label us as being against development because we are not, we have done everything to bring our concerns to this City, we only hope within time that we will be recognized and that the safety for our lives and our neighborhood will finally be upheld by Oregon City and that Smart Development, addressing safety and landslides, will be undertaken.

On a better note, what I really came to tell you, is that I want to give each of you a big THANK YOU for the wonderful work you are doing. Your Commission is certainly a "breath of fresh air" from some of those in the past. You are attentive to each detail, you do your research and are informed, but most of all you listen, you are open to the many concerns and comments brought before you and you seek solutions.. Your Commission is doing a GREAT JOB, you deserve much appreciation for all that you do and most of all Thank You for being so very gracious.

...TERED INTO THE RECORD
DATE RECEIVED: 4/22/2013
SUBMITTED BY: Christine Kosinski
SUBJECT: CU 12-01
SP 12-19 / VR - 123