City of Oregon City

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

Meeting Agenda

Planning Commission

Monday, January 8, 2018 | **7:00 PM** | **Commission Chambers**

1. Call To Order

2. Elections for Chair and Vice Chair

3. Work Session

3a. Work Session: Alternate Mobility Targets Project for Hwy 213 Corridor

Attachments: Commission Report
Project Webpage
DRAFT Final Report for Review by Advisory Groups
DRAFT Report Appendices

4. Public Hearing

4a. Planning File NR 17-0010: Natural Resource Overlay District Review application for a Deck Expansion at 379 Barker Avenue

Attachments: Commission Report
NR 17-10 Staff Report and Recommendation
Exhibit 1: Vicinity Map
Exhibit 2: Applicant's Narrative and Plans
Exhibit 3: Comment from Oregon City School District
Exhibit 4: Comment from Dorothy Dahlsrud
Exhibit 5: Memo from David Evans and Associates

4b. Request to Continue Planning File LE 17-02 to February 12, 2018: Legislative Amendment to Adopt the McLoughlin-Canemah Trail Plan, Amending the Transportation System Plan, Trails Master Plan, and Parks Master Plan

Attachments: Commission Report

5. New Business/Discussion Items

5a. 2018 Planning Commission Goals

Attachments: 2017 - 2019 City Commission Goals Booklet
OCMC 2.24 Planning Commission
Draft Planning Commission Goals

6. Communications

7. Adjournment

City of Oregon City

625 Center Street
Oregon City, OR 97045
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Staff Report

File Number: PUB 17-022

Agenda Date: 1/8/2018

Status: Agenda Ready

To: Planning Commission

Agenda #: 3a.

From: Dayna Webb and Planner Kelly Reid

File Type: Public Works Item

SUBJECT:
Work Session: Alternate Mobility Targets Project for Hwy 213 Corridor

RECOMMENDED ACTION (Motion):
Staff recommends the Planning Commissions review the information and share questions and thoughts with staff.

BACKGROUND:
Oregon City's 2013 Transportation System Plan (TSP) determined that the Highway 213 (OR213) corridor from Redland Road to Molalla Avenue (including the intersection of Beavercreek Road) will exceed the current adopted mobility target in 2035, resulting in more congestion than is allowed. The OR213 intersection with Molalla Avenue is anticipated to meet the target; however, Beavercreek Road and Redland Road are not anticipated to meet the target.
The intersection improvements that would allow the City to meet the existing mobility targets at the OR213/Beavercreek Road and OR213/Redland Road intersections are not cost feasible, given the financial constraints of the City and other agency partners.

The City, in coordination with community stakeholders, ODOT, and Clackamas County has conducted a study to determine intersection improvements that are cost feasible, along with revised mobility targets that can be met within the 2040 planning horizon. Adoption of the revised standards and projects requires a legislative amendment to the municipal code and the Transportation System Plan. Staff will bring the proposed amendment to the Planning Commission in early 2018 after conducting additional public outreach.

The Alternate Mobility Targets process inlcuded a Technical Advisory Group and Community Advisory Group with widespread representation. Each group met three times during the process, and a fourth and final meeting of the groups is planned for January, before the first public hearing for this project.

At this work session, staff will provide background information, describe the process utilized to determine the proposed targets and improvement projects, describe the draft recommendations, and answer questions from the Commissioners.

Final Report

Highway 213 Corridor Alternative Mobility Targets

Oregon City, Oregon

Draft

December 2017

Final Report

Highway 213 Corridor Alternative Mobility Targets

Oregon City, Oregon

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Project No. 20651

December 2017

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Section 1
Executive Summary

EXECUTIVE SUMMARY

Oregon City's 2013 Transportation System Plan (TSP) determined that the Highway 213 (OR213) corridor from Redland Road to Molalla Avenue (including the intersection of Beavercreek Road) will exceed the current mobility target in 2035, resulting in more congestion than is allowed. The OR213 intersection with Molalla Avenue is anticipated to meet the target; however, Beavercreek Road and Redland Road are not anticipated to meet the target.

The existing mobility target at the OR213/Beavercreek Road intersection is a volume-to-capacity (v/c) ratio at or below 0.99 during the peak first and second hours. The existing mobility target at the OR213/Redland Road intersection is a v/c ratio at or below 1.1 during the peak first hour and 0.99 during the peak second hour, as this intersection is located in a regional center. The alternatives that would meet the existing mobility targets at the OR213/Beavercreek Road and OR213/Redland Road intersections are not cost feasible, given the financial constraints of the City and other agency partners. These alternatives can be further considered in the future if additional funding becomes available.

Lacking the financial capability of implementing major capacity-increasing projects at these locations, alternative mobility targets are necessary at each of these intersections; however, some improvements are feasible in the cost-constrained TSP to improve safety and minimize future congestion.

The following improvements are recommended for the intersection of OR213 and Beavercreek Road:

- Construct a westbound right-turn merge lane. High visibility pavement markings and signage are recommended for pedestrians and bicycles to cross the channelized lane safely, and consideration should be given to installing a rectangular rapid flash beacon (RRFB) for increased visibility.
- Infill sidewalk on Beavercreek Road from south of the Coltrane Path to north of Marjorie Lane.
- Install various safety improvements outlined on pages 33 and 35 of this report.

The above improvements will be added as projects in the TSP for future consideration.

For the intersection of OR213 and Beavercreek Road, the following mobility standards apply:

- During the first, second and third hours, a maximum v/c ratio of 1.00 shall be maintained. Calculation of the maximum v/c ratio will be based on an average annual weekday peak hour.

For the intersection of OR213 and Redland Road, the following mobility standards apply:

- During the first and second hours, a maximum v/c ratio of 1.10 shall be maintained. Calculation of the maximum v/c ratio will be based on an average annual weekday peak hour.
- During the third hour, a maximum v/c ratio of 1.05 shall be maintained. Calculation of the maximum v/c ratio will be based on an average annual weekday peak hour.

Changes to the TSP to incorporate these improvements and the alternative mobility targets will require a Legislative public review process before the City's Planning Commission and City Commission. The alternative mobility target and financially feasible improvements that are needed will need to be agreed upon by ODOT and approved by the Oregon Transportation Commission.

Section 2
Introduction

INTRODUCTION

Oregon City's 2013 Transportation System Plan (TSP) determined that the Highway 213 (OR213) corridor from Redland Road to Molalla Avenue (including the intersection of Beavercreek Road) will exceed the current mobility target in 2035, resulting in more congestion than is allowed. The TSP recommended a project be conducted to identify what improvements would be necessary to meet the current target or whether an alternative mobility target is justified. The OR213 intersection with Molalla Avenue is anticipated to meet the target; however, Beavercreek Road and Redland Road are not anticipated to meet the target.

This project provides an overview of these two intersections including safety, operations, and cost analysis of the potential improvements at these intersections and identifies potential alternative mobility targets that would be necessary in conjunction with financially feasible operational and safety improvements. If alternative mobility targets are not adopted for the corridor, Oregon City will not be able to approve zone changes consistent with the Beavercreek Concept Plan. Outright zoned development will also be hindered until funding can be secured for long-term improvements.

The intersection of OR213 and Beavercreek Road is shown in **Exhibit 1**, and the intersection of OR213 and Redland Road is shown in **Exhibit 2**.

Exhibit 1 – Highway 213 (OR213) and Beavercreek Road Intersection

Exhibit 2 – Highway 213 (OR213) and Redland Road Intersection

POLICY CONTEXT

Mobility targets are the measure by which the state assesses the existing or forecasted operational conditions of a facility. As such, they are a key component the Oregon Department of Transportation (ODOT) uses to determine the need for, or feasibility of providing highway, or other transportation system improvements. They impact local land use and transportation planning as well as development review. Recent years have seen notable changes to Oregon's transportation planning and land use policies and requirements. These changes reflect statewide policy to support transportation solutions that encourage economic development, contribute to public health, offer multi-modal choices for all users, and reflect the uncertain fiscal realities and limited transportation funding.

Oregon's Transportation Planning Rule (TPR)

Mobility targets for state highways, as established in this policy or as otherwise adopted by the Oregon Transportation Commission (OTC) as alternative mobility targets, are considered the highway system performance standards in compliance with the Transportation Planning Rule (TPR) (OAR 660-012), including applicability for actions that fall under Section -0060 of the TPR.

The TPR Section -0060 applies when cities or counties are considering zone changes or plan amendments that would allow for additional development that would significantly impact or worsen the performance of existing or planned transportation facilities. Currently, significant impacts are found to exist when levels of automobile traffic cause roadway facilities to exceed motorized vehicle standards, such as mobility targets. If there is a significant impact, jurisdictions are required to *"ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted Transportation System Plan."*

Oregon Highway Plan Policy 1F

The Oregon Highway Plan (OHP) defines polices and investment strategies for Oregon's state highway system for the next 20 years. The OHP gives policy and investment direction to corridor plans and transportation system plans that are being prepared around the state, but it leaves the responsibility for identifying specific projects and modal alternatives to those plans.

The OHP Policy 1F establishes mobility targets (as defined by motorized vehicle volume-to-capacity ratios) for state facilities that vary by region, facility classification, and whether or not the roadway is located inside an urban growth boundary (UGB). It states, *"It is the policy of the State of Oregon to maintain acceptable and reliable levels of mobility on the state highway system, consistent with expectation for each facility type, location and functional objectives. Highway mobility targets will be the initial tool to identify deficiencies and consider solutions for vehicular mobility on the state system. Specifically, mobility targets shall be used for:*

- *Identifying state highway mobility performance expectations for planning and plan implementation;*
- *Evaluating the impacts on state highways of amendments to transportation plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-0060); and*
- *Guiding operations decisions such as managing access and traffic control systems to maintain acceptable highway performance."*

The OHP Policy 1F allows for development of alternative mobility targets in areas where it is "infeasible or impractical to meet the mobility targets". The policy allows for the use of alternative mobility targets to *"balance overall transportation system efficiency with multiple objectives of the area being addressed."* It requires that targets *"shall be clear and objective and shall provide standardized procedures to ensure consistent application of the selected measure. The alternative mobility target(s) shall be adopted by the Oregon Transportation Commission as an amendment to the OHP."* The OHP currently includes alternative mobility targets in many locations throughout the State; however, none have been adopted within the Portland Metro area to date.

EXISTING PERFORMANCE MEASURE AND TARGET

Mobility, or congestion, may be measured and regulated in a variety of ways. In the context of this project, mobility performance measures are methods to objectively measure the transportation system, such as travel time, or reliability. Mobility targets describe an acknowledged acceptable level of performance for a measure, such as a certain level of congestion.

The existing mobility targets for the OR213 corridor set forth in the Oregon Highway Plan (OHP) and the 2013 TSP are based on volume-to-capacity Ratio (v/c). The v/c ratio is a measure that reflects mobility and quality of travel. It compares roadway demand (vehicle volumes) with roadway supply (carrying capacity). For example, a v/c of 1.00 indicates the roadway facility is operating at its capacity. An intersection can have an overall v/c ratio of 1.00 yet have v/c ratios greater than 1.00 for individual

movements where it may take more than one signal cycle to get through the intersection and queues build up. The following mobility target is set forth in the 2013 TSP for the two study intersections:

- OR213/Beavercreek Road intersection: required to operate at or below a v/c ratio of 0.99 during the peak first and second hours.
- OR213/Redland Road intersection: required to operate at or below a v/c ratio of 1.1 during the peak first hour and 0.99 during the peak second hour.

The Synchro model (a traffic model used to evaluate v/c ratios and other metrics) analysis completed for the 2013 TSP shows the OR213/Beavercreek Road intersection operating with an intersection v/c ratio of 0.83 for the p.m. peak hour under 2011 existing conditions. The TSP did not include an analysis of the intersection of OR213 and Redland Road. Under 2017 existing traffic volumes and conditions, the intersection operates with a v/c ratio of 0.91. The TSP analysis also indicates that by 2035, without improvement, the intersection will function beyond the current mobility target. Under 2035 Planned System Conditions (which includes planned, but potentially unfunded, roadway improvements), the intersection is expected to operate with a v/c ratio of 1.05, exceeding the existing mobility target (a maximum v/c ratio of 0.99). The southbound left-turn and eastbound left-turn movements exhibit higher than average v/c ratios, while the westbound left-turn and northbound left-turn movements exhibit lower than average v/c ratios.

Table 1 – OR213/Beavercreek Road Intersection Operations

Year	PM Peak Volume-to-Capacity Ratio (v/c)
2011 (2013 TSP Existing Conditions)	0.83
2017 Existing Conditions (May Counts)	0.91
2035 (2013 TSP Forecast)	1.05

The 2013 TSP did not include analysis of the OR213/Redland Road intersection. However, a long-term project to improve capacity at the OR213/Redland Road intersection is identified (project D79). The improvements identified in the TSP are part of Phase 2 of the "Jughandle" project, a project that focused on the intersection of OR213 and Washington Street that was implemented in 2013. The Phase 2 improvements, including improvements at OR213/Redland Road are already 90% designed. The improvements identified in Phase 2 future construction include an additional northbound and southbound through lane resulting in three northbound and three southbound lanes through the intersection. As this long-term solution has been identified, much of the analysis in the following sections of this report is focused on the OR213/Beavercreek Road intersection for the purpose of identifying a long-term improvement which will meet the existing mobility target for the corridor.

Section 3
Process

PROCESS

A Community Advisory Group (CAG) and Technical Advisory Group (TAG) were formed to help the City evaluate the feasibility and practicality of the alternatives set forth in this project. Three technical memorandums were produced and presented individually to the TAG and CAG. The following section outlines the contents of these memorandums and outcomes of the conversations with each group. All meeting notes and technical memorandums can be found in Appendix "A".

TECHNICAL MEMORANDUM #1/TAG AND CAG MEETING #1

Potential improvements for the intersection of Beavercreek Road and OR213 that focused on significantly increasing the intersection capacity to meet the current mobility target were presented to the TAG and CAG in December 2016 and January 2017. None of the alternatives were determined to be financially feasible, even by the 2035 horizon year of the TSP given the financial constraints of the city and other agency partners. In addition, some of the potential alternatives could have additional consequences including right-of-way impacts, environmental impacts, and could potentially complicate the provision of services for bicyclists, pedestrians, and transit users. Nonetheless, it is recommended that the alternatives be documented in the TSP for additional future consideration as part of the TSP's unconstrained plan. The unconstrained plan includes projects that are not currently anticipated to be financially feasible by 2035 but are projected to be needed and could be implemented if additional funding becomes available in the future.

TECHNICAL MEMORANDUM #2/TAG AND CAG MEETING #2

Because achieving the mobility target through a major capacity-expanding project at this intersection was determined to be beyond the financial capabilities of the city and its partner agencies, an alternative mobility target is necessary. A menu of potential alternative performance measures, reasonable target ranges, and a list of potentially feasible improvements to increase capacity and safety in the corridor was presented to the TAG and CAG in March 2017. The majority of TAG and CAG members agreed that an alternative mobility target allowing intersection volume-to-capacity ratios to exceed the current targets for no more than a specified number of hours per day would be appropriate for the corridor. The TAG and CAG were also in favor of further investigation of potential improvements to increase safety and capacity at the Beavercreek Road and OR213 intersection. Some improvements were identified that, while not allowing the mobility standard to be fully met, would increase the intersection capacity, improve safety, and are within the financial capabilities of the city and its partner agencies. The specific projects identified by the TAG and CAG for additional analysis were: 1) the provision of a merge lane for westbound right-turning vehicles at the OR213/Beavercreek Road intersection and 2) elimination of the second westbound left-turn lane at the OR213/Beavercreek Road intersection to increase left-turn storage on eastbound Beavercreek Road at Maple Lane Road. These improvements minimize future congestion and could be included in the cost-constrained TSP.

TECHNICAL MEMORANDUM #3/TAG AND CAG MEETING #3

The CAG and TAG reaffirmed support of an alternative mobility target allowing intersection volume-to-capacity ratios to exceed the existing targets for no more than a specified number of hours per day. In conjunction with alternative mobility targets, both groups were supportive of providing a merge lane for westbound right-turning vehicles at OR213/Beavercreek Road, but were not in favor of near-term or partial improvements at OR213/Redland Road, as it was determined that these would not be cost-feasible.

Section 4
Existing Conditions

EXISTING CONDITIONS

The existing conditions analysis identifies the transportation conditions and current operational and geometric characteristics of the roadways within the study area.

GEOMETRIC CHARACTERISTICS

At the OR213/Beavercreek Road intersection, OR213 has a 4-lane section and a speed limit of 55 mph and is classified as an Expressway to the north and a District Highway to the south. Beavercreek Road is classified as a Major Arterial with a 4/5-lane section and a speed limit of 35 mph. OR213 is under the jurisdiction of the Oregon Department of Transportation (ODOT), the west leg of Beavercreek Road is under the jurisdiction of Oregon City, and the east leg is under the jurisdiction of Clackamas County. OR 213 and Beavercreek Road are both designated as a Local Truck Routes in the City's TSP at the study intersection. The City designated truck routes in the TSP to ensure trucks can efficiently travel through and access major destinations in the City.

Sidewalks are provided along the north and south sides of Beavercreek Road, and a multi-use path is provided along OR213 south of Beavercreek Road along the east side of the highway. Bicycle lanes are provided along Beavercreek Road. TriMet operates Bus Route 32 between Clackamas Community College and Milwaukie City Hall. There are stops located on the west leg of Beavercreek Road at the intersection for both directions of travel (i.e. far-side for westbound and near-side for eastbound).

There is a stream running under the north leg of OR213 at the intersection, with corresponding wetlands. There are also geologic hazards in the vicinity of the intersection, with steep slopes and landslides primarily on the northwest corner. More details can be found in the Oregon City GIS maps in Appendix "B". The presence of these features increases the expense of any improvements requiring additional widening, as significant earthwork, culvert extensions, or wetland mitigation may be necessary.

PLANNED AREA IMPROVEMENTS

The City's TSP includes projects which may impact operations, safety, and travel patterns at the OR213/Beavercreek Road intersection. Many of the projects will increase connectivity in the vicinity of the OR213/Beavercreek Road intersection via parallel routes and roadway extensions between these parallel routes, providing alternate routes for those who do not need to pass through the intersection. All new roads and roadway upgrade projects will include facilities for bicycles and pedestrians. In addition, the TSP includes projects specifically to complete and enhance the bicycle and pedestrian networks. The roadway projects listed in the TSP which are likely to increase connectivity and impact safety and operations at the OR213/Beavercreek Road intersection are included in **Table 2** and **Figure 1.** **Figure 1** includes only those projects impacting vehicle travel and capacity.

Table 2 – 2013 Oregon City Transportation System Plan Projects located in the southeast part of the City

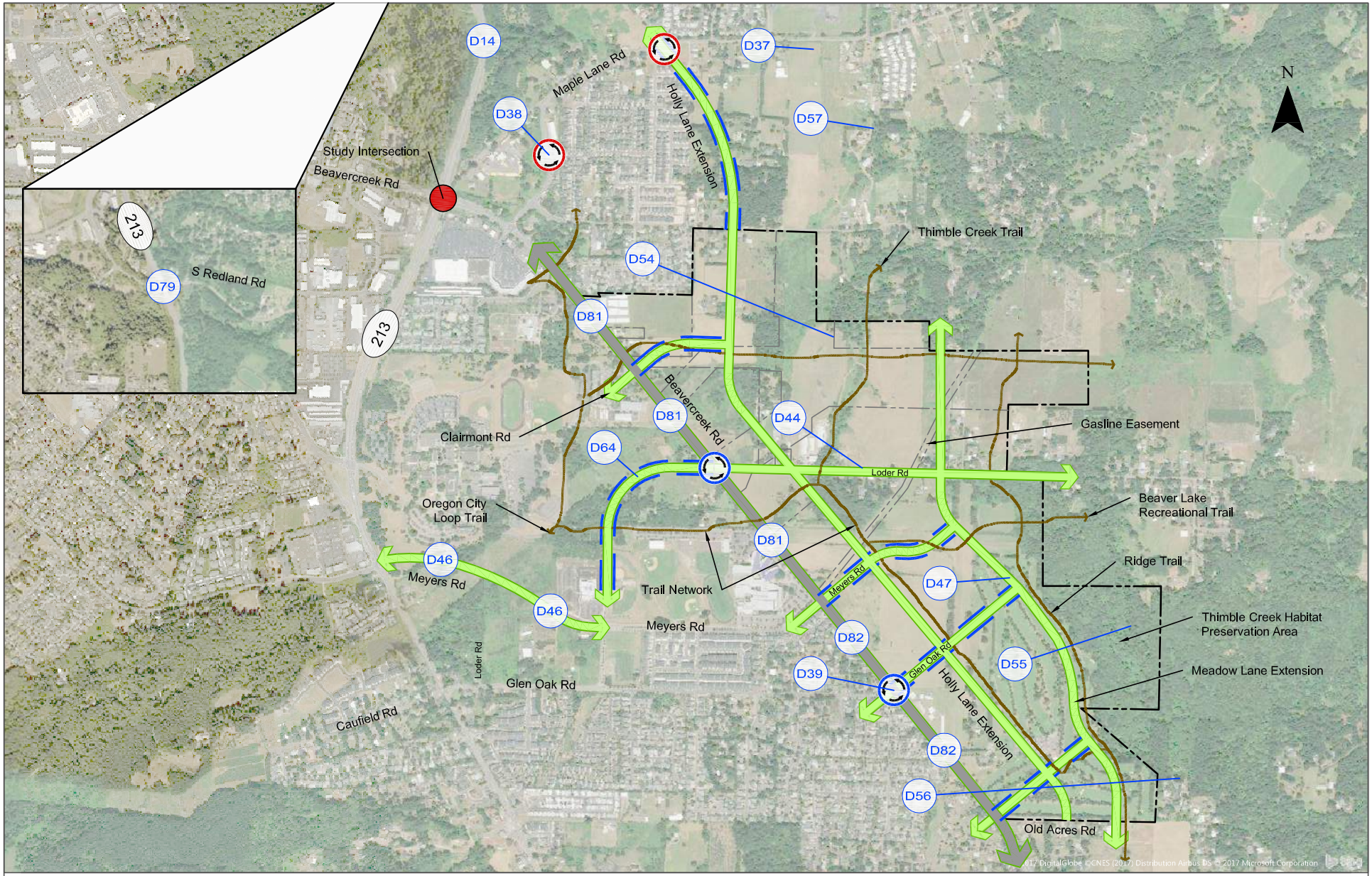
Project #	Project Description	Project Extent	Project Elements	Priority	Funded ?
D14	Southbound OR 213 Advanced Warning System	Southbound OR 213, north of the Beavercreek Road intersection	Install a queue warning system for southbound drivers on OR 213 to automatically detect queues and warn motorists in advance via a Variable Message Sign	Short-term	Likely
D37	Maple Lane Road/Holly Lane Operational Enhancement	Maple Lane Road/Holly Lane	Install a single-lane roundabout	Long-term	Unlikely
D38	Maple Lane Road/Walnut Grove Way Operational Enhancement	Maple Lane Road/Walnut Grove Way	Install a single-lane roundabout or realign Maple Lane Road in correlation with development	Long-term	Unlikely
D39	Beavercreek Road/Glen Oak Road Operational Enhancement	Beavercreek Road/Glen Oak Road	Install a roundabout	Long-term	Unlikely
D44	Beavercreek Road/Loder Road Extension Operational Enhancement	Beavercreek Road/Loder Road Extension	Install a roundabout	Medium-term	Likely
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	Likely
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	Likely
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	Likely
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	Likely
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	Likely

Table 2 – 2013 Oregon City Transportation System Plan Projects located in the southeast part of the City

Project #	Project Description	Project Extent	Project Elements	Priority	Funded ?
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	Likely
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	Likely
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	Likely
D64	Loder Road Extension	Beavercreek Road to Glen Oak Road	Extend Loder Road from Beavercreek Road to High School Avenue 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.	Short-term	Likely
D79	OR 213/Redland Road Capacity Improvements	Redland Road to Redland Road undercrossing	Add a third northbound travel lane on OR 213 north of the Redland Road undercrossing. Extend the third southbound travel on OR 213 south of the Redland Road intersection and merge the third lane before the Redland Road undercrossing. Add a right-turn lane (southbound OR 213 to westbound Redland). Convert the Redland Road approach to OR 213 to 1 receiving lane, 2 left-turn approach lanes, and 1 right-turn lane.	Long-term	Unlikely
D81	Beavercreek Road Upgrade	Clairmont Drive (CCC Entrance) to Meyers Road	Improve to Industrial Major Arterial cross-section	Medium-term	Likely
D82		Meyers Road to UGB	Improve to Residential Major Arterial cross-section	Long-term	Likely
B20	Holly Lane Bike Lanes	Donovan Road to Maple Lane Road	Add a bike lane to the west side of the street. A shared-use path will be added on east side per project S13	Included with project D83	Unlikely
B21	Maple Lane Bike Lanes	Walnut Grove Way to UGB	Add bike lanes to both sides of the street	Included with project D84	Unlikely
B22	Thayer Road Bike Lanes	Elder Road to UGB	Add bike lanes to both sides of the street	Long-term Phase 3	Unlikely
B23	Loder Road Bike Lanes	Beavercreek Road and the Holly Lane Extension	Add a bike lane to the north side of the street. A shared-use path will be added on south side per project S18	Included with project D85	Unlikely

Table 2 – 2013 Oregon City Transportation System Plan Projects located in the southeast part of the City

Project #	Project Description	Project Extent	Project Elements	Priority	Funded ?
B24	Loder Road Bike Lanes	Holly Lane Extension to the UGB	Add bike lanes to both sides of the street	Included with project D85	Unlikely
B25	High School Avenue Shared Roadway	Meyers Road to Glen Oak Road	Add wayfinding and shared lane markings	Long-term Phase 4	Unlikely
B26	Glen Oak Road Bike Lanes	Coquille Drive to Augusta Drive	Add bike lanes to both sides of the street	Long-term Phase 3	Unlikely
B27	Coquille Drive Shared Roadway	Glen Oak Road to Turtle Bay Drive	Add wayfinding and shared lane markings	Long-term Phase 4	Unlikely
B29	Beavercreek Road Bike Lanes	Pebble Beach Drive to UGB	Add bike lanes to both sides of the street	Included with project D82	Likely
W22	Holly Lane Sidewalk Infill	Donovan Road to Maple Lane Road	Complete sidewalk gaps on west side of the street. A shared-use path will be added on east side per project S13	Included with project D83	Unlikely
W23	Maple Lane Road Sidewalk Infill	Beavercreek Road to UGB	Complete sidewalk gaps on both sides of the street	Included with project D84	Unlikely
W24	Thayer Road Sidewalk Infill	Maple Lane Road to UGB	Complete sidewalk gaps on both sides of the street	Long-term Phase 3	Unlikely
W25	Loder Road Sidewalk Infill	Beavercreek Road to the Holly Lane Extension	Complete sidewalk gaps on north side of the street. A shared-use path will be added on south side per project S18.	Included with project D85	Unlikely
W26	Loder Road Sidewalk Infill	Holly Lane Extension to the UGB	Complete sidewalk gaps on both sides of the street	Included with project D85	Unlikely
W27	High School Avenue Sidewalk Infill	Meyers Road to Glen Oak Road	Complete sidewalk gaps on the west side of the street	Long-term Phase 3	Unlikely
W28	Glen Oak Road Sidewalk Infill	OR 213 to High School Avenue	Complete sidewalk gaps on both sides of the street	Long-term Phase 2	Unlikely
W29		Coquille Drive to Augusta Drive	Complete sidewalk gaps on both sides of the street	Long-term Phase 3	Unlikely
W31	OR 213 Sidewalk Infill	Molalla Avenue to Conway Drive	Complete sidewalk gaps on both sides of the street	Included with project D77	Unlikely



Conceptual Planned Area Connectivity Improvements Oregon City

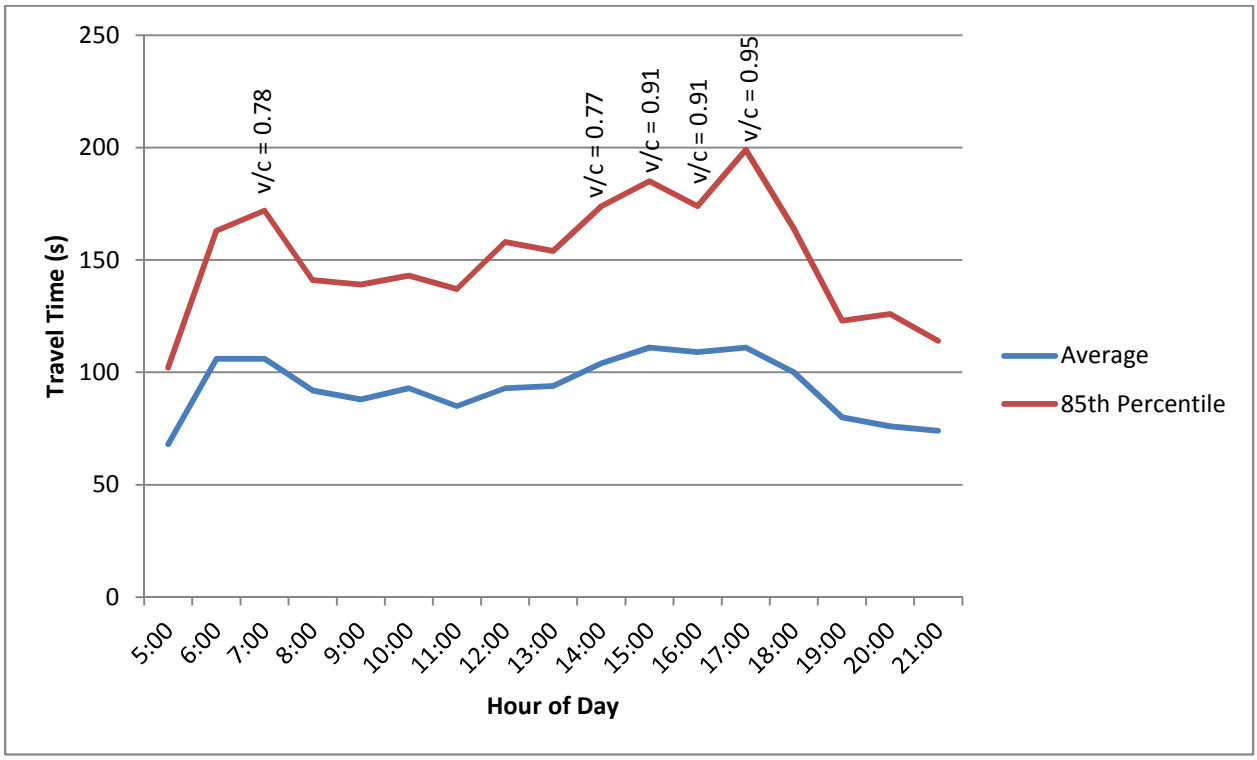
Figure 1

\\kittelson.com\fs\H_Projects\20\20651 - Hwy 213 and Beavercreek Rd\dwgs\Figs\Beaver_Creek_Plans_(expanded).dwg Nov 27, 2017 - 9:28am - bcullimore Layout Tab: Layout1

OPERATIONS

A travel time study was conducted at the OR213/Beavercreek Road intersection in January 2017 to evaluate the variability of traffic conditions throughout the day. This study utilized Bluetooth data collection units (BlueMAC) at each leg of the intersection to identify the travel speed and travel time for each movement (northbound left, northbound through, northbound right, etc.) separately[1]. The data was collected 24-hours per day for 7 days, allowing comparison of results by time of day and day of week. Appendix "C" provides the differences in travel time by time of day for each movement at the intersection. The data in Appendix "C" reflects typical weekday conditions (Tuesday, Wednesday, and Thursday). **Exhibit 3** shows the travel time through the intersection averaged for all movements. Note that the graph provides the average travel time to traverse the intersection; some movements may experience higher travel times. The weekday PM peak hour represents the highest travel times of the day, with higher than average travel times extending from 3:00 to 6:00 PM. Above average travel times also occur during weekday midday and AM peak hours. There are approximately 5 hours per day currently experiencing high travel times compared to the rest of the day which could indicate congestion and possible cycle failure for some movements. This can be considered in evaluating the potential performances measures in the following section.

Exhibit 3 – Travel Time through OR213/Beavercreek Road Intersection



[1] Data was collected at a distance of approximately 1000' from the intersection on each leg, with the exception of the north leg, where data was collected approximately 2000' from the intersection.

The cycle length of the traffic signal at the OR213/Beavercreek intersection is approximately 120 seconds. **Exhibit 3** shows that during the a.m. and p.m. peak hour periods, the average time it takes to traverse the intersection is 110 seconds. Average travel time and v/c ratio are not directly linked; however, the average travel times increase and decrease with v/c ratio. **Table 3** provides volume-to-capacity ratios for the five highest volume hours of the day[2]. These v/c ratios are noted on **Exhibit 3** during their corresponding hour.

Table 3 – 2017 Existing Intersection Operations for the Five Highest Volume Hours (OR213/Beavercreek Road)

Highest Hour	Time of Day	Total Entering Volume	V/C
1st	4-5 PM	6052	0.91
2nd	5-6 PM	5983	0.95
3rd	3-4 PM	5808	0.91
4th	2-3 PM	4948	0.77
5th	7-8 AM	4626	1.07[3]

[2] 2017 30th highest hour volumes were estimated by adjusting May 2017 count data by a seasonal factor of 7% to summer peak volumes.

[3] The v/c ratio for the AM peak hour is 1.07 due the high volume of westbound right-turns. If the westbound right-turns are excluded the intersection v/c is 0.78.

Section 5
Alternatives Analysis

ALTERNATIVES ANALYSIS

ALTERNATIVES DEVELOPMENT – OR213 AND BEAVERCREEK ROAD

Alternatives to modify the existing intersection configuration and traffic control, which would bring the intersection into compliance with the current mobility standards in the year 2035, were identified and include:

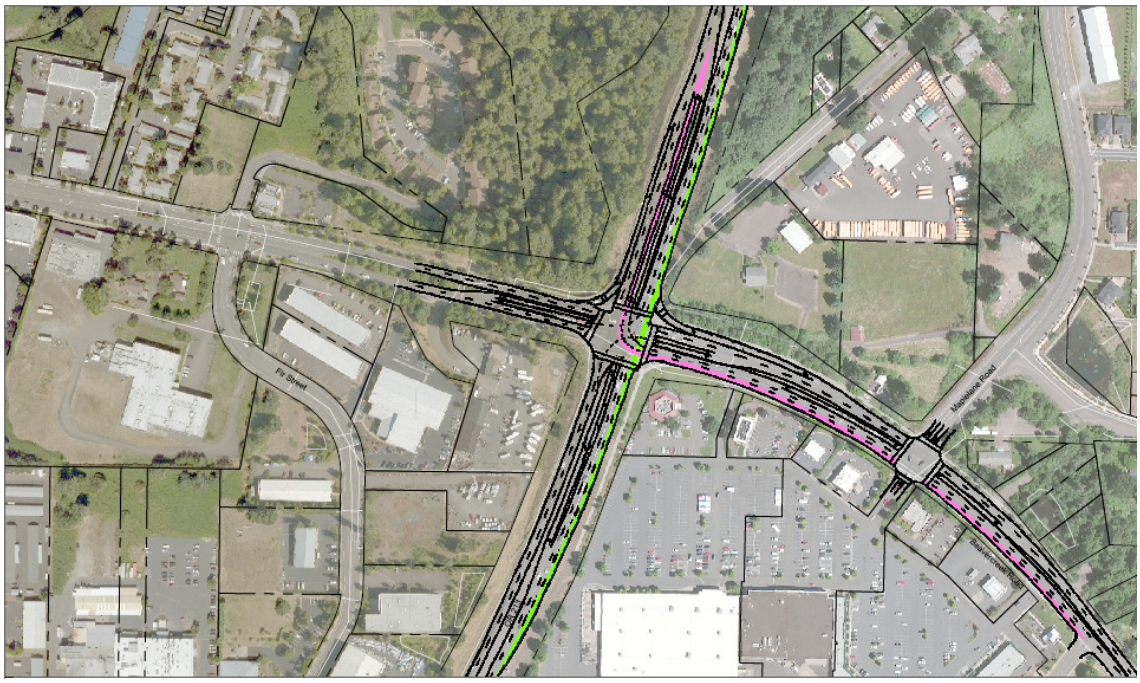
- Addition of lanes to current configuration,
- Quadrant road in the southwest quadrant of the intersection,
- Variations of displaced left-turns (also referred to as continuous flow intersection), and
- Grade-separated interchange forms.

The potential operational impacts of each alternative are shown in **Table 4** and evaluated for a variety of additional considerations in **Table 5**.

Alternative 1: Triple Left-Turns

To maintain the current mobility standard with the existing intersection control, a third southbound left-turn lane and a third northbound through lane through the intersection would be required to bring the intersection back to a v/c ratio of 0.90. A conceptual sketch of Alternative 1 can be seen in **Exhibit 4**. The existing separate northbound right-turn lane (not reflected in **Exhibit 4**) would be maintained. The effectiveness of the additional northbound through lane is dependent on the planned extension of Meyers Road from Beavercreek Road to OR213 which would allow some eastbound right-turns at the intersection to be converted to northbound through movements based on the new network connectivity.

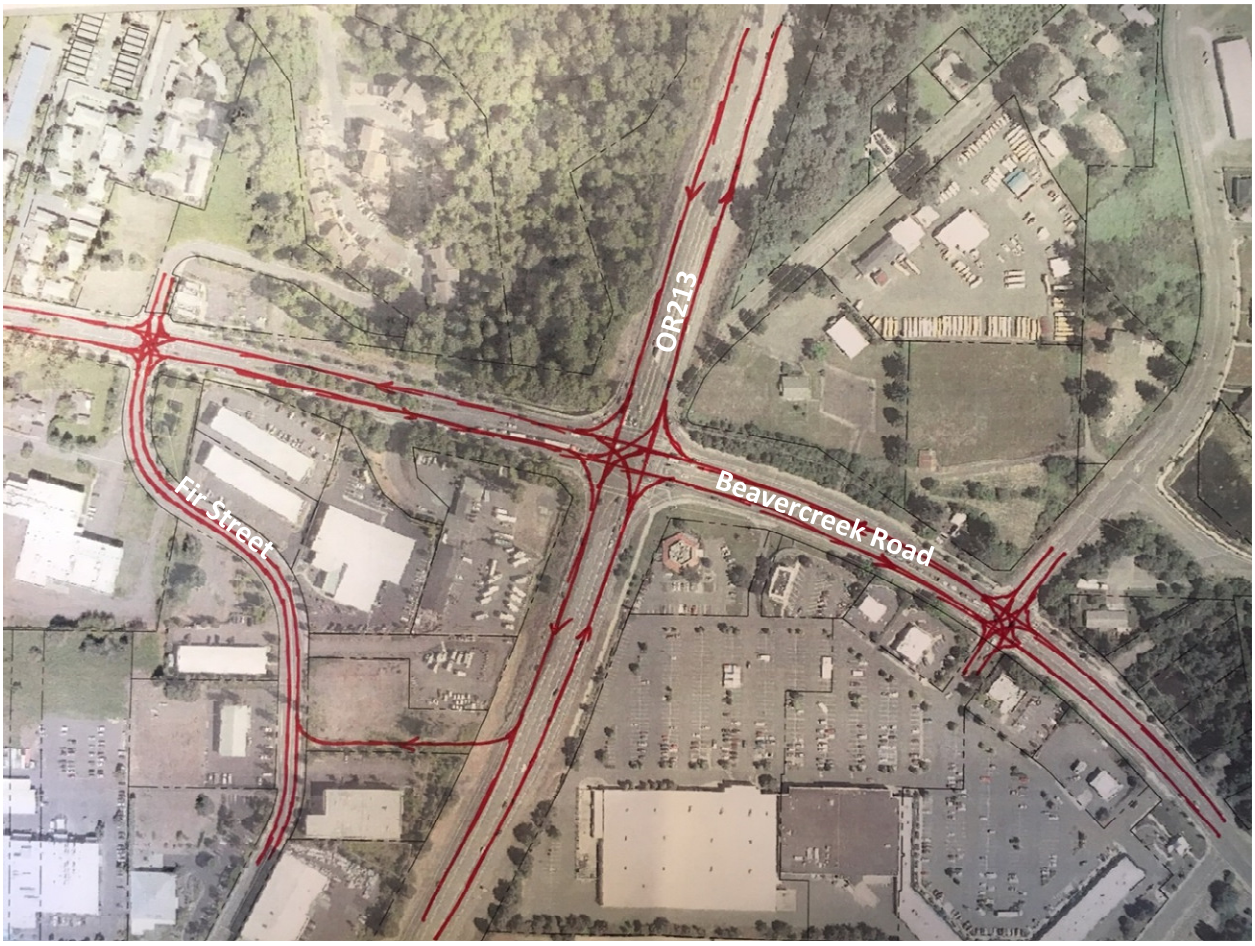
Exhibit 4 – Alternative 1: Triple Left-Turns



Alternative 2: Quadrant Road

A quadrant road, or indirect left, in the southwest corner of the intersection would allow southbound left-turns to be prohibited at the OR213/Beavercreek Road intersection. These vehicles would instead travel southbound through the intersection, turn right onto a new street to the south that would connect to Fir Street, and make a right-turn onto Beavercreek Road to continue east on their desired route. A third southbound through lane and third eastbound through lane would be necessary to accommodate the large volumes traveling through the intersection twice instead of once. This would reduce overall intersection delay but increase travel time for the southbound left-turn movement. The widening is likely to impact the culvert and retaining walls on the northwest and northeast corners of the intersection. The parcel where the connection to Fir Street shown in **Exhibit 5** is currently under development, making this connection infeasible. A quadrant road on the southeast corner was also considered, but the additional travel time incurred by circling the shopping center, or the impacts of cutting through the shopping center, made this alternative infeasible.

Exhibit 5 – Alternative 2: Quadrant Road Alternative

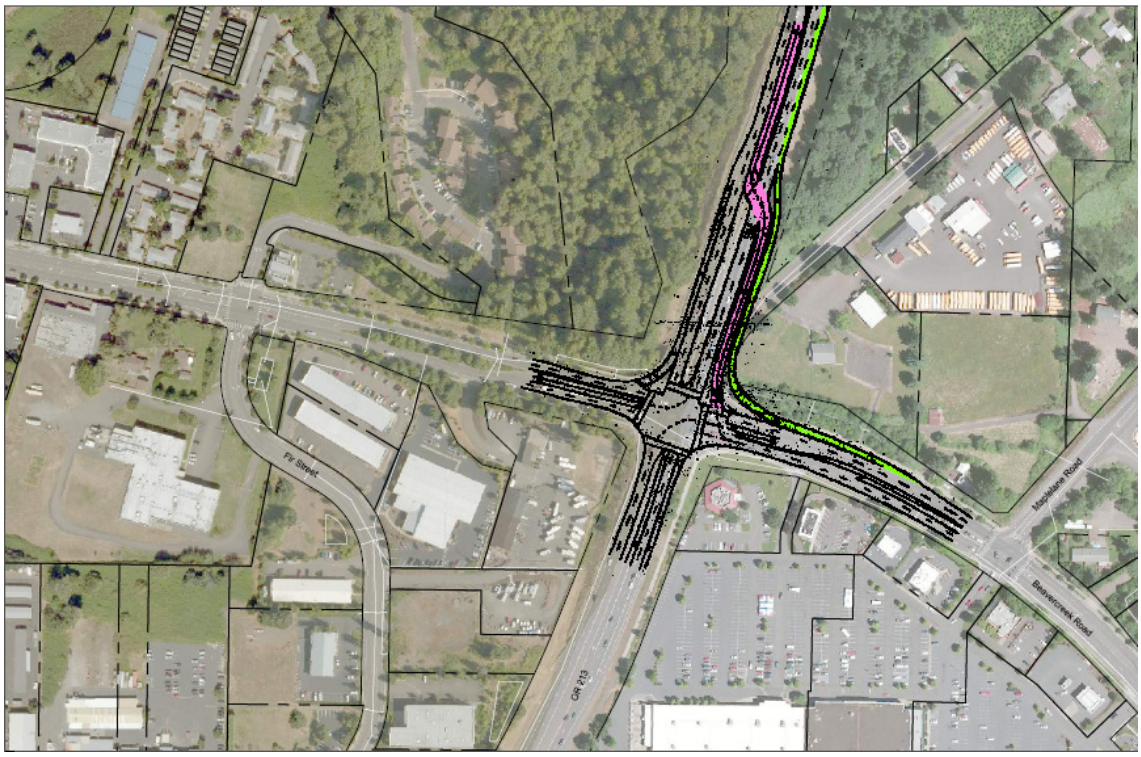


Alternatives 3 & 4: Displaced Left-Turns

In a displaced left-turn[4], or continuous flow, intersection, left-turns are removed from the main intersection and relocated to a new upstream signal. With proper coordination, vehicles are able to make a left-turn simultaneously with opposing through traffic. Displaced left-turn intersection alternatives would reduce the number of signal phases and conflict points in the OR213/Beavercreek Road intersection, thereby improving capacity and safety, but would require coordinated partial signals on the approaches with displaced left-turns. The heaviest left-turn movements at the OR213/Beavercreek Road intersection are on the southbound and eastbound approaches. **Exhibit 6** shows a sketch of a displaced left-turn for the southbound approach only. **Exhibit 7** shows a sketch of displaced left-turns for both the southbound and eastbound approaches. In either case, the southbound approach requires dual left-turn lanes. Consideration could be given to prohibiting the northbound and westbound left-turn movements as these movements have minimal traffic volumes and have alternate routes; however, these restrictions are not mandatory. Additional analysis (microsimulation) is necessary to fully understand the benefits of these potential restrictions.

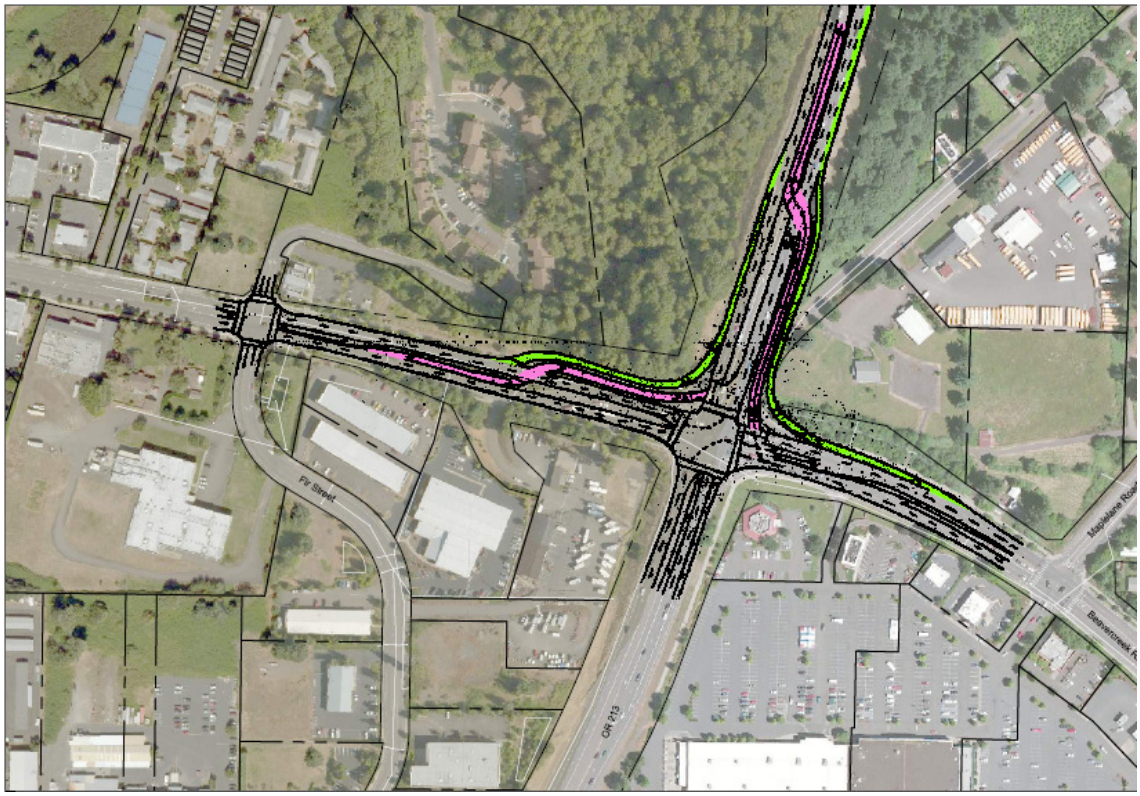
Alternative 3 includes impacts to the culvert and retaining walls in the northeast corner of the intersection. Alternative 4 includes culvert and retaining wall impacts to both the northwest and northeast corners of the intersection.

Exhibit 6 – Alternative 3: Displaced Southbound Left-Turns



[4] Steyn, H., Z. Bugg, B. Ray, and A. Daleiden. *Displaced Left-Turn Informational Guide.* FHWA, Washington, D.C., 2014. http://safety.fhwa.dot.gov/intersection/alter_design/pdf/fhwasa14068_dlt_infoguide.pdf

Exhibit 7 – Alternative 4: Displaced Southbound and Eastbound Left-Turns



Alternatives 5 – 7: Grade-Separated Interchange Alternatives

Several grade-separated interchange configurations were considered including full diamond, half diamond (i.e., southbound off-ramp and northbound on-ramp only) and single-point interchanges. A project to construct an interchange at this location was removed from the 2013 TSP Update. The interchange was eliminated due to livability, multi-modal access and funding constraints within the 2035 planning horizon. Additionally, at the request of ODOT as it was determined to be financially infeasible given other regional priorities. The construction of an interchange at the OR213/Beavercreek Road intersection would have many challenges and impacts on surrounding land uses as shown in **Exhibit 8** through **Exhibit 10**.

Exhibit 8 – Alternative 5: Half Diamond Interchange Alternative

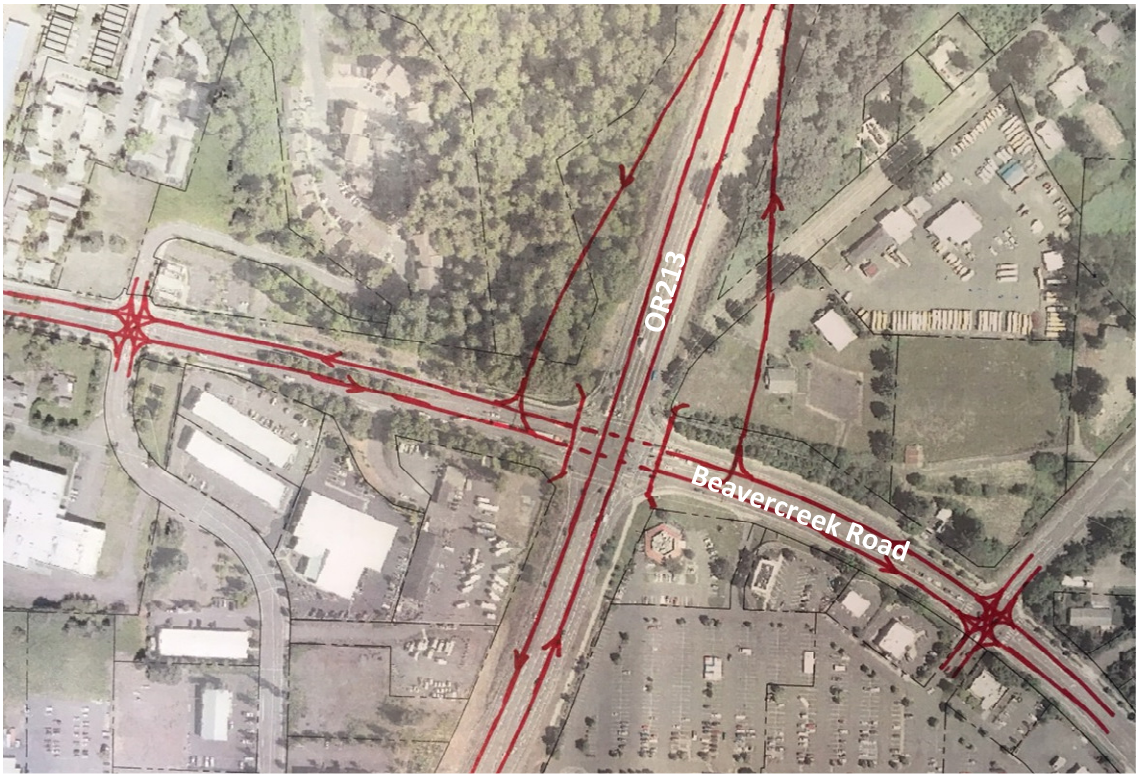


Exhibit 9 – Alternative 6: Full Diamond Interchange Alternative

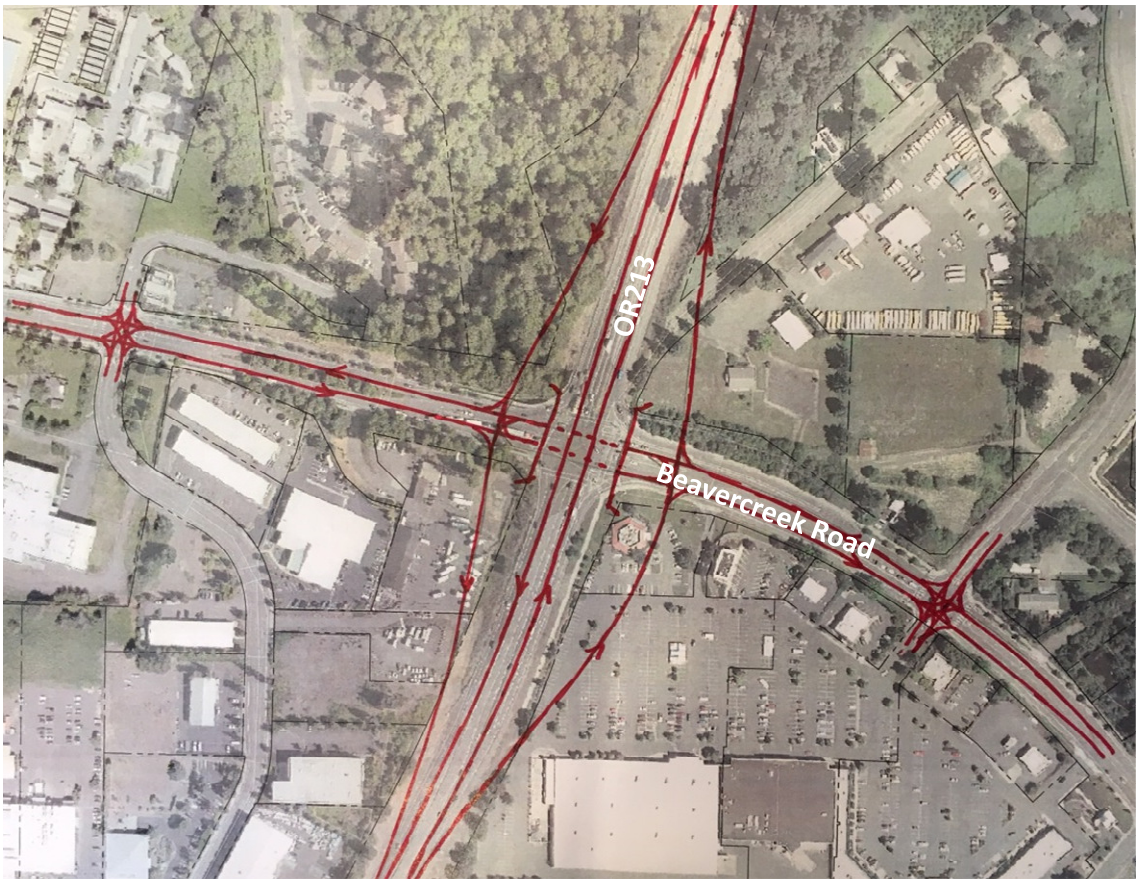
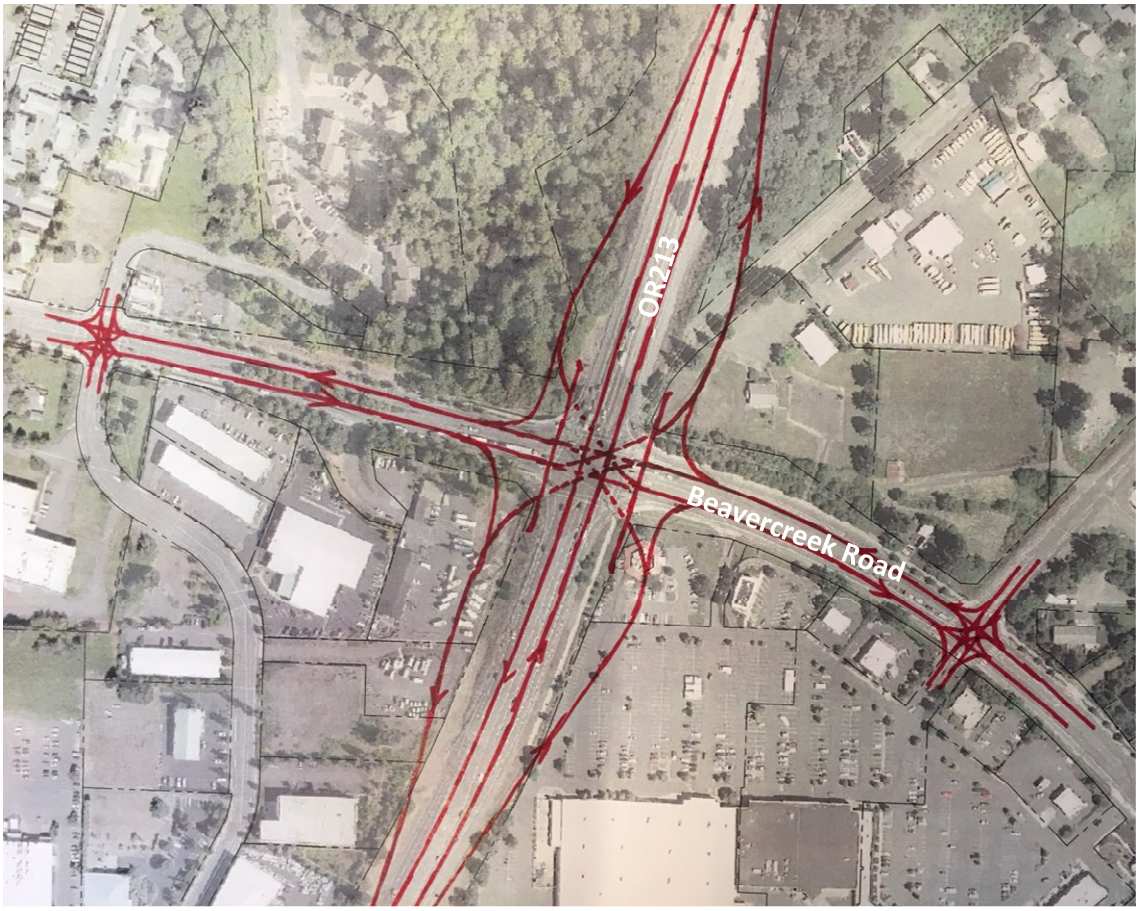


Exhibit 10 – Alternative 7: Single Point Interchange Alternative



ALTERNATIVES EVALUATION – OR213 AND BEAVERCREEK ROAD

The following provides an overview of operational analysis conducted on each alternative and summarizes the qualitative assessment for each alternative.

Operations Analysis

Planning level operational analysis was conducted using the CAP-X tool developed by FHWA[5], which can be used to evaluate alternative intersection forms and interchanges. The tool provides a total intersection (v/c) ratio. It was used for all alternatives to provide a consistent comparison of alternatives, but was found to be less conservative than Synchro in the base condition. **Table 4** summarizes the v/c ratios provided by CAP-X for each alternative. If one of these alternatives is identified as potential viable solution, it should be modeled in VISSIM to refine the forecast v/c ratio.

[5] Transportation Systems Institute (TSI). *Capacity Analysis for Planning of Junctions*. Version 1.2. 2011. http://tsi.cecs.ucf.edu/index.php/cap-x

Table 4 – CAP-X Alternatives Operations Analysis Summary (Year 2035[6])

Alternative		v/c	Exhibit
1	Lane Additions: Triple Southbound Left-Turn Lanes and Three Northbound Thru Lanes	0.90	Exhibit 4
2	Indirect Left (S/W Quadrant Road) with Three Southbound and Eastbound Thru Lanes	0.94	Exhibit 5
3	Southbound Displaced Left-Turn	0.86	Exhibit 6
4	Southbound and Eastbound Displaced Left-Turns	0.81	Exhibit 7
5	Full Diamond Interchange with Dual Eastbound and Westbound Left-Turn Lanes	0.82	Exhibit 8
6	Half Diamond Interchange with Dual Eastbound Left-Turn Lanes	0.79	Exhibit 9
7	Single Point Interchange with Dual Eastbound and Westbound Left-Turn Lanes	0.80	Exhibit 10

As shown, all alternatives meet the mobility target. Differences on their costs and impacts are provided in the following section.

Alternatives Assessment

Each of the alternatives was qualitatively evaluated for its impact to the intersection capacity, right-of-way impacts, environmental impact, bicycle and pedestrian impacts, cost, connectivity, and dependence on other projects. These factors are discussed below and summarized in **Table 5**.

Capacity

Each of the alternatives provides sufficient capacity to meet the current mobility standard in 2035. However, the triple left-turns and indirect left alternatives (Alternatives 1 and 2) still have an overall v/c ratio equal or greater than 0.90 and may represent a short-term fix rather than a long-term solution or may not provide benefit commensurate with the costs. The displaced left-turn alternatives (Alternatives 3 and 4) provide additional capacity nearly equal to the grade-separated interchange alternatives (Alternatives 5, 6 and 7) at a significantly lower cost.

Right-of-Way Impacts

Alternatives 1, 3, and 4 may be feasible within the existing right-of-way. Alternative 2 would require right-of-way through a vacant but developing parcel to connect OR213 to Fir Street. All of the grade separated interchange alternatives include large impacts to the right-of-way. The half diamond interchange reduces right-of-way takes as compared to the full diamond interchange without eliminating necessary movements through the intersection.

[6] 2035 30th highest hour volumes were estimated by adjusting winter count data by a seasonal factor of 8.5% to summer peak volumes. The count data, 2015 Base Year and 2040 Future Year volumes were post-processed using the NCHRP 255 methodology to produce 2035 turning movement volumes at each intersection.

Environmental Impacts

For all alternatives, any widening on the north side of Beavercreek Road, east or west of OR213 would impact the stream and wetlands and require mitigation. They would also require extending the existing culvert crossing under OR213 on the north side of Beavercreek Road and reconstruction of the retaining walls in the northwest and northeast corners of the intersection. Additional investigation is necessary to fully understand the costs of these potential impacts and to determine if the culvert can be extended or has to be upgraded or if the widening could be accommodated utilizing existing right-of-way on the south side of Beavercreek Road.

Alternative 1 is the only alternative with the potential to not impact the northwest and northeast corners. Alternative 3 may impact the northeast corner only. Alternatives 2 and 4 would impact the northwest and northeast corners and Alternatives 5, 6, and 7 would have significant impacts in the northwest and northeast quadrants.

Bicycle and Pedestrian Impacts

All alternatives can accommodate bicycles and pedestrians; however, Alternatives 1 and 2 include additional through lanes and would increase the intersection crossing distances which is an undesirable impact. Alternatives 3 and 4 reduce the crossing distances but result in two-stage crossing of some legs of the intersection. Alternatives 5, 6, and 7 increase and decrease crossing distances depending on the leg of the intersection and result in cyclists and pedestrians navigating two major intersections instead of one.

Cost

The costs of adding additional lanes, indirect lefts, or displaced left-turns are all of similar magnitude and may require extending or reconstructing the culvert and reconstructing retaining walls. Alternatives 3 and 4 also require the addition of partial signals on one or both of the southbound and eastbound legs of the intersection, respectively. Each of the interchange alternatives (Alternatives 5, 6 and 7) are assumed to be cost-prohibitive at a minimum cost of $25,000,000.

Connectivity

Turning movements to and from the south leg of OR213 are minimal due to the presence of parallel routes and/or other road network connections. The half diamond interchange alternative (Alternative 6) eliminates these movements, thereby improving capacity at the intersection. There is the potential to further improve the capacity of the displaced left-turn alternatives (Alternatives 3 and 4) by prohibiting the northbound and westbound left-turn movements as these movements have minimal traffic volumes; however, this is not a requirement of the alternatives. The connectivity improvements in the TSP are important to the flexibility and viability of these alternatives.

Dependence on Other Projects

As noted in the discussion of connectivity above, the half diamond interchange alternative (Alternative 6) is dependent on other projects in the area to provide the parallel routes necessary to accommodate the movements eliminated from the OR213/Beavercreek Road intersection. The practicality of the additional northbound through lane in the triple left-turns alternative (Alternative 1) is also dependent on the provision of road extensions, particularly the planned Meyers Road extension to OR213.

Table 5 – Alternatives Evaluation

Alternative		Additional Capacity	Right-of-Way Impacts	Environmental Impact	Bike/Ped Impacts	Cost	Eliminates Movements?
	Existing	None	None	None	No Improvement	NA	No
1	Triple Southbound Left / Three Northbound Thru	Some	None to Minimal	None to Minimal	Increased Crossing Distances	Medium ($5-$10M)	No
2A	Indirect Left (S/W Quadrant Road)	Some v/c=0.90	New Connection on Industrial Land	NW and NE Corners	Increased Crossing Distances	Medium ($5-$8M)	No
2B	Indirect Left (S/W and S/E Quadrant Roads)	Unknown	New Connection on Industrial Land and Shopping Center Impacts	NW and NE Corners	Increased Crossing Distances	Medium ($10-$15M)	No
3	Southbound Displaced Left-Turn	Significant v/c=0.86	None to Minimal	NE Corner	Reduced Crossing Distances	Medium ($5-$10M)	Would provide additional benefit
4	Southbound and Eastbound Displaced Left-Turns	Significant v/c=0.81	None to Minimal	NW and NE Corners	Reduced Crossing Distances	Medium ($8-$12M)	Would provide additional benefit
5	Full Diamond Interchange	Significant v/c=0.82	High	NW and NE Quadrants	Two intersections	High (>$25M)	Yes
6	Half Diamond Interchange	Significant v/c=0.79	High	NW and NE Quadrants	Two intersections	High (>$25M)	No
7	Single Point Interchange	Significant v/c=0.80	High	NW and NE Quadrants	Increased Crossing Distances	High (>$25M)	No

The following alternatives were identified for further review to determine physical and financial feasibility:

- Alternative 1: Triple Left-Turns
- Alternative 3: Displaced Southbound Left-Turns
- Alternatives 5 & 7: Full Diamond Interchange and Single Point Interchange

Table 6 lists these alternatives, as well as their relative benefits, constraints, opportunities, and risks.

Table 6 – Intersection Alternatives Considered

Alternative	Benefits	Opportunities	Constraints	Risks
Alternative 1: Triple Left-Turns	Meets current mobility target in 2035	North and east legs of intersection	Cost; vehicle navigation of three left-turn lanes	Increase sideswipe crashes through turn and downstream weave
Alternative 3: Displaced Southbound Left Turns	Meets current mobility target in 2035	North leg of intersection	Cost; impact to existing culvert and retaining walls	Driver confusion with new intersection type for Oregon
Alternative 5: Full Diamond Interchange	Meets current mobility target in 2035; greatly increases capacity for through traffic on OR213	All approaches of the intersection	Cost; right-of-way	Increased intersection exposure (i.e., two large ramp terminals) for pedestrians and bicyclists
Alternative 7: Single-Point Interchange	Meets current mobility target in 2035; greatly increases capacity for through traffic on OR213	All approaches of the intersection	Cost; right-of-way	

Potential improvements for the intersection of Beavercreek Road and OR213 that focused on significantly increasing the intersection capacity to meet the current mobility target were presented to the TAG and CAG in December 2016 and January 2017. None of the alternatives were determined to be financially feasible, even by the 2035 horizon year of the TSP given the financial constraints of the city and other agency partners. In addition, some of the potential alternatives could have additional consequences including right-of-way impacts, environmental impacts, and could potentially complicate the provision of services for bicyclists, pedestrians, and transit users. These alternatives can be further considered in the future if additional funding becomes available.

ALTERNATIVES – OR213 AND REDLAND ROAD

As Phase 2 of the "Jughandle" Project (D79 in the TSP) has already been identified to resolve capacity deficiencies at OR213/Redland Road, no additional alternatives were developed for the intersection.

Section 6
Alternative Mobility Target and Financially Feasible Improvements Assessment

ALTERNATIVE MOBILITY TARGET AND FINANCIALLY FEASIBLE IMPROVEMENTS ASSESSMENT

ALTERNATIVE MOBILITY TARGET

The OR213/Beavercreek Road and OR213/Redland Road intersections are currently experiencing deficiencies in capacity and safety for vehicular modes of travel. Mobility is currently measured by using v/c to measure the average level of congestion for motorists entering all legs of an intersection. Technical Memo #2 in Appendix "A" documents the menu of performance measure options that were discussed with the TAG and CAG to measure congestion both at an intersection and along the Highway 213 corridor, from Redland Road to Molalla Avenue.

The majority of TAG and CAG members agreed that an alternative mobility target allowing intersection volume-to-capacity ratios to exceed the existing targets for no more than a specified number of hours per day would be appropriate for the corridor based on a range of considerations including ease of application and applicability to development review. The following sections describe the safety and operational analysis that was used to recommend cost-feasible improvements and corresponding alternative mobility targets.

SAFETY AND CAPACITY ANALYSIS

The TSP does not identify a large capacity project at the intersection of OR213 and Beavercreek Road, but several smaller feasible projects are identified. The TSP identifies a large capacity project at the intersection of OR213 and Redland Road, but it is not likely to be funded. Because achieving the mobility standard through a major capacity-expanding project at these intersections has been determined to be beyond the financial capabilities of the city and its partner agencies, an alternative mobility target will be necessary. As a result of this study, some improvements were identified that, while not allowing the mobility standard to be fully met, would increase the intersection capacity, improve safety, and are within the financial capabilities of the city and its partner agencies. Safety and operational improvements are identified below that minimize future congestion and can be included in the cost-constrained TSP.

SAFETY AND CAPACITY IMPROVEMENTS

Safety and capacity improvements to OR213 from Redland Road to Molalla Avenue (including the Beavercreek Road intersection) could be implemented in tandem with the proposed alternative mobility targets. These approaches, while not providing adequate capacity to meet the current mobility target, would increase capacity and/or safety at the intersection, providing an overall improvement. **Table 7** lists these improvements, as well as their relative benefits, constraints, opportunities, and risks.

Table 7 – Intersection Improvement Approaches Considered

Improvement	Benefits	Opportunities	Constraints	Risks
Increase all-red time	Reduces red-light running crashes, particularly turning and angle crashes	All approaches of the intersection	Reduces intersection capacity and increases queueing. Helps reduce turning and angle crashes, which are not prevalent at this intersection.	Increase rear-end crashes, the most common type at signalized intersection
Install red-light cameras	Reduces red-light running crashes, particularly turning and angle crashes	All approaches of the intersection	Community Opposition. Helps reduce turning and angle crashes, which are not prevalent at this intersection.	Increase rear-end crashes, the most common type at signalized intersection
Increase shoulder width	Safer bicycle travel	North leg of intersection	Costs/Impacts to retaining wall	N/A
Improve lighting	Increase safety for all modes	North and south legs of intersection	N/A	N/A
Provide merge lane for WB to NB right turning vehicles	Reduce queuing between OR213 and Maple Lane, and increase capacity of westbound approach	North leg of intersection	Retaining wall in northeast corner of the intersection	Increase sideswipe crashes
Eliminate westbound left-turn lane and extend eastbound left turn storage onto Maple Lane	Reduce queuing and crashes related to queues on Beavercreek Road at Maple Lane	East leg of intersection	Rerouting of westbound lefts to Meyers Road and potential increased travel time	Confusion by drivers resulting in illegal maneuvers

The TAG and CAG were in favor of further investigation of potential improvements to increase safety and capacity at the Beavercreek Road and OR213 intersection. The specific projects identified by the TAG and CAG for additional analysis included: 1) the provision of a merge lane for westbound right-turning vehicles and 2) elimination of the second westbound left-turn lane to increase left-turn storage on eastbound Beavercreek Road at Maple Lane Road. The provision of a westbound right-turn merge lane is described in the following sections and shown in **Figure 2**. The elimination of the second westbound left-turn lane to increase left-turn storage on eastbound Beavercreek Road at Maple Lane Road was highly supported by the CAG and was found to be viable and not impact the intersection v/c ratio; however it is recommended that this be considered at a later date in combination with potential improvements at the Beavercreek Road/Maple Lane intersection.

Beavercreek Road - Right Turn Reconfiguration

Conceptual Design Subject to Change
Date: March 30, 2017

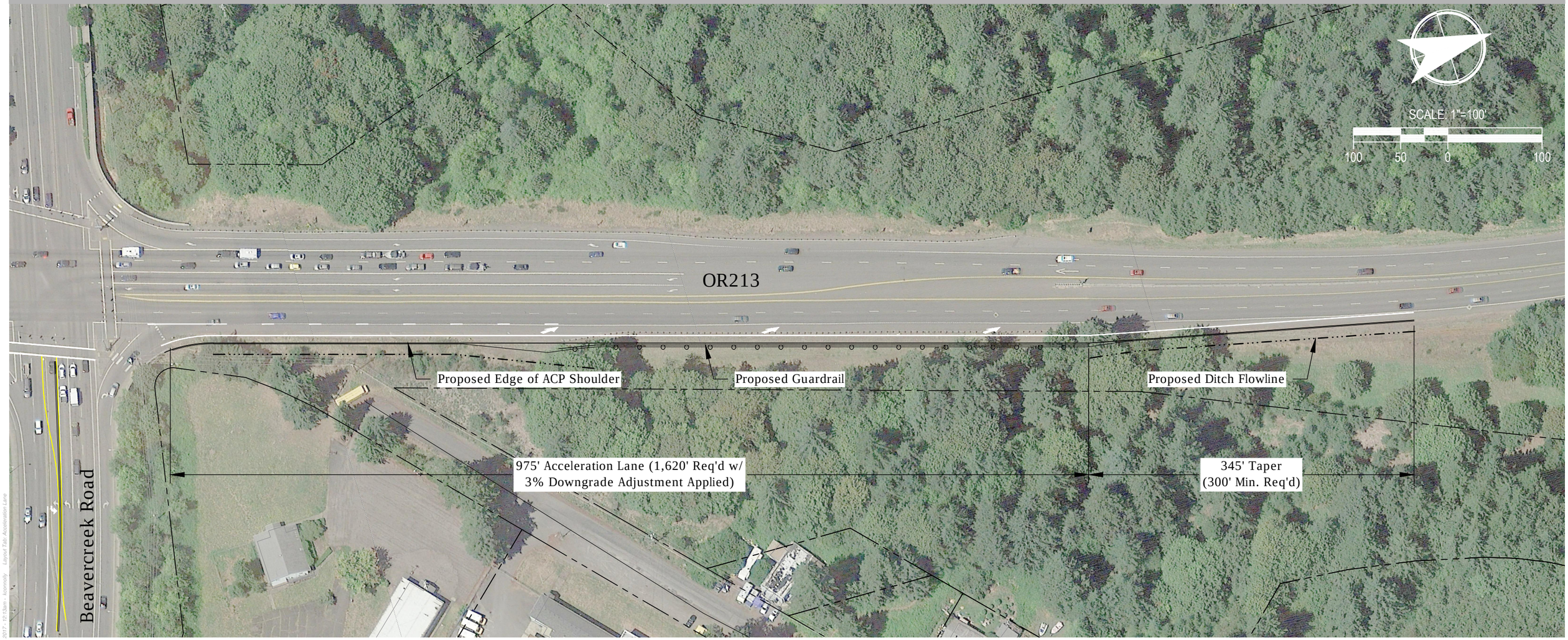


Figure 2

KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Susan Wright or Hermanus Steyn

OR213 & Beavercreek Road
City of Oregon City

Additional safety improvements identified by the City for further investigation, or to be included as part of future projects in the area include:

- Install intersection enhancements including potential raised crosswalks, bike lane striping continuation, ladder-style crosswalks, and lane narrowing.
- Add wayfinding signage for people walking and biking.
- Enhance bike lanes on Beavercreek Road with additional markings and green striping in transition areas.
- Add buffers to bike lanes on Beavercreek Road where feasible.
- Add ADA curb ramps in the OR213/Beavercreek Road area where missing.
- Add pedestrian facilities to Maple Lane Road between Beavercreek Road and Thayer Road.
- Add transit stop amenities to existing stops in the area.

The following provides an overview of safety and operations at OR213/Beavercreek Road and OR213/Redland Road, and cost estimates of potential cost-feasible safety and operational improvements that could be implemented at the OR213/Beavercreek Road intersection in conjunction with alternative mobility targets.

Safety Analysis

The OR213/Beavercreek Road intersection was identified in the 2013 TSP as a high collision intersection. The Oregon Department of Transportation (ODOT) Crash Analysis and Reporting Unit provided crash records at the intersection for the 5-year period from January 2010 through December 2014. **Table 8** summarizes the reported crash data. The crash data is included in Appendix "D".

Table 8 - OR213/Beavercreek Road Intersection Crash Summary and Crash Rate Assessment (2010-2014)

Crash Type				Severity			Total	Critical Crash Rate by Intersection Type	Critical Crash Rate by Volume	Observed Crash Rate at Intersection	Observed Crash Rate>Critical Crash Rate?
Rear-End	Turning	Angle	Other	PDO	Injury	Fatal					
116	7	5	5	58	74	1	133	0.59	0.50	1.20	Yes

PDO = Property Damage Only
Crash Rate = crashes per million entering vehicles

The intersection was in the top 5% of the ODOT Safety Priority Index System (SPIS) List for the years 2012-2014. The SPIS List is maintained by ODOT and updated each year with the latest available year of crash records and traffic volumes. 2012-2014 is the most current SPIS list. The intersection also has a crash rate that exceeds the Critical Crash Rate meaning that it exceeds the crash rate of other comparable intersections.

As shown in **Table 8**, the most predominant crash type at the OR213/Beavercreek Road intersection is rear-end crashes. Beavercreek Road is the first at-grade intersection on OR213 for over two miles south of Redland Road, in a corridor that generally feels rural. A lack of driver expectation of southbound queues from the signal may contribute to the high number of reported rear-end crashes at the

intersection. The reported fatality occurred in 2011, and was an angle crash in which the driver ran a red light under dark and rainy conditions. The 2010-2014 crash rate of 1.20 is already lower than the crash rate of 2.05 identified in the 2013 TSP, indicating that safety and/or driver attentiveness have improved in recent years. Lengthening the dual eastbound left-turn lanes to provide additional storage (Project D27; funded) and an advanced queue warning system on southbound 213 will further improve safety at the intersection.

Crash data for the OR213/Redland Road intersection was obtained from the February 2017 Serres Farm Annexation Traffic Impact Study for the 3-year period from January 2013 through December 2015. **Table 9** summarizes the reported crash data. The crash data is included in Appendix "D".

Table 9 - OR213/Redland Road Intersection Crash Summary and Crash Rate Assessment (2013-2015)

Crash Type				Severity							
Rear-End	Turning	Angle	Other	PDO	Injury	Fatal	Total	Critical Crash Rate by Intersection Type	Critical Crash Rate by Volume	Observed Crash Rate at Intersection	Observed Crash Rate>Critical Crash Rate?
22	4	0	1	8	19	0	27	0.39	0.54	0.44	Yes

PDO = Property Damage Only
Crash Rate = crashes per million entering vehicles

Both the OR213/Beavercreek Road and OR213/Redland Road intersections have observed crash rates which exceed the Critical Crash Rate, meaning that they exceed the crash rate of other comparable intersections. For this reason, applicable TSP planned improvements and other potential improvements were analyzed at each intersection to determine their impact on the expected crash frequency at each intersection. **Table 10** summarizes the improvements in the TSP.

Table 10 – 2013 Oregon City Transportation System Plan Projects located in the southeast part of the City

Project #	Project Description	Project Extent	Project Elements	Priority	Funded?
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	Likely
D79	OR 213/Redland Road Capacity Improvements	Redland Road to Redland Road Undercrossing	Add a third northbound travel lane on OR 213 north of the Redland Road undercrossing. Extend the third southbound travel on OR 213 south of the Redland Road intersection and merge the third lane before the Redland Road undercrossing. Add a right-turn lane (southbound OR 213 to westbound Redland). Convert the Redland Road approach to OR 213 to 1 receiving lane, 2 left-turn approach lanes, and 1 right-turn lane.	Long-term	Not Likely

In addition to these planned improvements, the impact of a westbound right-turn merge lane at OR213/Beavercreek Road and an additional southbound through lane (shared with the southbound right-turn lane) at OR213/Redland Road were analyzed. The intersections and improvements were

analyzed using HiSafe[7] software and crash modification factors (CMF) from the CMF Clearinghouse. **Tables 11 and 12** show the 2035 expected annual crashes with and without these improvements.

Table 11 – OR213/Beavercreek Road 2035 Expected Annual Crashes

Existing Configuration	With Westbound Right-Turn Merge Lane (CMF #295 applied to westbound rear-end crashes)	With Southbound Advanced Queue Warning System (CMF #76 applied to southbound rear-end injury crashes)	With Both Improvements
26.39	25.75	25.77	25.13
-	-2.4%	-2.3%	-4.8%

Table 12 – OR213/Redland Road 2035 Expected Annual Crashes

Existing Configuration	With 3rd Southbound Through/Right Lane (CMF #7924 applied to southbound crashes)	With 3 Northbound and 3 Southbound Through Lanes (CMF #7924 applied to northbound and southbound crashes)
8.82	8.24	7.92
-	-6.6%	-10.2%

As shown in **Tables 11 and 12**, the planned TSP and potential financially feasible improvements will reduce the number of expected annual crashes at the OR213/Beavercreek Road and OR213/Redland Road intersections. The potential financially feasible improvements at OR213/Beavercreek Road are predicted to reduce crashes at the intersection by almost 5%, and planned improvements at OR213/Redland Road are predicted to reduce crashes by more than 10%.

Operations Analysis

Count data for OR213 at Beavercreek Road and Redland Road was collected in May 2017. The five highest volume hours were collected for each intersection, based on historical count data at the OR213/Beavercreek Road intersection, under the assumption that they follow the same hourly volume profile. Due to the large amount of commuter traffic from outlying communities, a large portion of the traffic through each intersection is made up of the same vehicles a matter of seconds apart. The raw count data can be found in Appendix "E". The raw data represents annual average conditions and was adjusted to represent summer peak volumes[8]. The adjustment calculations can be found in Appendix "E".

[7] HiSafe companion software to the Highway Safety Manual (HSM) applies HSM Predicative Method for estimating the average number of expected annual crashes for quantitative assessment of safety performance.

[8] In order to calculate the 30th highest hour, the data was seasonally adjusted to summer peak volumes using the average of two representative Automatic Traffic Recorder (ATR) locations in Clackamas County (03-017 and 03-018). A factor of 7% was calculated using the procedures outlined in ODOT's Analysis Procedures Manual (APM) and applied to the May counts to adjust them to summer peak volumes.

Metro provided 2015 Base Year and 2040 Future Year hourly turn movement volumes for OR213/Beavercreek Road and OR213/Redland Road. These volumes reflect the most current land use assumptions and include full build-out of Oregon City's urban growth boundary areas in addition to growth in the rest of the region, including through traffic from outlying communities. These hourly plots can be found in Appendix "E". The count data, 2015 Base Year and 2040 Future Year volumes were post-processed using the NCHRP 255[9] methodology to produce 2040 turning movement volumes at each intersection under both the annual average and 30th highest hour conditions. The calculations for this process can be found in Appendix "E".

A Synchro (traffic model used to evaluate v/c ratios and other metrics) analysis was conducted for the five highest traffic volume hours at the OR213/Beavercreek Road and OR213/Redland Road intersections under both the annual average (typical May peak hours) and 30th highest hour (typical August peak hour) conditions. The results of this analysis are summarized in **Tables 13 and 14**. The full reports can be found in Appendix "F".

Table 13 – 2040 Synchro Volume-to-Capacity Analysis Summary: Annual Average Conditions

Scenario	Peak Hour 4:00 pm	2nd Highest Hour 5:00 pm	3rd Highest Hour 3:00 pm	4th Highest Hour 2:00 pm	5th Highest Hour 7:00 am
213/Beavercreek	1.11	1.11	1.10	0.96	1.34[1]
213/Beavercreek with Right-Turn Merge Lane	0.98	1.00	0.99	0.87	0.90
213/Redland	1.10	1.09	1.04	0.99	0.91

[1]The 5th highest overall volume hour at OR213/Beavercreek Road under the existing intersection configuration has a higher v/c because certain movements in this hour exhibit higher volumes than in the peak hour. For example, during the morning peak the westbound right-turn movement is significantly higher than during the afternoon peak, impacting v/c.

Table 14 – 2040 Synchro Volume-to-Capacity Analysis Summary: 30th Highest Hour Conditions

Scenario	Peak Hour 4:00 pm	2nd Highest Hour 5:00 pm	3rd Highest Hour 3:00 pm	4th Highest Hour 2:00 pm	5th Highest Hour 7:00 am
213/Beavercreek	1.15	1.15	1.14	1.00	1.39[1]
213/Beavercreek with Right-Turn Merge Lane	1.01	1.04	1.03	0.90	0.93
213/Redland	1.13	1.12	1.07	1.02	0.94

[1]The 5th highest overall volume hour at OR213/Beavercreek Road under the existing intersection configuration has a higher v/c because certain movements in this hour exhibit higher volumes than in the peak hour. For example, during the morning peak the westbound right-turn movement is significantly higher than during the afternoon peak, impacting v/c.

The analysis in **Tables 13 and 14** shows that, without improvements, the OR213/Beavercreek Road and OR213/Redland Road intersections will exceed current mobility targets in 2040 (shown in red). With potentially financially feasible improvements in place (i.e. a westbound right-turn merge lane at OR213/Beavercreek), the intersections will still exceed the existing mobility targets under 30th highest

[9] This document sets forth procedures to refine computerized traffic volume forecasts by comparing base year and future year volumes to count data.

hour traffic conditions. Therefore, it is recommended that alternative mobility targets be based on average annual conditions, allowing the v/c ratio to exceed 0.99 for one hour per day at the OR213/Beavercreek Road intersection (upper limit of 1.0) and three hours per day at the OR213/Redland Road intersection (upper limit of 1.1).

Merge Analysis

The intersection of OR213 and Beavercreek Road was evaluated to ensure that the segment north of Beavercreek Road on OR213 would provide acceptable traffic operations with the proposed merge lane. The evaluation was performed both for a merge length of 1,300' and 2,000'. A 1,300' merge meets ODOT standards based on a length reduction for grade. A 2,000' merge exceeds ODOT standards for the existing grade on OR213 and places the end of the merge within a horizontal curve. Additionally, the analysis below shows that the 2,000' merge has a negative impact on delay due to greater difficulty merging at higher speeds.

Segment Analysis Methodology

A traffic simulation analysis was conducted using the 2040 annual average traffic volumes and the proposed westbound right-turn merge lane. The simulation analysis used the SimTraffic software (sample graphic shown in **Exhibit 11**). The parameters were adjusted according to the ODOT Analysis and Procedures Manual (APM). The traffic simulation generates random patterns of vehicle movements consistent with the peak hour traffic volumes, so that no single simulation generates "the" answer. The AM and PM peak hour traffic volumes were each run through the SimTraffic simulation five times. The results of the five simulation runs were averaged to generate the final results. This is consistent with standard recommended methodologies for reporting results from traffic simulations. The outputs include:

- Average speeds and delays on the segment in the northbound direction.
- Average delays on the westbound right-turn movement.

The simulation is sensitive to delays caused by difficult merge or lane-change movements. If any of these movements are particularly difficult, the simulation would report slow speeds or queues on the affected segments.

xhibit 11 – Sample Traffic Simulation (SimTraffic), OR213/Beavercreek Road Intersection

Segment Speeds

The Highway Capacity Manual defines level of service for urban street segments based on travel speed as a percentage of free-flow speed. Level of service (LOS) C corresponds to an average speed between 50 and 67 percent of free-flow speed. Assuming a free-flow speed of 55 mph on OR213 north of Beavercreek Road, LOS C operation would be an average speed between 27.5 and 36.9 mph.

The average speeds and delays for OR213 through the westbound to northbound merge fro Beavercreek Road (north of the signal) based on the simulation analysis are reported in **Table** .

Table 15 – OR213 and Beavercreek Road Speeds and Delays, 2040 Annual Average Volumes

Scenario	Peak Hour	Average Speed (mph)	Average Delay per Vehicle (seconds)
1300' Merge	AM	34.0	9.8
	PM	36.0	8.1
2000' Merge	AM	39.0	10.1
	PM	41.0	8.3

Average speeds are within an acceptable (LOS C) range for the proposed 1,300' merge and even higher for the 2,000' merge. Keeping in mind that most vehicles are accelerating from a stop through the Beavercreek Road signal, and will not have to slow significantly during the merge, the difference in speeds is primarily attributed to the additional distance for vehicles already on OR213 to accelerate. Additionally, the average delay per vehicle is higher with the 2,000' merge, indicating that the merging maneuver actually creates more conflicts when there are higher speeds on OR213.

The segment merge analysis shows that acceptable levels of service can be maintained with a 1,300' merge lane for the westbound right-turn movement. A 2,000' merge would occur within a horizontal curve on OR213, increasing the risk of sideswipe and run-off-the-road crashes. Therefore, it is recommended that a 1,300' merge length be provided.

Westbound Right Turn Operations

The traffic simulation tested the operations of the proposed free-right turn lane from westbound Beavercreek Road to northbound OR213. The operational analysis considered the capacity of the right-turn lane as well as the capacity of the merge with northbound traffic on OR213, but does not reflect delay caused by pedestrian movements at the intersection.

Table 16 – OR213 and Beavercreek Road Westbound Right-Turn Delay, 2040 Annual Average Volumes

Scenario	Peak Hour	Average Delay per Vehicle (seconds)
1300' Merge	AM	13.6
	PM	16.6
2000' Merge	AM	13.9
	PM	16.5

The average delays on the right-turn movement are similar with either the 1300' or 2000' merge, as shown in **Table 16**. The longer merge does not significantly reduce delay, and in fact increases delay during the AM peak hour, which is the critical westbound right-turn movement volume.

Pedestrian Crossing

High visibility pavement markings and signage are recommended for pedestrians and bicycles to cross the channelized lane safely, and consideration should be given to installing enhanced pedestrian

improvements. This could include a rectangular rapid flash beacon (RRFB) for increased visibility. This type of treatment has been installed at similar locations in Boise, Idaho (see **Exhibit 12**).

Exhibit 12 – RRFB on the west leg of E Myrtle St and S Broadway Ave in Boise, Idaho

Queuing Analysis

The capacity improvements identified in Phase 2 of the "Jughandle" Project were evaluated to determine the impact of these improvements on queuing. **Table 17** provides a summary of Synchro queuing results in the southbound direction at OR213 and Redland Road under existing conditions and with the implementation of Phase 2 of the "Jughandle" Project.

Table 17 – 2040 Synchro Queuing Analysis Summary: 30th Highest Hour Conditions, Southbound Direction

Scenario	Peak Hour 4:00 pm	2nd Highest Hour 5:00 pm	3rd Highest Hour 3:00 pm	4th Highest Hour 2:00 pm	5th Highest Hour 7:00 am
213/Redland Existing Configuration	1947	1998	1701	1430	985
213/Redland with TSP Improvements	982	998	870	774	620

The results in **Table 17** show that the TSP improvements reduce the queues towards the I-205 interchange by approximately half. However, without the TSP improvements the southbound queues in Synchro are around 1800-1900 feet which is just past 213/Washington St/Clackamas River Drive.

Cost Estimates

The cost of adding an additional northbound and southbound through lane at OR213/Redland Road, consistent with TSP project D79, was recently estimated by OBEC to be almost $10 million.

The cost of the westbound right-turn merge lane at OR213/Beavercreek Road is estimated to be approximately $2.7 million based on the design shown in **Figure 2**. This estimate does not include right-of-way acquisition.

The KAI and OBEC cost estimates, as well as exhibits of the proposed financially feasible improvements at OR213/Beavercreek Road can be found in Appendix "G".

CONCLUSIONS

The intersection improvement alternatives that would meet the existing mobility target at the OR213/Beavercreek Road intersection are not cost feasible, given the financial constraints of the City and other agency partners. These alternatives can be further considered in the future if additional funding becomes available.

Phase 2 of the "Jughandle" project at the OR213/Redland Road intersection is not part of the financially constrained plan in the 2013 TSP. Like the OR213/Beavercreek Road intersection, major capacity-increasing improvements at this intersection were determined to be beyond the financial capabilities of the city and its partner agencies during the TSP development process. It is recommended that this planned improvement for three through lanes in the northbound and southbound directions remain in the unconstrained TSP project list.

Lacking the financial capability of implementing major capacity-increasing projects at these locations, alternative mobility targets are necessary at each of these intersections; however, some improvements may be feasible in the cost-constrained TSP to improve safety and minimize future congestion.

The following alternative mobility targets are recommended:

For the intersection of OR213 and Beavercreek Road, the following mobility standards apply:

- During the first, second and third hours, a maximum v/c ratio of 1.00 shall be maintained. Calculation of the maximum v/c ratio will be based on an average annual weekday peak hour.

For the intersection of OR213 and Redland Road, the following mobility standards apply:

- During the first and second hours, a maximum v/c ratio of 1.10 shall be maintained. Calculation of the maximum v/c ratio will be based on an average annual weekday peak hour.
- During the third hour, a maximum v/c ratio of 1.05 shall be maintained. Calculation of the maximum v/c ratio will be based on an average annual weekday peak hour.

In conjunction with these alternative mobility targets, the financially feasible improvement to construct a westbound right-turn merge lane at OR213/Beavercreek Road should be included in the City's financially unconstrained plan. The merge lane should have a length of approximately 1300', including the taper. High visibility pavement markings and signage are recommended for pedestrians and bicycles to cross the channelized lane safely, and consideration should be given to installing a rectangular rapid flash beacon (RRFB) for increased visibility.

Appendix A
CAG and TAG Meeting Notes and Technical Memorandums

Appendix B
Oregon City GIS Maps

Appendix C
BlueMAC Data

Appendix D
Crash Data

Appendix E
Traffic Volumes

Appendix F
Operations Analysis

Appendix G
Cost Estimates

City of Oregon City

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

Staff Report

File Number: PC 18-001

Agenda Date: 1/8/2018

Status: Agenda Ready

To: Planning Commission

Agenda #: 4a.

From: Assistant Planner Diliana Vassileva

File Type: Land Use Item

SUBJECT:
Planning File NR 17-0010: Natural Resource Overlay District Review application for a Deck Expansion at 379 Barker Avenue

RECOMMENDED ACTION (Motion):
Approval of Planning file NR 17-0010 with conditions.

BACKGROUND:
The applicant is requesting approval of a Natural Resource Overlay District (NROD) Review application for a deck expansion located at 379 Barker Avenue, Oregon City. The expansion results in an increase of impervious surface within the NROD of approximately 100 square feet. The application requires a Type III review because the deck expansion encroaches closer than one-half of the distance of the associated vegetated corridor. The applicant is seeking approval for the expanded deck and is proposing mitigation for the additional impervious surface created by the expanded deck.

OREGON CITY

Community Development – Planning

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

TYPE III
STAFF REPORT AND RECOMMENDATION
December 29, 2017

FILE NUMBER: NR 17-10: Natural Resource Overlay District Review

APPLICANT/OWNER: Kevin Dier
379 Barker Avenue
Oregon City, OR 97045

Submitted: July 28, 2017
Complete: October 20, 2017
120 Day Deadline: March 16, 2017

REPRESENTATIVE: Tina Farrelly
9450 SW Commerce Circle
Wilsonville, OR 97070

REQUEST: The applicant has requested approval of a Natural Resource Overlay District Review application for a deck expansion.

LOCATION: 379 Barker Avenue, Oregon City, OR 97045
Clackamas County Map 3-2E-06BB, Tax Lot 3903

REVIEWER: Diliana Vassileva, Assistant Planner
Gigi Cooper, David Evans and Associates

RECOMMENDATION: Approval with Conditions.

PROCESS: Type III Quasi-Judicial Public Hearing. Pursuant to OCMC 17.50. C. 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. 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(s) 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. The city commission decision on appeal from the historic review board or the planning commission is the city's final decision and is appealable to LUBA within twenty-one days of when it becomes final.

Recommended Conditions of Approval
Planning File NR 17-10

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

The applicant shall include the following information with submittal of a Building permit associated with the proposed application. The information shall be approved prior to issuance.

1. The applicant shall submit a revised mitigation plan:
    a. Identifying that the bare ground in the mitigation area will be planted or seeded with native grasses or herbs. (P)

    b. That demonstrates compliance with plant spacing standards in accordance with OCMC Section 17.49.180.E.2.c. (P)

The applicant shall include the following information prior to issuance of a Building permit final associated with the proposed application. The information shall be approved prior to issuance.

2. The applicant shall provide the City with a copy of a recorded covenant or conservation easement demonstrating compliance with OCMC 17.49.180.G. (P)

3. The applicant shall provide the City with a financial guarantee per OCMC 17.49.180.H. (P)

4. Invasive species within the mitigation area shall be removed. (P)

The applicant shall provide the following information to the Planning Division associated with this approval.

5. The applicant shall comply with all standards for monitoring and maintenance within the NROD per OCMC 17.49.180.F. Following the mitigation planting, the property owner shall submit annual monitoring and maintenance reports to the Planning Division. A minimum of 80% survival of mitigation plantings shall be required at the end of the 5-year monitoring and maintenance period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than 10 square feet that remain at the end of the 5-year monitoring period shall be replanted or reseeded with native grasses and ground cover species. (P)

I. BACKGROUND:

1. Existing Conditions

The property located at 379 Barker Avenue, Oregon City, is approximately 10,500 square feet in size and is zoned "R-10" Single-Family Dwelling District. The subject property is developed with a single-family residence. Surrounding properties are also developed with single-family homes and have low-density residential zoning. Properties to the north and west are zoned "R-10" Single-Family Residential District, while properties to the south and east are zoned "R-8" Single-Family Residential District.

The subject property is entirely located within the City's mapped Natural Resource Overlay District (NROD). The Oregon City Municipal Code protects habitat and water features through the Natural Resource Overlay District. The overlay utilizes vegetated corridors consisting of native plantings adjacent to features such as streams and wetlands to improve water quality and functions and discourages development within this area. The subject site was created in 1993 under Planning file MP 92-03, prior to the enactment of the current stream and habitat protections identified in the Natural Resource Overlay District. Though the entire property is within the mapped Natural Resources Overlay District, the applicant submitted a delineation and associated report, conducted by Tina Farrelly of Pacific Habitat Services, demonstrating that the vegetated corridor is limited to the rear portion of the site.

Coffee Creek, a tributary of the Willamette River, flows northward along the eastern property line of the subject site. The following excerpt from the applicant's narrative provides a discussion of the natural features onsite:

> *Coffee Creek adjacent to the Applicant's parcel is not considered to be an anadromous fishbearing stream (Oregon Department of State Lands [DSL] 2017; Shapiro and Associates 1999; StreamNet 2017). Slopes adjacent to Coffee Creek do not exceed 25 percent within the parcel. One sample point was collected adjacent to the stream channel to document that there are no wetlands within the property. Riparian vegetation within the property is dominated by lawn species, but also includes several native and ornamental woody species, including Douglas and English hawthorn (Crataegus douglasii and C. monogyna), big-leaf maple (Acer macrophyllum), vine maple (A. circinatum), Japanese maple (A. palmatum), blue atlas cedar (Cedrus atlantica), laurel (Prunus laurocerasus), daphne (Daphne sp.), and rhododendron (Rhododendron sp.). A small amount of slough sedge (Carex obnupta) is present within the stream channel.*

The existing home was constructed in 1996 and included a rear deck approximately 119 square feet in size. The pre-existing deck also included a set of steps, a concrete pad, and pavers leading to Coffee Creek, resulting in a total of 169 square feet of impervious surface associated with the deck. In 2016, the pre-existing deck was reconfigured and expanded to an approximately 269 square-foot deck. This report analyzes the 100 square foot expansion of the deck within the vegetated corridor associated with Coffee Creek.

Figure 2: Existing Conditions – Aerial Image

Figure 3: NROD from the City's GIS

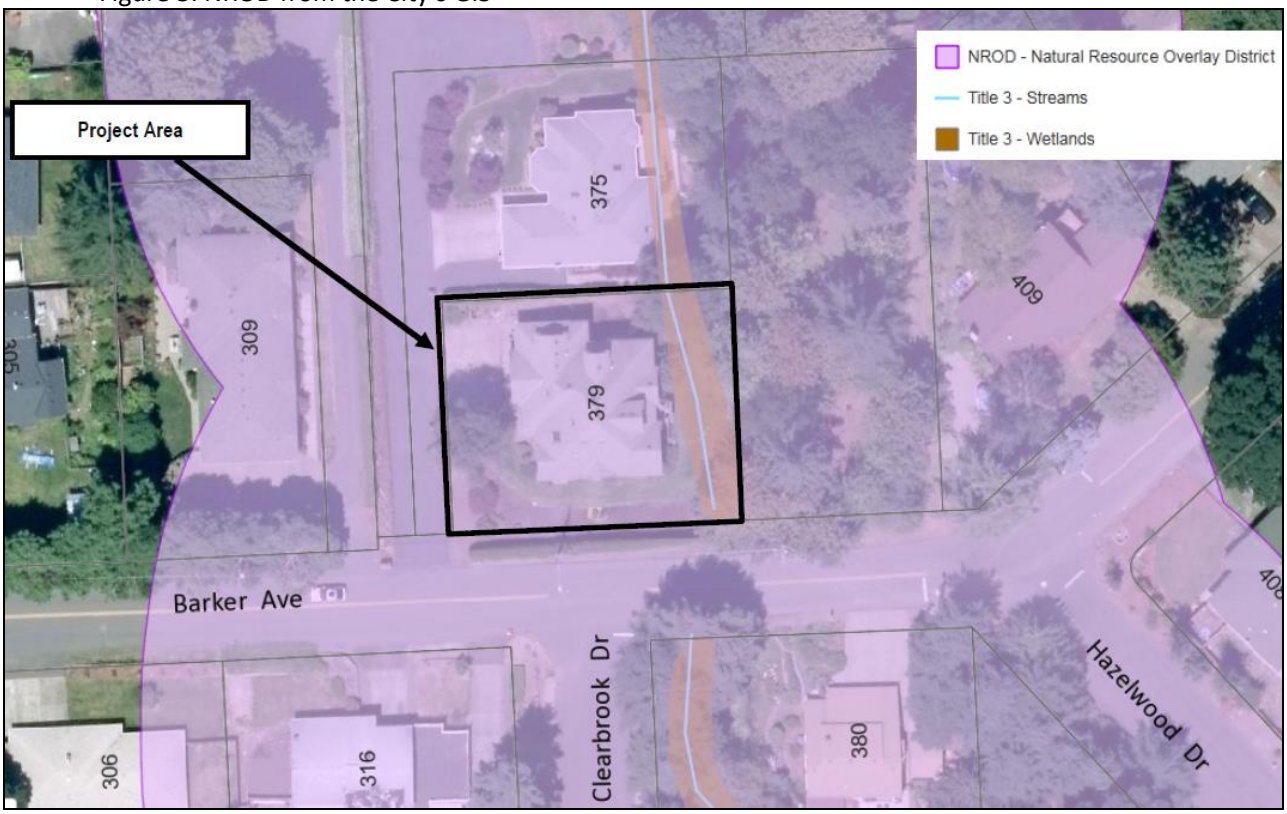
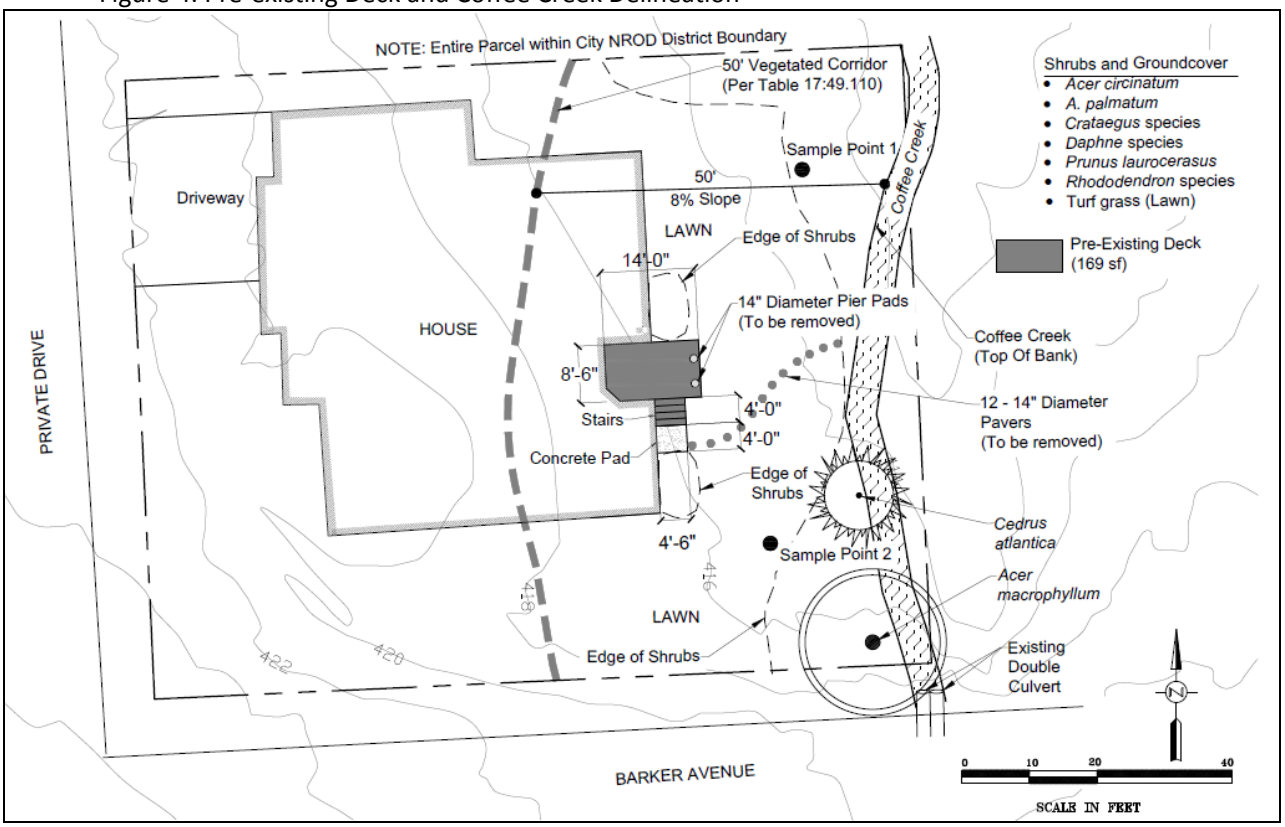


Figure 4: Pre-existing Deck and Coffee Creek Delineation



2. Project Description

The existing residence was developed with a back deck approximately 120 square feet in size. The applicant's narrative identifies that the deck was deteriorated, posed a safety risk, and required replacement. In the summer of 2016, the back deck was reconfigured and expanded. The new deck includes two separate platforms and two sets of steps with a total surface area of approximately 269 square feet. Impervious surfaces associated with the previous deck configuration, such as the concrete pad, concrete footings, and pavers leading to Coffee Creek are proposed to be removed as part of the new deck expansion. The total surface area of impervious surface associated with deck expansion is 269 feet, resulting in a net increase of impervious area within the NROD of 100 feet. No native vegetation was removed to accommodate the deck expansion.

Figure 5: Deck Expansion Constructed in 2016

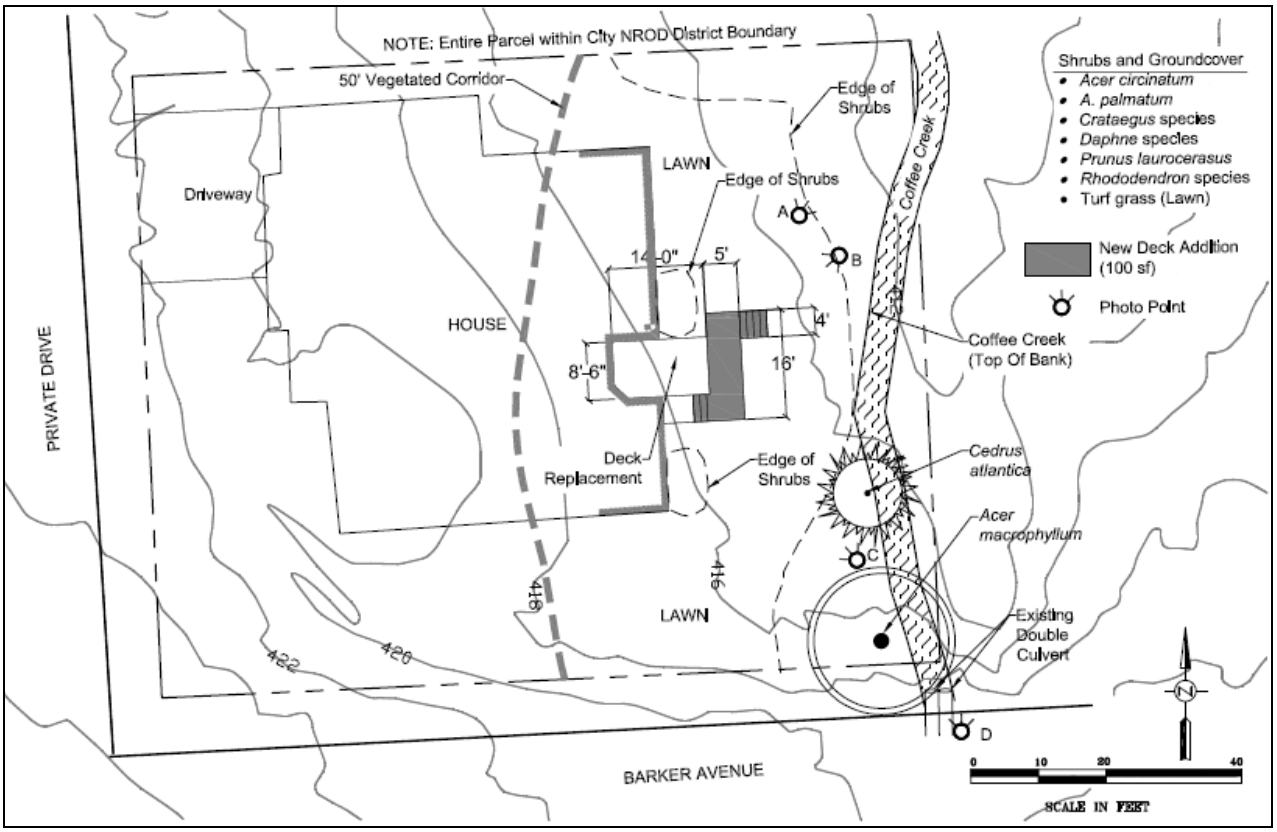
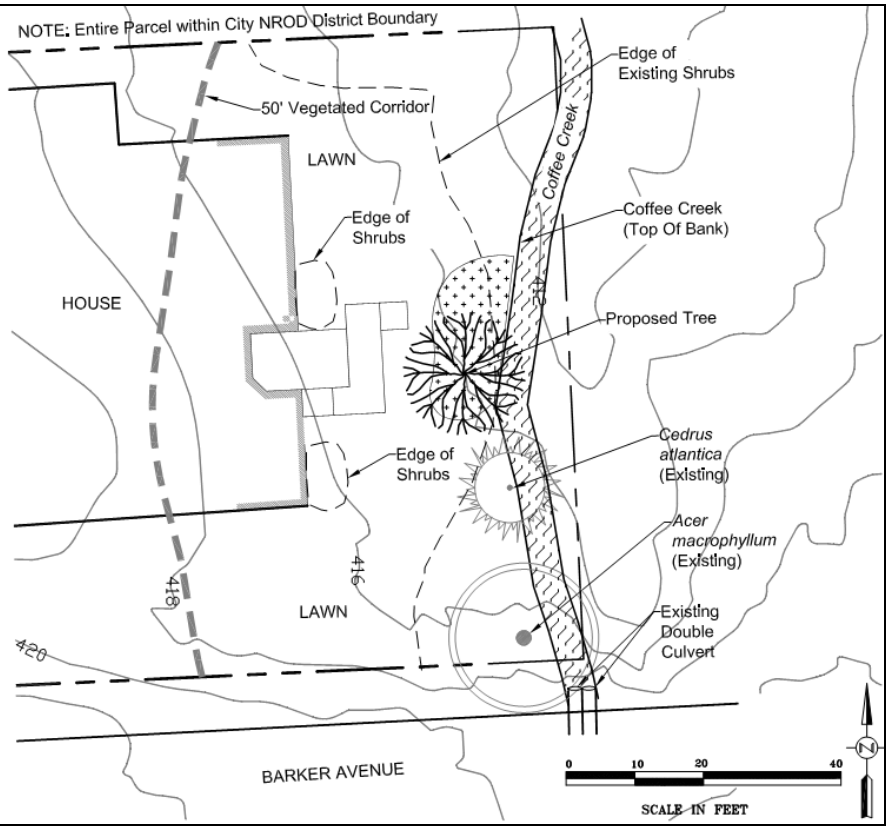


Figure 6: Photograph of Deck Expansion

Figure 7: Proposed Mitigation Plan

MITIGATION AREA PLANTING (200 sf)

Count	Species	Size / Height
	Tree:	
1	*Acer circinatum*/ Vine Maple	5ft
	Shrubs: (at least 12" Height)	
1	*Ribes sanguineum*/ red flowering current	5 Gal.
3	*Mahonia aquafolium* / tall Oregon grape	3 Gal.
2	*Vaccinium ovatum*/ evergreen huckleberry	3 Gal.
	Rush and Fern:	
8	*Juncus effusus* / rush	1 Gal. / 16 plugs
7	*Polystichum minutum*/ sword fern	1 Gal.



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

   17.49 – Natural Resource Overlay District
   17.50 - Administration and Procedures

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

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

5. **Notice and Public Comment**
   Notice of the proposal was sent to various City departments, affected agencies, property owners within 300 feet, and the Neighborhood Association. Additionally, the subject property was posted with signs identifying that a land use action was occurring on the property. As of the writing of this staff report, a comment from the Oregon City School District (Exhibit 3) and a comment from Dorothy Dahlsrud have been received (Exhibit 4). Both comments indicate support for the proposal and do not identify any issues associated with the development.

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

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

II. ANALYSIS AND FINDINGS:

CHAPTER 17.49 NATURAL RESOURCE OVERLAY DISTRICT

17.49.050 *Emergencies*

The provisions of this ordinance do not apply to work necessary to protect, repair, maintain, or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies. After the emergency has passed, any disturbed native vegetation areas shall be replanted with similar vegetation found in the Oregon City Native Plant List pursuant to the mitigation standards of Section 17.49.180. For purposes of this section emergency shall mean any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to fire, explosion, flood, severe weather, drought, earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.

Finding: Not Applicable. The proposed development is a deck expansion, and is not an emergency subject to these standards.

17.49.060 *Consistency and Relationship to Other Regulations*

A. Where the provisions of the NROD are less restrictive or conflict with comparable provisions of the Oregon City Municipal Code, other City requirements, regional, state or federal law, the provisions that provides the greater protection of the resource shall govern.

Finding: Not Applicable. No conflicts within the Natural Resource Overlay District have been identified.

17.49.060.B. *Compliance with Federal and State Requirements.*

a. If the proposed development requires the approval of any other governmental agency, such as the Division of State Lands or the U.S. Army Corps of Engineers, the applicant shall make application for such approval prior to or simultaneously with the submittal of its development application to the City. The planning division shall coordinate City approvals with those of other agencies to the extent necessary and feasible. Any permit

issued by the City pursuant to this chapter shall not become valid until other agency approvals have been obtained or those agencies indicate that such approvals are not required.
b. The requirements of this chapter apply only to areas within the NROD and to locally significant wetlands that may be added to the boundary during the course of development review pursuant to Section 17.49.035. If, in the course of a development review, evidence suggests that a property outside the NROD may contain a wetland or other protected water resource, the provisions of this chapter shall not be applied to that development review. However, the omission shall not excuse the applicant from satisfying any state and federal wetland requirements which are otherwise applicable. Those requirements apply in addition to, and apart from the requirements of the City's comprehensive plan and this code.
Finding: Complies as Proposed. Pacific Habitat Services has identified that the project does not propose impacts to potentially jurisdictional wetlands or waters that would warrant coordination with the Department of State Lands or the Army Corps of Engineers, and thus, further documentation of coordination with appropriate regulatory or resource agencies is not required. Based on the Pacific Habitat Services delineation report provided by the applicant, the City's natural resource consultant, David Evans and Associates Inc., has concurred that the proposal does not require coordination or approvals from other agencies. David Evans and Associates, Inc. did not conduct a site visit.

17.49.[0]70 - Prohibited uses.
The following development and activities are not allowed within the NROD:
A. Any new gardens, lawns, structures, development, other than those allowed outright (exempted) by the NROD or that is part of a regulated use that is approved under prescribed conditions. Note: Gardens and lawns within the NROD that existed prior to the time the overlay district was applied to a subject property are allowed to continue but cannot expand further into the overlay district.
B. New lots that would have their buildable areas for new development within the NROD are prohibited.
C. The dumping of materials of any kind is prohibited except for placement of fill as provided in (D) below. The outside storage of materials of any kind is prohibited unless they existed before the overlay district was applied to a subject property. Uncontained areas of hazardous materials as defined by the Oregon Department of Environmental Quality (ORS 466.005) are also prohibited.
D. Grading, the placement of fill in amounts greater than ten cubic yards, or any other activity that results in the removal of more than ten percent of the existing native vegetation on any lot within the NROD is prohibited, unless part of an approved development activity.
Finding: Not Applicable. The applicant has proposed a deck expansion being reviewed pursuant to OCMC Section 17.49.090 – Uses Allowed under Prescribed Conditions. No prohibited uses are being proposed as part of this application.

***17.49.[0]80** –Uses allowed outright (Exempted).*
The following uses are allowed within the NROD and do not require the issuance of an NROD permit:
A. Stream, wetland, riparian, and upland restoration or enhancement projects as authorized by the City.
B. Farming practices as defined in ORS 215.203 and farm uses, excluding buildings and structures, as defined in ORS 215.203.
C. Utility service using a single utility pole or where no more than 100 square feet of ground surface is disturbed outside of the top-of-bank of water bodies and where the disturbed area is restored to the pre-construction conditions.
D. Boundary and topographic surveys leaving no cut scars greater than three inches in diameter on live parts of native plants listed in the Oregon City Native Plant List.
E. Soil tests, borings, test pits, monitor well installations, and other minor excavations necessary for geotechnical, geological or environmental investigation, provided that disturbed areas are restored to pre-existing conditions as approved by the Community Development Director.
F. Trails meeting all of the following:
1. Construction shall take place between May 1 and October 30 with hand held equipment;
2. Widths shall not exceed 48 inches and trail grade shall not exceed 20 percent;
3. Construction shall leave no scars greater than three inches in diameter on live parts of native plants;

4. Located no closer than 25 feet to a wetland or the top of banks of a perennial stream or 10 feet of an intermittent stream;
5. No impervious surfaces; and
6. No native trees greater than one (1) inch in diameter may be removed or cut, unless replaced with an equal number of native trees of at least 2-inch diameter and planted within 10 feet of the trail.
G. Land divisions provided they meet the following standards, and indicate the following on the final plat:
1. Lots shall have their building sites (or buildable areas) entirely located at least 5 feet from the NROD boundary shown on the City's adopted NROD map. For the purpose of this subparagraph, "building site" means an area of at least 3,500 square feet with minimum dimensions of 40 feet wide by 40 feet deep;
2. All public and private utilities (including water lines, sewer lines or drain fields, and stormwater disposal facilities) are located outside the NROD;
3. Streets, driveways and parking areas where all pavement shall be located at least 10 feet from the NROD; and
4. The NROD portions of all lots are protected by:
a. A conservation easement; or
b A lot or tract created and dedicated solely for unimproved open space or conservation purposes.
H. Site Plan and Design Review applications where all new construction is located outside of the NROD boundary shown on the City's adopted NROD map, and the NROD area is protected by a conservation easement approved in form by the City.
I. Routine repair and maintenance of existing structures, roadways, driveways and utilities.
J. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased.
K. Measures mandated by the City of Oregon City to remove or abate nuisances or hazardous conditions.
L. Planting of native vegetation and the removal of non-native, invasive vegetation (as identified on the Oregon City Native Plant List), and removal of refuse and fill, provided that:
1. All work is done using hand-held equipment;
2. No existing native vegetation is disturbed or removed; and
3. All work occurs outside of wetlands and the top-of-bank of streams.
Finding: Not Applicable. The proposed development includes an activity allowed under prescribed conditions, and therefore is subject to compliance with OCMC Section 17.49.090, and requires an issuance of an NROD permit.

17.49.090 *Uses Allowed Under Prescribed Conditions*
The following uses within the NROD are subject to the applicable standards listed in Sections 17.49.100 through 17.49.190 pursuant to a Type II process:
A. Alteration to existing structures within the NROD when not exempted by Section 17.49.080, subject to Section 17.49.130.
B. A residence on a highly constrained vacant lot of record that has less than 3,000 square feet of buildable area, with minimum dimensions of 50 feet by 50 feet, remaining outside the NROD portion of the property, subject to the maximum disturbance allowance prescribed in subsection 17.49.120.A.
C. A land division that would create a new lot for an existing residence currently within the NROD, subject to Section 17.49.160.
D. Land divisions when not exempted by Section 17.49.080, subject to the applicable standards of Section 17.49.160.
E. Trails/pedestrian paths when not exempted by Section 17.49.080, subject to Section 17.49.170 (for trails) or Section 17.49.150 (for paved pedestrian paths).
F. New roadways, bridges/creek crossings, utilities or alterations to such facilities when not exempted by Section 17.49.080,
G. Roads, bridges/creek crossings Subject to Section 17.49.150 --
H. Utility lines subject to Section 17.49.140 (
I. Stormwater detention or pre-treatment facilities subject to Section 17.49.155 ().

J. Institutional, Industrial or Commercial development on a vacant lot of record situated in an area designated for such use that has more than 75% of its area covered by the NROD, subject to subsection 17.49.120(B).
K City, county and state capital improvement projects, including sanitary sewer, water and storm water facilities, water stations, and parks and recreation projects.
Finding: Complies as Proposed. The applicant has proposed an alteration to an existing structure within the NROD, a prescribed use per 17.49.090.A, therefore, the application is being reviewed pursuant with Section 17.49.130.

17.49.100 *General Development Standards*
The following standards apply to all Uses Allowed under Prescribed Conditions within the NROD with the exception of rights of ways (subject to Section 17.49.150), trails (subject to Section 17.49.170), utility lines (subject to Section 17.49.140), land divisions (subject to Section 17.49.160), and mitigation projects (subject to Section 17.49.180 or 17.49.190):
A. Native trees may be removed only if they occur within 10 feet of any proposed structures or within 5 feet of new driveways or if deemed not wind-safe by a certified arborist. Trees listed on the Oregon City Nuisance Plant List or Prohibited Plant List are exempt from this standard and may be removed. A protective covenant shall be required for any native trees that remain;
Finding: Not Applicable. The applicant has identified that no trees or other native vegetation were removed to accommodate the deck expansion.

17.49.100.B*. The Community Development Director may allow the landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites in the Natural Resource Overlay District.*
Finding: Not Applicable. The applicant has not proposed to meet base zone landscaping requirements within the NROD.

17.49.100.C*. All vegetation planted in the NROD shall be native and listed on the Oregon City Native Plant List;*
Finding: Complies as Proposed. The applicant's mitigation plan includes a list of plant species in the mitigation plan. All proposed vegetation within the mitigation plan was identified on the Oregon City Native Plant List.

17.49.100.D*. Grading is subject to installation of erosion control measures required by the City of Oregon;*
Finding: Please refer to the analysis within Chapter 15.48 of this report.

17.49.100.E*. The minimum front, street, or garage setbacks of the base zone may be reduced to any distance between the base zone minimum and zero in order to minimize the disturbance area within the NROD portion of the lot;*
Finding: Not Applicable. The applicant has not proposed a reduction in the minimum setback.

17.49.100.F*. Any maximum required setback in any zone, such as for multi-family, commercial or institutional development, may be increased to any distance between the maximum and the distance necessary to minimize the disturbance area within the NROD portion of the lot;*
Finding: Not Applicable. The subject property is located in the "R-10" Single-Family Dwelling District, where there are no maximum setbacks. This standard is not applicable.

17.49.100.G*. Fences are allowed only within the disturbance area;*
Finding: Not Applicable. The applicant has not proposed a fence within the vegetated corridor.

17.49.100.H*. Incandescent lights exceeding 200 watts (or other light types exceeding the brightness of a 200 watt incandescent light) shall be placed or shielded so that they do not shine directly into resource areas;*
Finding: Complies as Proposed. The applicant has not proposed any new lighting as part of this development.

17.49.100.I*. If development will occur within the 100 yr. floodplain, the FEMA floodplain standards of Chapter 17.42 shall be met; and*
Finding: Not Applicable. The subject site is not located within the 100-Year Floodplain. OCMC Chapter 17.42 is not applicable.

17.49.100.J*. Mitigation of impacts to the regulated buffer is required, subject to Section 17.49.180 or 17.49.190.*
Finding: Complies as Proposed. A mitigation plan has been provided for impacts to the regulated buffer. Please refer to the analysis in Section 17.49.180 of this report.

17.49.110 *Width of Vegetated Corridor.*
Calculation of Vegetated Corridor Width within City Limits. The NROD consists of a vegetated corridor measured from the top of bank or edge of a protected habitat or water feature. The minimum required width is the amount of buffer required on each side of a stream, or on all sides of a feature if non-linear. The width of the vegetated corridor necessary to adequately protect the habitat or water feature is specified in Table 17.49.110.

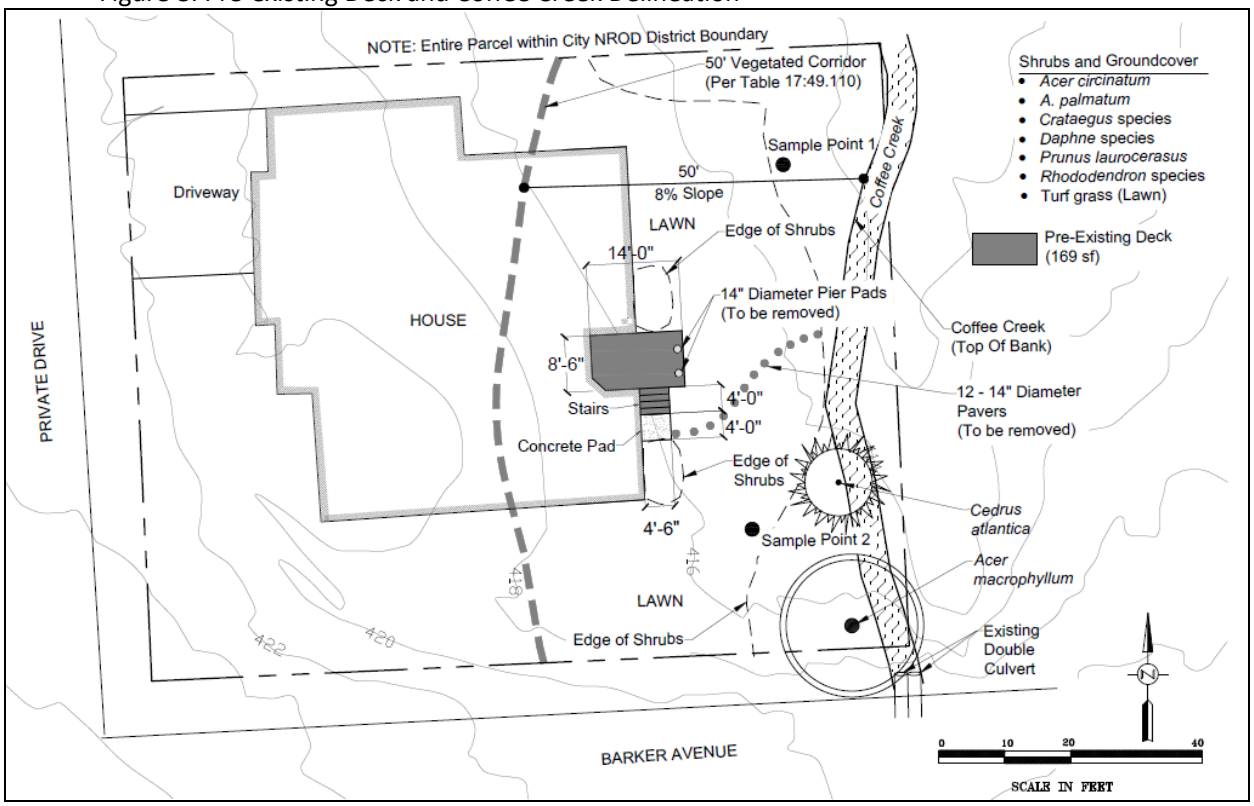
Table 17.49.110

Protected Water Feature Type (see definitions)	*Slope Adjacent to Protected Water Feature*	*Starting Point for Measurements from Water Feature*	*Width of Vegetated Corridor (see Note 1)*
Anadromous fish-bearing streams	*Any slope*	*• Edge of bankfull flow*	*200 feet*
Intermittent streams with slopes less than 25 percent and which drain less than 100 acres	*< 25 percent*	*• Edge of bankfull flow*	*15 feet*
All other protected water features	*< 25 percent*	*• Edge of bankfull flow* *• Delineated edge of Title 3 wetland*	*50 feet*
	≥ 25 percent for 150 feet or more (see Note 2)		*200 feet*
	≥ 25 percent for less than 150 feet (see Note 2)		*Distance from starting point of measurement to top of ravine (break in ≥25 percent slope) (See Note 3) plus 50 feet.*

Notes:
1. Required width (measured horizontally) of vegetated corridor unless reduced pursuant to the provisions of Section 17.49.050(I).
2. Vegetated corridors in excess of fifty feet apply on steep slopes only in the uphill direction from the

protected water feature.
3. Where the protected water feature is confined by a ravine or gully, the top of the ravine is the break in the ≥ 25 percent slope.
B. Habitat Areas within City Parks. For habitat and water features identified by Metro as regionally significant which are located within city parks, the NROD Boundary shall correspond to the Metro Regionally Significant Habitat Map.
C. Habitat Areas outside city limit / within UGB. For habitat and water features identified by Metro as regionally significant which are located outside of the city limits as of the date of adoption of this ordinance, the minimum corridor width from any non-anadromous fish bearing stream or wetland shall be fifty feet (50').
Finding: Complies as Proposed. The City's GIS, based on the 1999 Local Wetland Inventory of Oregon City, identifies a stream and wetland along the eastern property line of the subject site, and an associated vegetated corridor of approximately 200 feet. Based on the City's mapped NROD, the entire property resides within the Natural Resource Overlay District. As part of this application, a delineation of Coffee Creek was conducted by Tina Farrelly of Pacific Habitat Services. The delineation report identified that Coffee Creek is not an anadromous fish-bearing stream, slopes adjacent to the Creek are approximately 8%, and that no wetlands are present onsite. Therefore, based on Table 17.49.110, a 50-foot vegetated corridor from the top of bank is required. In a memo dated December 18, 2017 (Exhibit 4), the City's Natural Resource Consultant, Gigi Cooper of David Evans and Associates, verified that Coffee Creek is not an anadromous fish-bearing stream, and it is subject to a 50-foot vegetated corridor from the top of bank. A map of the delineated feature is provided.

Figure 8: Pre-existing Deck and Coffee Creek Delineation



17.49.120 *Maximum Disturbance Allowance for Highly Constrained Lots of Record*
In addition to the General Development Standards of Section 17.49.100, the following standards apply to a vacant lot of record that is highly constrained by the NROD, per subsections 17.49.90(B) and 17.49.90(F):
Finding: Not Applicable. The subject property is developed and is not a highly constrained lot of record.

17.49.130 Existing Development Standards

In addition to the General Development Standards of Section 17.49.100, the following standards apply to alterations and additions to existing development within the NROD, except for trails, rights of way, utility lines, land divisions and mitigation projects. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased are exempt from review pursuant to Section 17.49.080(J). As of June 1, 2010, applicants for alterations and additions to existing development that are not exempt pursuant to Section 17.49.080(J) shall submit a Type II or Type III application pursuant to this section. The application shall include a site plan which delineates a permanent disturbance area that includes all existing buildings, parking and loading areas, paved or graveled areas, patios and decks. The same delineated disturbance area shall be shown on every subsequent proposal for alterations and additions meeting this standard.

A. The following alterations and additions to existing development are permitted subject to the following standards.

1. Alterations or additions that cumulatively total up to a maximum of five-hundred (500) square feet of additional disturbance area after June 1, 2010 shall be processed as a Type II permit pursuant to this Chapter. The new disturbance area shall not encroach closer than 1/2 of the distance of the regulated NROD buffer.

2. Alterations or additions that cumulatively exceed five-hundred (500) square feet of additional disturbance area or which propose encroachment closer than 1/2 of the distance of the regulated NROD buffer after June 1, 2010 shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

Finding: Complies as Proposed. Based on the delineation performed by Tina Farrelly of Pacific Habitat Services, as verified by David Evans and Associates and Table 17.49.110, the vegetated corridor associated with Coffee Creek is 50 feet from the top of bank. At its closest point, the deck expansion is as close as approximately 14'7" from the top of bank. Though the deck expansion does not result in more than 500 feet of disturbance, a Type III application is required because the deck encroaches more than halfway into the 50-foot vegetated corridor. Please refer to the analysis in Section 17.49.200 of this report.

17.49.130.B. *Mitigation is required, subject to Section 17.49.180 or 17.49.190.*

Finding: Complies as Proposed. A mitigation plan has been provided for impacts to the regulated buffer. Please refer to the analysis in Section 17.49.180.

***17.49.140** Standards for Utility Lines*

The following standards apply to new utilities, private connections to existing or new utility lines, and upgrades of existing utility lines within the NROD:

A. The disturbance area for private connections to utility lines shall be no greater than 10 feet wide;

B. The disturbance area for the upgrade of existing utility lines shall be no greater than 15 feet wide;

C. New utility lines shall be within the right-of-way, unless reviewed under D.

D. New utility lines that cross above or underneath a drainage way, wetland, stream, or ravine within the NROD but outside of a right-of-way shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

E. No fill or excavation is allowed within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;

F. The Division of State Lands must approve any work that requires excavation or fill in a wetland;

G. Native trees more than 10 inches in diameter shall not be removed unless it is shown that there are no feasible alternatives; and

H. Each 6 to 10-inch diameter native tree cut shall be replaced at a ratio of three trees for each one removed. Each 11-inch or greater diameter native tree shall be replaced at a ratio of five trees for each removed. The replacement trees shall be a minimum one-half inch diameter and selected from the Oregon City Native Plant List. All trees shall be planted on the applicant's site. Where a utility line is approximately parallel with the stream channel, at least half of the replacement trees shall be planted between the utility line and the stream channel.

I. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

Finding: Not Applicable. The applicant has not proposed any utility lines associated with the deck expansion.

17.49.150 Standards for Vehicular or Pedestrian Paths and Roads

The following standards apply to public rights-of-way and private roads within the NROD, including roads, bridges/stream crossings, driveways and pedestrian paths with impervious surfaces:

A. Stream crossings shall be limited to the minimum number and width necessary to ensure safe and convenient pedestrian, bicycle and vehicle connectivity, and shall cross the stream at an angle as close to perpendicular to the stream channel as practicable. Bridges shall be used instead of culverts wherever practicable.

***17.49.150.B**. Where the right-of-way or private road crosses a stream the crossing shall be by bridge or a bottomless culvert;*

***17.49.150.C**. No fill or excavation shall occur within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;*

***17.49.150.D**. If the Oregon Department of State Lands (DSL) has jurisdiction over any work that requires excavation or fill in a wetland, required permits or authorization shall be obtained from DSL prior to release of a grading permit;*

***17.49.150.E**. Any work that will take place within the banks of a stream shall be conducted between June 1 and August 31, or shall be approved by the Oregon Department of Fish and Wildlife; and*

***17.49.150.F**. Mitigation is required, subject to Section 17.49.180 or 17.49.190.*

Finding: Not Applicable. The applicant has not proposed vehicular or pedestrian paths within the vegetated corridor.

***17.49.155** Standards for Stormwater Facilities*

Approved facilities that infiltrate stormwater on-site in accordance with Public Works Low-Impact Development standards, including but not limited to; vegetated swales, rain gardens, vegetated filter strips, and vegetated infiltration basins, and their associated piping, may be placed within the NROD boundary pursuant to the following standards:

A. The forest canopy within the driplines of existing trees shall not be disturbed.

B. Only vegetation from the Oregon City Native Plant List shall be planted within these facilities.

C. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

D. The storm water facility may encroach up to1/2 the distance of the NROD corridor.

E. The stormwater facility shall not impact more than 1,000 square feet of the NROD. Impacts greater than 1,000 square feet shall be process as a Type III application.

F. The Community Development Director may allow landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites within the Natural Resource Overlay District.

Finding: Not Applicable. The applicant has not proposed any stormwater facilities associated with the deck expansion.

***17.49.160** Standards for Land Divisions*

Other than those land divisions exempted by Section 17.49.070 (G), new residential lots created within the NROD shall conform to the following standards.

A. For a lot for an existing residence currently within the NROD. This type of lot is allowed within the NROD for a residence that existed before the NROD was applied to a subject property. A new lot for an existing house may be created through a partition or subdivision process when all of the following are met:

1. There is an existing house on the site that is entirely within the NROD area; and

2. The existing house will remain; and

3. The new lot is no larger than required to contain the house, minimum required side setbacks, garage, driveway and a 20-foot deep rear yard, with the remaining NROD area beyond that point protected by a conservation easement, or by dedicating a conservation tract or public open space.

B. Subdivisions.

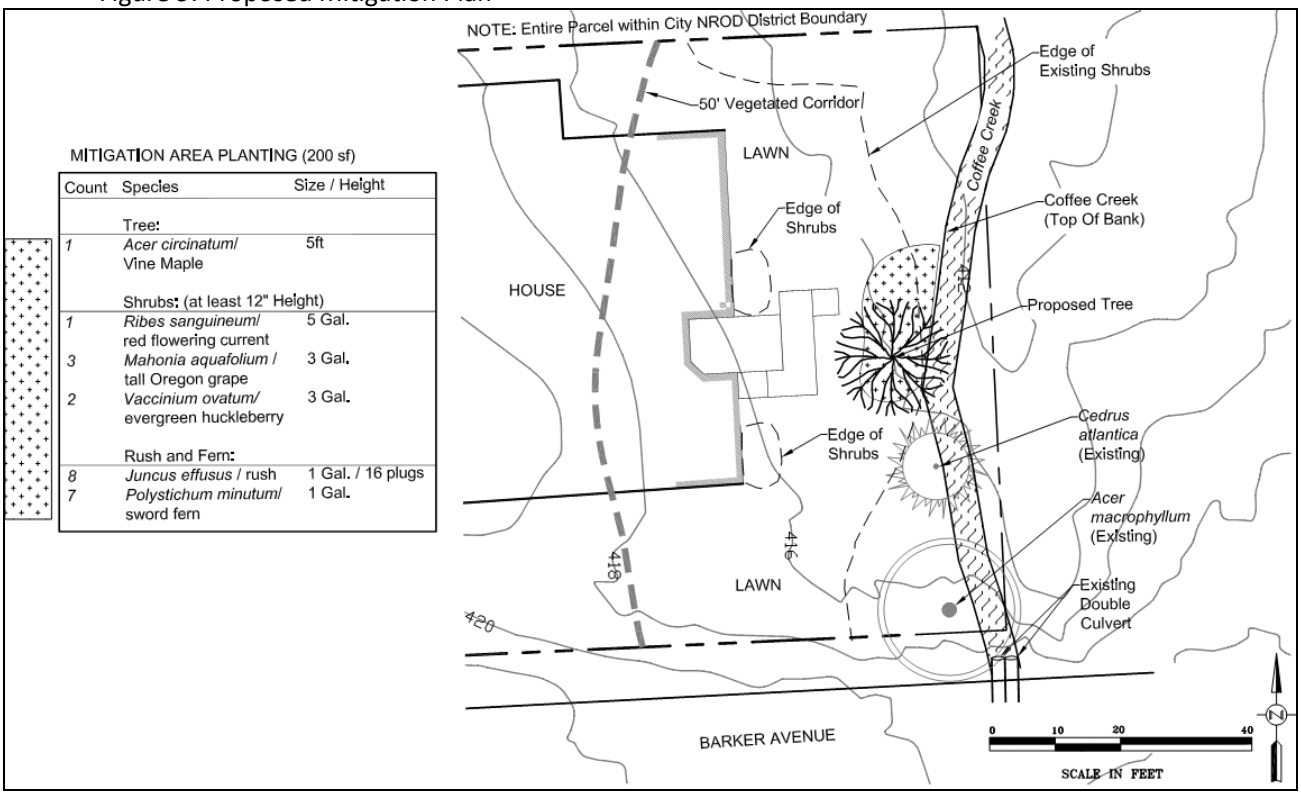
1. Prior to preliminary plat approval, the NROD area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection (3) of this section, which shall not be a part of any parcel used for construction of a dwelling unit.

2. Prior to final plat approval, ownership of the NROD tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:
a. Private open space held by the owner or a homeowners association; or
b. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or
c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or
d. Any other ownership proposed by the owner and approved by the city.
e. Tracts shall be exempt from minimum frontage requirements.
C. Partitions
1. New partitions shall delineate the NROD area either as a separate tract or conservation easement that meets the requirements of subsection (2) of this section.
2. Prior to final plat approval, ownership and maintenance of the NROD area shall be identified to distinguish it from the buildable areas of the development site. The NROD area may be identified as any one of the following:
a. A tract of private open space held by the owner or homeowners association; or
b. For residential land divisions, a tract of private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or
c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit;
d. Conservation easement area pursuant to subsection 17.49.180(G) and approved in form by the Community Development Director
e. Any other ownership proposed by the owner and approved by the Community Development Director.
f. Tracts shall be exempt from minimum frontage requirements.
Finding: Not Applicable. The applicant has not proposed a land division as part of this development.

17.49.170 *Standards for Trails*
The following standards apply to trails within the NROD:
A. All trails that are not exempt pursuant to Section 17.49.80(F), except as designated in the Oregon City Parks, Open Space and Trails Master Plans; and
B. Mitigation is required, subject to Section 17.49.180 or 17.49.190.
Finding: Not Applicable. The applicant has not proposed a trail as part of this development.

17.49.180. *Mitigation Standards*
The following standards (or the alternative standards of Section 17.49.190) apply to required mitigation:
Finding: Complies as Proposed. The deck expansion includes a total surface area of 269 square feet. The pre-existing deck and associated features (stairs, concrete pad, and pavers) included a total disturbance area of approximately 169 square feet. The pre-existing 169 square feet is exempt from review pursuant with OCMC Section 17.49.080.J and does not require mitigation. Therefore, the deck expansion resulted in a net increase of 100 square feet of disturbance within the vegetated corridor requiring mitigation. No native trees or other native vegetation were removed to accommodate the deck expansion.

Figure 9: Proposed Mitigation Plan



17.49.180.A*. Mitigation shall occur at a 2:1 ratio of mitigation area to proposed NROD disturbance area. Mitigation of the removal or encroachment of a wetland or stream shall not be part of this chapter and will be reviewed by the Division of State Lands or the Army Corp of Engineers during a separate review process;*
Finding: Complies as proposed. The proposed disturbance area, excluding disturbance to existing impervious areas which are exempt per OCMC Section 17.49.080.J, is 100 square feet; therefore, a 200-square-foot mitigation area is required.

17.49.180.B*. Mitigation shall occur on the site where the disturbance occurs, except as follows:*
1. The mitigation is required for disturbance associated with a right-of-way or utility in the right-of-way;
2. The mitigation shall occur first on the same stream tributary, secondly in the Abernethy, Newell or Livesay Creek or a tributary thereof, or thirdly as close to the impact area as possible within the NROD; and
3. An easement that allows access to the mitigation site for monitoring and maintenance shall be provided as part of the mitigation plan.
Finding: Complies as Proposed. The proposed mitigation area is located on the disturbance site near Coffee Creek.

17.49.180.C*. Mitigation shall occur within the NROD area of a site unless it is demonstrated that this is not feasible because of a lack of available and appropriate area. In such cases, the proposed mitigation area shall be contiguous to the existing NROD area so the NROD boundary can be easily extended in the future to include the new resource site.*
Finding: Complies as Proposed. The proposed mitigation area is located within the NROD area of the subject site.

17.49.180.D*. Invasive and nuisance vegetation shall be removed within the mitigation area;*
Finding: Complies with Condition. The applicant's narrative identified that invasive species within the mitigation area will be removed. **Staff has determined that it is possible, likely, and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.180.E*. Required Mitigation Planting. An applicant shall meet Mitigation Planting Option 1 or 2 below, whichever option results in more tree plantings, except that where the disturbance area is one acre or more, Mitigation Option 2 shall be required. All trees, shrubs and ground cover shall be selected from the Oregon City Native Plant List.*
Mitigation Planting Option 1.
Finding: Complies as Proposed. The applicant has proposed Mitigation Planting Option 2 as it will result in more tree and shrub plantings. All proposed mitigation plantings have been identified on the Oregon City Native Plant List.

17.49.180.E.2*. Mitigation Planting Option 2.*
17.49.180.E.2a. *Option 2 - Planting Quantity. In this option, the mitigation requirement is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five (5) trees and twenty-five (25) shrubs per every 500 square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by 500, and then multiplying that result times five trees and 25 shrubs, and rounding all fractions to the nearest whole number of trees and shrubs; for example, if there will be 330 square feet of disturbance area, then 330 divided by 500 equals .66, and .66 times five equals 3.3, so three trees must be planted, and .66 times 25 equals 16.5, so 17 shrubs must be planted). Bare ground must be planted or seeded with native grasses or herbs. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.*
Finding: Complies with condition. The mitigation planting quantity is based on the disturbance area within the NROD. The disturbance area of 100 square feet requires one tree ((100/500)*5= 1 tree)) and five shrubs ((100/500)*25= 5 shrubs). The applicant's mitigation plan identifies that one tree and 6 shrubs will be planted. The applicant's narrative and mitigation plan also identified that several ground cover species will be planted in the mitigation area, but did not specify that all bare ground in the mitigation area will be planted or seeded with native grasses and herbs. Prior to issuance of a building permit associated with the proposed development, the applicant shall submit a revised mitigation plan identifying that the bare ground in the mitigation area will be planted or seeded with native grasses or herbs. **Staff has determined that it is possible, likely, and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.180.E.2.b *Option 2 - Plant Size. Plantings may vary in size dependent on whether they are live cuttings, bare root stock or container stock, however, no initial plantings may be shorter than 12 inches in height.*
Finding: Complies as Proposed. The applicant's mitigation plan and narrative identify that all trees and shrubs will be at least 12 inches in height.

17.49.180.E.2.c *Option 2 - Plant Spacing. Trees shall be planted at average intervals of seven (7) feet on center. Shrubs may be planted in single-species groups of no more than four (4) plants, with clusters planted on average between 8 and 10 feet on center.*
Finding: Complies as Proposed. The applicant's narrative identifies that the proposed mitigation tree will be located a minimum of seven feet from any other existing trees, and that shrubs will be planted with an average spacing of three to four feet on center, however, the mitigation plan only shows the general location of shrubs and does not provide specific locations of shrubs that demonstrate compliance with shrub spacing standards. Prior to issuance of a building permit associated with the proposed development, the applicant shall submit a revised mitigation plan that demonstrates compliance with plant spacing standards in accordance with OCMC Section 17.49.180.E.2.c. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.180.E.2.d *Option 2 – Mulching and Irrigation shall be applied in the amounts necessary to ensure 80% survival at the end of the required 5-year monitoring period.*

Finding: Complies as Proposed. The applicant's narrative identified compliance with this standard. The survival rate will be verified through the 5-year monitoring and maintenance plan and annual reports submitted by the applicant.

17.49.180.E.2.e *Option 2 – Plant Diversity. Shrubs shall consist of at least three (3) different species. If 20 trees or more are planted, no more than one-third of the trees may be of the same genus.*
An alternative planting plan using native plants may be approved in order to create a new wetland area, if it is part of a wetlands mitigation plan that has been approved by the DSL or the U.S. Army Corps of Engineers (USACE) in conjunction with a wetland joint removal/fill permit application.
Finding: Complies as Proposed. The applicant's mitigation plan identifies at least three different species of shrubs. Only a single mitigation tree is required, therefore, plant diversity for mitigation trees is not necessary. An alternative planting plan has not been proposed.

17.49.180.F*. Monitoring and Maintenance. The mitigation plan shall provide for a 5-year monitoring and maintenance plan with annual reports in a form approved by the Director of Community Development. Monitoring of the mitigation site is the on-going responsibility of the property owner, assign, or designee, who shall submit said annual report to the City's Planning Division, documenting plant survival rates of shrubs and trees on the mitigation site. Photographs shall accompany the report that indicate the progress of the mitigation. A minimum of 80% survival of trees and shrubs of those species planted is required at the end of the 5-year maintenance and monitoring period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than ten (10) square feet that remain at the end the 5 year monitoring period shall be replanted or reseeded with native grasses and ground cover species.*
Finding: Complies with Condition. The applicant's narrative identifies that the mitigation area will be monitored and maintained for a minimum of five years with annual progress reports that include documentation of the survival rate of mitigation plantings and photo documentation of the mitigation area submitted to the Planning Division on an annual basis by the property owner. Following the mitigation planting, the property owner shall submit annual monitoring and maintenance reports to the Planning Division. A minimum of 80% survival of mitigation plantings shall be required at the end of the 5-year monitoring and maintenance period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than 10 square feet that remain at the end of the 5-year monitoring period shall be replanted or reseeded with native grasses and ground cover species. The applicant shall comply with all standards for monitoring and maintenance within the NROD per OCMC 17.49.180.F. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.180.G*. Covenant or Conservation Easement. Applicant shall record a restrictive covenant or conservation easement, in a form provided by the City, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the City to complete mitigation work in the event of default by the responsible party. Costs borne by the City for such mitigation shall be borne by the owner.*
Finding: Complies with Condition. The applicant's narrative identified that the NROD will be identified onsite with a recorded covenant or easement. Prior to building permit final, the applicant shall provide the City with a copy of a recorded covenant or conservation easement demonstrating compliance with OCMC 17.49.180.G. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.180.H*. Financial Guarantee. A financial guarantee for establishment of the mitigation area, in a form approved by the City, shall be submitted before development within the NROD disturbance area commences. The City will release the guarantee at the end of the five-year monitoring period, or before, upon it's determination that the mitigation plan has been satisfactorily implemented pursuant to this section.*

Finding: Complies with condition. The applicant's narrative identified that a financial guarantee will be provided to the City. Prior to building permit final, the applicant shall provide the City with a financial guarantee per OCMC 17.49.180.H. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.190 Alternative Mitigation Standards
In lieu of the above mitigation standards of Section 17.49.180, the following standards may be used. Compliance with these standards shall be demonstrated in a mitigation plan report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant.

The report shall document the existing condition of the vegetated corridor as one of the following categories:

Good Existing Corridor:	*Combination of trees, shrubs and groundcover are eighty percent present, and there is more than fifty percent tree canopy coverage in the vegetated corridor.*
Marginal Existing Vegetated Corridor:	*Combination of trees, shrubs and groundcover are eighty percent present, and twenty-five to fifty percent canopy coverage in the vegetated corridor.*
Degraded Existing Vegetated Corridor:	*Less vegetation and canopy coverage than marginal vegetated corridors, and/or greater than ten percent surface coverage of any non-native species.*

B. The proposed mitigation shall occur at a minimum 2:1 ratio of mitigation area to proposed disturbance area;
C. The proposed mitigation shall result in a significant improvement to Good Existing Condition as determined by a qualified environmental professional;
D. There shall be no detrimental impact on resources and functional values in the area designated to be left undisturbed;
E. Where the proposed mitigation includes alteration or replacement of development in a stream channel, wetland, or other water body, there shall be no detrimental impact related to the migration, rearing, feeding or spawning of fish;
F. Mitigation shall occur on the site of the disturbance to the extent practicable. If the proposed mitigation cannot practically occur on the site of the disturbance, then the applicant shall possess a legal instrument, such as an easement, sufficient to carryout and ensure the success of the mitigation.
Finding: Not Applicable. The applicant has not proposed alternative mitigation in lieu of the standards in OCMC Section 17.49.180.

17.49.200. *Adjustment from Standards*
If a regulated NROD use cannot meet one or more of the applicable NROD standards then an adjustment may be issued if all of the following criteria are met. Compliance with these criteria shall be demonstrated by the applicant in a written report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant. Such requests shall be processed under the Type III development permit procedure. The applicant shall demonstrate:
Finding: Complies as Proposed. Because the applicant has proposed development that encroaches closer than one-half the distance of the regulated NROD buffer, a Type III application subject to compliance with this is required pursuant with OCMC Section 17.49.130.A.2. The applicant's submittal includes a delineation report prepared by Tina Farrelly of Pacific Habitat Services demonstrating compliance with the applicable criteria.

***17.49.200.A**. There are no feasible alternatives for the proposed use or activity to be located outside the NROD area or to be located inside the NROD area and to be designed in a way that will meet all of the applicable NROD development standards;*

Finding: Complies as Proposed. The single-family home was constructed in 1997, prior to the City's adoption of the NROD. Consequently, the design and location of the residence did not include consideration of impacts to the resource areas. The living space of the residence is located approximately 28 feet from Coffee Creek, and the pre-existing deck was located approximately 21 feet from Coffee Creek. Per OCMC Section 17.49.110, the buffer associated with Coffee Creek is 50 feet rendering it impossible to expand the pre-existing deck without encroaching closer than one-half of the regulated NROD buffer. Although the pre-existing deck could have been expanded along the exterior wall of the residence instead of away from the residence and towards Coffee Creek, this configuration would have required removal of vegetation along the rear of the home, including a mature vine maple, and likely still would have encroached closer than one-half of the 50-foot NROD buffer. Though the proposed configuration results in the deck encroaching closer to Coffee Creek, the expansion only impacted lawn and no native or woody vegetation was removed to accommodate the deck expansion.

***17.49.200.B**. The proposal has fewer adverse impacts on significant resources and resource functions found in the local NROD area than actions that would meet the applicable environmental development standards;*

Finding: Complies as Proposed. The deck expansion only impacted lawn and did not result in the removal of native plants or vegetation. Although the pre-existing deck could have been expanded along the exterior wall of the residence instead of away from the residence and towards Coffee Creek, this configuration would have required the removal of native vegetation along the rear of the home, including a mature vine maple, and the deck likely still would have encroached closer than one-half of the regulated NROD buffer. Though the proposed configuration results in the deck encroaching closer to Coffee Creek, the expansion only impacted lawn and no native or woody vegetation was removed to accommodate the expansion resulting in fewer adverse impacts on significant resources.

***17.49.200.C**. The proposed use or activity proposes the minimum intrusion into the NROD area that is necessary to meet development objectives;*

Finding: Complies as Proposed. The applicant's narrative identifies that the purpose of the replacement deck was to address safety concerns of the pre-existing deck, and the deck expansion was designed to provide a reasonably-sized addition that would improve the recreational use and aesthetic quality of the deck. The deck expansion resulted in an increase of the deck surface area of approximately 100 square feet, which is less than the allowance for existing development allowed by OCMC Section 17.49.130. The expanded deck is not excessive in size, is appropriately sized for the home, and is similar in size to other decks in the neighborhood. As previously discussed, the deck could have been expanded along the exterior wall of the home as opposed to towards Coffee Creek, however, this would have required removal of mature native vegetation which would have resulted in a more substantial intrusion to the NROD. As proposed, the deck expansion only impacted lawn area. The project's intrusion into the NROD is further minimized by creating a mitigation area within the NROD and improving the conditions of the existing vegetated corridor.

***17.49.200.D**. Fish and wildlife passage will not be impeded;*

Finding: Complies as Proposed. The delineation report prepared by Tina Farrelly of Pacific Habitat Services identified:

> *Fish passage in the existing stream is impeded by off-site fish passage barriers, and the proposed project will not alter the existing fish passage. Wildlife passage through the property is already impeded by existing developments, fences, and adjacent roads. The addition of 100 square feet of new deck is not expected to further impede wildlife passage.*

The City's natural resource consultant, David Evans and Associates, Inc., agrees with this assessment, although a field visit was not conducted. The applicant is in compliance with this criteria.

***17.49.200.E**. With the exception of the standard(s) subject to the adjustment request, all other applicable NROD standards can be met; and*
Finding: Complies as Proposed. The project encroaches closer than one-half the distance of the regulated NROD buffer, however, all other applicable NROD standards have been met. A majority of the NROD area will remain intact and/or will be improved in function.

***17.49.200.F**. The applicant has proposed adequate mitigation to offset the impact of the adjustment.*
Finding: Please refer to the analysis in Section 17.49.180 of this report.

***17.49.210** Type II Development Permit Application*
Finding: Not Applicable. The applicant has proposed a Type III application.

***17.49.220** Required Site Plans*
Site plans showing the following required items shall be part of the application:
A. For the entire subject property (NROD and non-NROD areas):
1. *The NROD district boundary. This may be scaled in relation to property lines from the NROD Map;*
2. *100 year floodplain and floodway boundary (if determined by FEMA);*
3. *Creeks and other waterbodies;*
4. *Any wetlands, with the boundary of the wetland that will be adjacent to the proposed development determined in a wetlands delineation report prepared by a professional wetland specialist and following the Oregon Division of State Lands wetlands delineation procedures;*
5. *Topography shown by contour lines of 2 or 1 foot intervals for slopes less than 15% and by 10 foot intervals for slopes 15% or greater;*
6. *Existing improvements such as structures or buildings, utility lines, fences, driveways, parking areas, etc.*
7. *Extent of the required Vegetated Corridor required by Table 17.49.110.*

B. Within the NROD area of the subject property:
1. *The distribution outline of shrubs and ground covers, with a list of most abundant species;*
2. *Trees 6 inches or greater in diameter, identified by species. When trees are located in clusters they may be described by the approximate number of trees, the diameter range, and a listing of dominant species;*
3. *An outline of the disturbance area that identifies the vegetation that will be removed. All trees to be removed with a diameter of 6 inches or greater shall be specifically identified as to number, trunk diameters and species;*
4. *If grading will occur within the NROD, a grading plan showing the proposed alteration of the ground at 2 foot vertical contours in areas of slopes less than 15% and at 5 foot vertical contours of slopes 15% or greater.*

C. A construction management plan including:
1. *Location of site access and egress that construction equipment will use;*
2. *Equipment and material staging and stockpile areas;*
3. *Erosion control measures that conform to City of Oregon City erosion control standards;*
4. *Measures to protect trees and other vegetation located outside the disturbance area.*

D. A mitigation site plan demonstrating compliance with Section 17.49.180 or 17.49.190, including:
1. *Dams, weirs or other in-water features;*
2. *Distribution, species composition, and percent cover of ground covers to be planted or seeded;*
3. *Distribution, species composition, size, and spacing of shrubs to be planted;*
4. *Location, species and size of each tree to be planted;*
5. *Stormwater management features, including retention, infiltration, detention, discharges and outfalls;*
6. *Water bodies or wetlands to be created, including depth;*
7. *Water sources to be used for irrigation of plantings or for a water source for a proposed wetland.*

Finding: Complies as Proposed. The applicant's submittal materials were evaluated during the completeness review.

17.49.230 Mitigation Plan Report

A mitigation plan report that accompanies the above mitigation site plan is also required. The report shall be prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. The mitigation plan report shall, at a minimum, discuss:

A. Written responses to each applicable Mitigation Standard 17.49.180 or 17.49.190 indicating how the proposed development complies with the mitigation standards;

B. The resources and functional values to be restored, created, or enhanced through the mitigation plan;

C. Documentation of coordination with appropriate local, regional, state and federal regulatory/resource agencies such as the Oregon Department of State Lands (DSL) and the United States Army Corps of Engineers (USACE);

D. Construction timetables;

E. Monitoring and Maintenance practices pursuant to Section 17.49.230 (F) and a contingency plan for undertaking remedial actions that might be needed to correct unsuccessful mitigation actions during the first 5 years of the mitigation area establishment.

Finding: Complies as Proposed. The applicant's submittal materials were evaluated during the completeness review.

17.49.240 *Density Transfer*

The NROD allocates urban densities to the non-NROD portions of properties located partially within the NROD, generally resulting in a substantial increase in net development potential.

For lots of record that are located within the NROD, additional density transfer credits are allowed, subject to the following provisions:

Density may be transferred from the NROD to non-NROD portions of the same property or of contiguous properties within the same development site;

Finding: Not Applicable. The applicant has not proposed to utilize the density transfer for the proposed development

17.49.250 *Verification of NROD Boundary*

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

Finding: Not Applicable. The development proposal does not include a Verification of the NROD boundary. The application is being reviewed pursuant with the Type III process.

17.49.260. *Type II Verification*

Finding: Not Applicable. The development proposal does not include a Type II Verification request. The application is being reviewed pursuant with the Type III process

17.49.265 - Corrections to violations.

For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met then the applicant's remediation plan shall demonstrate that there will be:

Finding: Applicable. The deck expansion was constructed in 2016 without obtaining required approvals from the Oregon City Planning and Building Divisions, resulting in a violation. The applicant has submitted a Type III Natural Resource Review application which includes a delineation of the natural features onsite, responses to applicable standards of the Oregon City Municipal Code and a mitigation plan that also serves as a

remediation plan, as it was prepared by a qualified natural resources professional. The proposal does not meet all of the applicable standards of Chapter 17.49, as the deck encroaches approximately 36 feet into the 50-foot NROD buffer, and OCMC 17.49.130.A.1 requires that new disturbance area does not encroach closer than one-half of the distance of the regulated NROD buffer. Therefore, compliance with A-C is required.

A. No permanent loss of any type of resource or functional value listed in Section 17.49.10, as determined by a qualified environmental professional;
Finding: Complies as Proposed. For reference, the functional values identified in OCMC Section 17.49.010 have been provided below.

> *17.49.010 – Purpose*
> *The NROD contributes to the following functional values:*
>
> *A. Protect and restore streams and riparian areas for their ecologic functions and as an open space amenity for the community.*
>
> *B. Protect floodplains and wetlands, and restore them for improved hydrology, flood protection, aquifer recharge, and habitat functions.*
>
> *C. Protect upland habitats, and enhance connections between upland and riparian habitat.*
>
> *D. Maintain and enhance water quality and control erosion and sedimentation through the revegetation of disturbed sites and by placing limits on construction, impervious surfaces, and pollutant discharges.*
>
> *E. Conserve scenic, recreational, and educational values of significant natural resources.*

The application was prepared by a qualified natural resources professional, who identified that the deck impacted approximately 100 square feet of lawn, did not result in the removal of native or woody vegetation, and the mitigation associated with the deck will result in an increase of coverage of native trees, shrubs, and groundcover within the vegetated corridor. The City's natural resource consultant, David Evans and Associates, Inc., agrees with the applicant's assessment that the deck does not result in a permanent loss of any type of resource or functional value listed in OCMC Section 17.49.010.

B. A significant improvement of at least one functional value listed in section 17.49.10, as determined by a qualified environmental professional; and
Finding: Complies as Proposed. The applicant has identified that the project would significantly improve function value D, however, the City's natural resource consultant disagreed identifying that functional value D also requires placing limits on construction, which the applicant has not proposed to do. Instead, David Evans and Associates, Inc. has identified that the removal of existing concrete and the new native plantings will enhance connections between upland and riparian habitat resulting in a significant improvement of functional value C. The applicant is in compliance with this standard.

C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.
Finding: Complies as Proposed. The applicant stated:

> *Given the relatively small amount of new encroachment area (100 square feet), the limited habitat value of the lawn within the encroachment area, and the absence of temporary disturbance areas, it is reasonably certain that the temporal loss of resources and functional values during the remediation action will be minimal.*

The City's natural resources consultant, David Evans and Associates, Inc. agrees with the applicant's determination that the loss or resources and functional values during the remediation action will be minimal. The applicant is in compliance with this standard.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

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

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

17.50.050 Preapplication Conference

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B.A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

Finding: Complies as Proposed. The pre-application conference requirement was waived by the Community Development Director in accordance with subsection B.

17.50.055 Neighborhood Association Meeting

Finding: Not Applicable. A neighborhood association meeting is not required for a Natural Resource Review application.

17.50.060 Application Requirements.

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

17.50.070 Completeness Review and 120-day Rule.

Finding: Complies as Proposed. This land use application was submitted on July 28, 2017. The application was deemed incomplete on August 23, 2017, and after the submittal of additional information the application was deemed complete on October 20, 2017. The applicant has extended the 120-day period, and the City has until March 16, 2018, to make a final determination.

17.50.080 Complete Application--Required Information.

Finding: Complies as Proposed. This land use application was submitted on July 28, 2017. The application was deemed incomplete on August 23, 2017 and after the submittal of additional information the application was deemed complete on October 20, 2017.

17.50.090 Public Notices.

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

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

CONCLUSION AND DECISION:

Based on the analysis and findings as described above, Staff concludes that the proposed Natural Resource Overlay District Review application for the site located at 379 Barker Avenue, Oregon City and identified as Clackamas County Map 3-2E-06BB, Tax Lot 3903, can meet the requirements as described in the Oregon City Municipal Code by complying with the Conditions of Approval provided in this report. Therefore, the Community Development Director recommends the Planning Commission approve file NR 17-10 with conditions, based upon the findings and exhibits contained in this staff report.

EXHIBITS:

1. Vicinity Map
2. Applicant's Narrative and Plans
3. Comment from Oregon City School District
4. Comment from Dorothy Dahlsrud
5. Memo from David Evans and Associates

NR 17-10 Vicinity Map

Legend

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

Notes

Overview Map

0 200 400 Feet

1: 2,400

The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

Map created 11/20/2017

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OREGON CITY

Community Development – Planning

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2017 JUL 28 PM 3:00

RECEIVED

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
☐ Compatibility Review	☐ Extension	☐ Annexation
☐ Lot Line Adjustment	☐ Detailed Development Review	☐ Code Interpretation / Similar Use
☐ Non-Conforming Use Review	☐ Geotechnical Hazards	☐ Concept Development Plan
☐ Natural Resource (NROD) Verification	☐ Minor Partition (<4 lots)	☐ Conditional Use
☐ Site Plan and Design Review	☐ Minor Site Plan & Design Review	☐ Comprehensive Plan Amendment (Text/Map)
	☐ Non-Conforming Use Review	☐ Detailed Development Plan
	☐ Site Plan and Design Review	☐ Historic Review
	☐ Subdivision (4+ lots)	☐ Municipal Code Amendment
	☐ Minor Variance	☐ Variance
	☒ Natural Resource (NROD) Review	☐ Zone Change

File Number(s): NR 17-10

Proposed Land Use or Activity: Deck replacement and addition within the NROD.

Project Name: 379 Barker Avenue Project Number of Lots Proposed (If Applicable): N/A

Physical Address of Site: 379 Barker Avenue

Clackamas County Map and Tax Lot Number(s): 32E06BB03903

Applicant(s):

Applicant(s) Signature:

Applicant(s) Name Printed: Kevin Dier Date: 7/28/2017

Mailing Address: 379 Barker Avenue

Phone: 503-807-6336 Fax: Email: glacierclimber@gmail.com

Property Owner(s):

Property Owner(s) Signature:

Property Owner(s) Name Printed: Kevin Dier Date: 7/28/2017

Mailing Address: 379 Barker Avenue

Phone: 503-807-6336 Fax: Email: glacierclimber@gmail.com

Representative(s):

Representative(s) Signature: Tina Farrelly

Representative (s) Name Printed: Tina Farrelly Date: 7/28/2017

Mailing Address: 9450 SW Commerce Circle, Wilsonville, Oregon, 97070

Phone: 503-570-0800 Fax: Email: tf@pacifichabitat.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

Natural Resource Overlay District Report for the 379 Barker Avenue Project in Oregon City, Oregon

(Township 3 South, Range 2 East, Section 6BB, Tax Lot 3903)

Prepared for

Kevin Dier and Carrie Young
379 Barker Avenue
Oregon City, OR 97045

Prepared by

Tina Farrelly
John van Staveren
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PHS Project Number: 6226

September 21, 2017

TABLE OF CONTENTS

1.0 INTRODUCTION

Pacific Habitat Services, Inc. (PHS) conducted a natural resource assessment of 379 Barker Avenue in Oregon City, Oregon (Township 3 South, Range 2 East, Section 6BB, Tax Lot 3903); see Figures 1 and 2 in Appendix A for limits of the study area. All figures are in Appendix A.

This report presents the definitions and the methodology used to assess the natural resource overlay district (NROD) within the project site as required by the City of Oregon City (City) (Chapter 17.49). The field component of the natural resource assessment for this site was completed on June 8, 2017.

2.0 EXISTING CONDITIONS

The study area is located on Barker Avenue approximately 850 feet southwest of the intersection Telford Road in Oregon City. The study area consists of one tax lot (3903) as shown on Figure 2. The parcel and surrounding areas are zoned as residential (R8 and R10) (Oregon City WebMaps, 2017). The parcel includes a single-family residence that was built in 1997.

The study area is within the Tanner Creek – Willamette River watershed (HUC 170900070405). Coffee Creek flows north approximately 600 feet on the eastern study area boundary, as mapped by the Oregon City Local Wetland Inventory (Shapiro and Associates 1999) (Figure 3A). Oregon City mapping (Figure 3B) identifies a stream and adjacent wetlands as well as the NROD (Oregon City WebMaps, 2017). Site topography slopes down to the east towards Coffee Creek. Dominant vegetation in the riparian area of Coffee Creek is primarily lawn grasses and includes several native and ornamental tree and shrub species.

3.0 DISCUSSION OF NATURAL RESOURCE AREAS

PHS investigated the site in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* ("The 1987 Manual") and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. The field investigation was conducted on June 8, 2017. Additional measurements were conducted by the Applicant on August 22, 2017.

Below is a discussion of the one stream identified within the property.

Coffee Creek: Coffee Creek is a tributary of the Willamette River that flows northward along the eastern property boundary (Figure 4). The Cowardin class is riverine, intermittent, streambed, cobble/gravel, seasonally flooded (RFSB3C), the Hydrogeomorphic class is Riverine. The stream enters the site through a double culvert under Barker Avenue and continues north beyond the study area boundary.

Riparian vegetation within the property is dominated by lawn species, but also includes several native and ornamental woody species, including Douglas and English hawthorn (*Crataegus douglasii* and *C. monogyna*), big-leaf maple (*Acer macrophyllum*), vine maple (*A. circinatum*), Japanese maple (*A. palmatum*), blue atlas cedar (*Cedrus atlantica*), laurel (*Prunus laurocerasus*), daphne (*Daphne sp.*), and rhododendron (*Rhododendron sp.*). A small amount of slough sedge (*Carex obnupta*) is present within the stream channel.

Coffee Creek adjacent to the Applicant's parcel is not considered to be an anadromous fish-bearing stream (Oregon Department of State Lands [DSL] 2017; Shapiro and Associates 1999; StreamNet 2017). Slopes adjacent to Coffee Creek do not exceed 25 percent within the parcel. One sample point was collected adjacent to the stream channel to document that there are no wetlands within the property.

4.0 VEGETATED CORRIDOR ASSESSMENT

4.1 Vegetated Corridor Extent

The slope adjacent to the delineated edge of Coffee Creek was assessed in order to determine the width of the vegetated corridor. The slope adjacent to the stream was determined to be less than 25 percent and, as described above, the stream is not an anadromous fish-bearing stream. As such, there is a 50-foot-wide vegetated corridor according to Table 17.49.110 of the Oregon City NROD code. The required vegetated corridor area within the subject parcel is approximately 4,194 square feet (0.01 acres); however, this includes approximately 500 square feet of developed area (house and pre-existing deck) (Figure 4).

4.2 Vegetated Corridor Condition

The condition of the vegetated corridor is defined by the combined coverage of trees, shrubs, and groundcover; overall tree canopy coverage; and the coverage of non-native species. Although the combined coverage of vegetation is marginal to good, the vegetated corridor is in degraded condition given the lack of tree canopy coverage.

See Appendix B for plant species and percent cover documented in the vegetated corridor. Appendix B also includes the photographs of the vegetated corridor. See Figure 5 for locations of the photographs.

5.0 PROJECT DESCRIPTION

The existing residence was constructed with a back deck, which is within the NROD district boundary on the City's NROD Map, as well as within the site-specific vegetated corridor shown on Figures 4 and 5. The pre-existing deck was deteriorated, posed a safety risk, and required replacement. In addition, the Applicant expanded the deck surface area and altered the stair configuration from the deck to the yard.

The pre-existing deck was approximately 14 feet long by 8.5 feet wide (119 square feet) and was elevated above the ground surface. The deck was supported by two 4-by-4 timber posts atop 14-inch diameter concrete footings. A stairway (18 square feet) was located on the south side of the deck adjacent to the east side of the residence. A concrete pad (18 square feet) was at the bottom of the pre-existing stairway, and twelve pavers (approximately 14 square feet total) led from the concrete pad to the bank of Coffee Creek. The total surface area of the deck and associated features within the vegetated corridor was 169 square feet.

The deck project replaced the pre-existing deck with a new deck and added a lower deck area and two short stairways (see Figure 5 and attached photos). The new deck includes additional supports, including twelve new 4-by-4 timber posts atop 19-inch diameter concrete footings, and a narrow concrete footing beneath the bottom stair of the lower stairway where it meets the ground surface. Pre-existing impervious surfaces (concrete pad, concrete footings, and pavers) will be removed. The total surface area of the deck, including the replacement area and additional area, is approximately 269 square feet, resulting in a net increase of 100 square feet within the vegetated corridor. No existing native vegetation was removed for the deck project.

The deck replacement and addition totals less than 500 square feet of additional disturbance within the vegetated corridor; however, a portion of the encroachment is closer than one-half the distance of the regulated NROD buffer. As such, the Applicant is required to obtain a Type III permit pursuant to Chapter 17.49. A narrative explaining all aspects of the deck replacement and addition and addressing each of the criteria listed in Chapter 17.49 is provided in Section 5.2 below.

5.1 Vegetated Corridor Impacts

As described above, impacts to the vegetated corridor for the deck project include the addition of 100 square feet to the total disturbance area associated with existing development (Figure 5). Proposed mitigation for the total vegetated corridor impacts resulting from the project are described in Section 5.3 below.

5.2 NROD Development Standards

As the deck project resulted in impacts to the vegetated corridor within the subject property, the project must comply with Oregon City Municipal Code, Chapter 17.49, Natural Resource Overlay District. The applicable sections of the code are discussed below.

17.49.[0]40 – NROD permit

Response: The deck project is regulated under Section 17.49.[0]90, *uses allowed under prescribed conditions*. The NROD permit shall be processed under the Type III development permit as the proposed encroachment is closer than one-half the distance of the regulated NROD buffer. As such, an adjustment of standards is requested, pursuant to Section 17.49.200. The exact location of NROD has been delineated based on the existing resources within the subject property, as identified on Figure 4.

17.49.[0]60 – Consistency and relationship to other regulations.

Response: The Applicant must obtain a building permit for the new deck (per the 2014 Oregon Residential Specialty Code R105.1). No other conflicts with the provisions of the Oregon City Municipal Code; other City requirements; or with regional, state, or federal law have been identified for the proposed project. The project does not propose impacts to potentially jurisdictional wetlands or waters that would warrant coordination with DSL and the Corps. As such, further documentation of coordination with appropriate regulatory/resource agencies, as required in Section 17.49.230C, is not necessary.

17.49.[0]70 – Prohibited uses

A. Any new gardens, lawns, structures, development, other than those allowed outright (exempted) by the NROD or that is part of a regulated use that is approved under prescribed conditions. Note: Gardens and lawns within the NROD that existed prior to the time the overlay district was applied to a subject property are allowed to continue but cannot expand further into the overlay district.

Response: The deck project is a regulated use that is approved under prescribed conditions, as detailed in Section 17.49.[0]90 and Section 17.49.130 below. Even though the project is an approved regulated use, the additional amount of disturbance from the lower deck, has caused the encroachment to be closer than one-half the distance of the regulated NROD buffer; therefore, an adjustment from standards is requested pursuant to Section 17.49.200.

B. New lots that would have their buildable areas for new development within the NROD are prohibited.

Response: Not applicable. The project is a deck replacement and addition for an existing residence.

C. The dumping of materials of any kind is prohibited except for placement of fill as provided in subsection D. below. The outside storage of materials of any kind is prohibited unless they existed before the overlay district was applied to a subject property. Uncontained areas of hazardous materials as defined by the Oregon Department of Environmental Quality (ORS 466.005) are also prohibited.

Response: Not applicable. The project is a deck replacement and addition for an existing residence.

D. Grading, the placement of fill in amounts greater than ten cubic yards, or any other activity that results in the removal of more than ten percent of the existing native vegetation on any lot within the NROD is prohibited, unless part of an approved development activity.

Response: The structural deck supports required for the deck project did not exceed ten cubic yards of fill within the NROD. Lawn/turf grass was the only vegetation affected by the deck project; no existing native vegetation was removed.

17.49.[0]80 – Uses allowed outright (exempted)

J. Replacement, additions, alterations and rehabilitations of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased.

Response: Per communication with Diliana Vassileva (Assistant Planner, Oregon City), the deck surface area, though permeable, constitutes ground level impervious surface because of the effects to vegetation beneath. As such, the deck project is not a *use allowed outright (exempted)*, but rather a *use allowed under prescribed conditions* (see Section 17.49.[0]90).

17.49.[0]90 – Uses allowed under prescribed conditions.

A. Alteration to existing structures within the NROD when not exempted by Section 17.49.080, subject to Section 17.49.130.

Response: The deck project is an alteration to an existing structure within the NROD that is not exempted under Section 17.49.080. As such, the deck project is subject to the general development standards (Section 17.49.100) and the existing development standards (Section 17.49.130). In addition, because the encroachment is closer than one-half the distance of the regulated NROD buffer, an adjustment from standards is requested pursuant to Section 17.49.200. These standards are detailed in the sections below.

17.49.100 – General development standards

A. Native trees may be removed only if they occur within ten feet of any proposed structures or within five feet of new driveways or if deemed not wind-safe by a certified arborist. Trees listed on the Oregon City Nuisance Plant List or Prohibited Plant List are exempt from this standard and may be removed. A protective covenant shall be required for any native trees that remain;

Response: No native trees have been removed for the deck project. The remaining native trees, as well as the proposed mitigation plantings, will be within a protective covenant, as required.

B. The community development director may allow the landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites in the Natural Resource Overlay District;

Response: Not applicable. The project is a deck replacement and addition for an existing residence.

C. All vegetation planted in the NROD shall be native and listed on the Oregon City Native Plant List;

Response: The proposed mitigation plantings are native and listed on the Oregon City Native Plant List, as detailed in Appendix B and in the Mitigation Plan Report, below.

D. Grading is subject to installation of erosion control measures required by the City of Oregon;

Response: The deck project did not require grading. As such, the installation of erosion control measures was not necessary.

E. The minimum front, street, or garage setbacks of the base zone may be reduced to any distance between the base zone minimum and zero in order to minimize the disturbance area within the NROD portion of the lot;

Response: Not applicable. The project is a deck replacement and addition for an existing residence.

F. Any maximum required setback in any zone, such as for multi-family, commercial or institutional development, may be increased to any distance between the maximum and the distance necessary to minimize the disturbance area within the NROD portion of the lot;

Response: Not applicable. The project is a deck replacement and addition for an existing residence.

G. Fences are allowed only within the disturbance area;

Response: The deck project did not include the use or installation of new fences.

H. Incandescent lights exceeding two hundred watts (or other light types exceeding the brightness of a two hundred watt incandescent light) shall be placed or shielded so that they do not shine directly into resource areas;

Response: The pre-existing lights associated with the deck will utilize lights with a brightness of less than two hundred watts (or equivalent).

I. If development will occur within the one hundred-year floodplain, the FEMA floodplain standards of Chapter 17.42 shall be met; and

Response: The subject parcel is not within the one hundred-year floodplain.

J. Mitigation of impacts to the regulated buffer is required, subject to Section 17.49.180 or 17.49.190.

Response: Proposed mitigation for impacts resulting from the deck project meets the standards of Section 17.49.180, described below.

17.49.110 – Width of vegetated corridor

A. Calculation of Vegetated Corridor Width within City Limits. The NROD consists of a vegetated corridor measured from the top of bank or edge of a protected habitat or water feature. The minimum required width is the amount of buffer required on each side of a stream, or on all sides of a feature if non-linear. The width of the vegetated corridor necessary to adequately protect the habitat or water feature is specified in Table 17.49.110.

Response: The City's NROD map is based on a GIS-supported application of the adopted documents, plans, and maps listed in Section 17.49.020. The NROD map includes a vegetated corridor width of 200 feet on both sides of Coffee Creek, and encompasses the entire subject parcel. According to Table 17.49.110, a vegetated corridor width of 200 feet is applied to anadromous fish-bearing streams or where slopes are greater than 25 percent adjacent to a protected water feature.

Coffee Creek adjacent to the Applicant's parcel is not considered to be an anadromous fish-bearing stream (DSL 2017; Shapiro and Associates 1999; StreamNet 2017). In addition, slopes adjacent to Coffee Creek do not exceed 25 percent within the parcel (a slope measurement is provided on Figure 4). As such, the width of vegetated corridor is 50 feet from the edge of bankfull flow according to Table 17.49.110.

17.49.130 – Existing development standards

In addition to the General Development Standards of Section 17.49.100, the following standards apply to alterations and additions to existing development within the NROD, except for trails, rights of way, utility lines, land divisions and mitigation projects. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased are exempt from review pursuant to Section 17.49.080J. As of June 1, 2010, applicants for alterations and additions to existing development that are not exempt pursuant to Section 17.49.080J. shall submit a Type II or Type III application pursuant to this section. The application shall include a site plan which delineates a permanent disturbance area that includes all existing buildings, parking and loading areas, paved or graveled areas, patios and decks. The same delineated disturbance area shall be shown on every subsequent proposal for alterations and additions meeting this standard.

A. The following alterations and additions to existing development are permitted subject to the following standards.

1. Alterations or additions that cumulatively total up to a maximum of five hundred square feet of additional disturbance area after June 1, 2010 shall be processed as a Type II permit pursuant to this chapter. The new disturbance area shall not encroach closer than one-half of the distance of the regulated NROD buffer.

2. Alterations or additions that cumulatively exceed five hundred square feet of additional disturbance area or which propose encroachment closer than one-half of the distance of the regulated NROD buffer after June 1, 2010 shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

B. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

Response: The new disturbance area for the deck project totals 100 square feet; however, the encroachment is closer than one-half the distance of the regulated NROD buffer and will require an adjustment from standards pursuant to Section 17.49.200. As such, the deck project shall be processed as a Type III permit.

17.49.180 – Mitigation standards

Response: The mitigation standards of Section 17.49.180 are addressed in Section 5.3 below.

17.49.200 - Adjustment from standards.

If a regulated NROD use cannot meet one or more of the applicable NROD standards then an adjustment may be issued if all of the following criteria are met. Compliance with these criteria shall be demonstrated by the applicant in a written report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant. Such requests shall be processed under the Type III development permit procedure. The applicant shall demonstrate:

A. There are no feasible alternatives for the proposed use or activity to be located outside the NROD area or to be located inside the NROD area and to be designed in a way that will meet all of the applicable NROD development standards;

Response: The residence was constructed in 1997, prior to the City's adoption of the NROD or the preceding Water Quality Resource Area Overlay. Consequently, the design and location of the home and deck did not include consideration of impacts to these resource areas. The vegetated corridor width is 50 feet according to Table 17.49.110, resulting in the eastern portion of the home, the pre-existing deck, and the back yard being entirely within the regulated NROD buffer. As such, any alterations to the pre-existing deck that increase the ground level impervious surface area and/or encroach closer than one-half the distance, or 25 feet, of the regulated NROD buffer require City review and the issuance of an NROD permit. Although the deck addition is less than 500 square feet, it encroaches closer than 25 feet from the bank of Coffee Creek and does not meet the standards of Section 17.49.130.A.1. As such, the deck project will be processed as a Type III permit according to Section 17.49.130.A.2, subject to the standards of this Section.

The location of the pre-existing deck ranged from 20 to 35 feet from the western (nearest) bank of Coffee Creek, limiting the possibility of keeping the encroachment 25 feet or further from the resource. Although it would have been possible to meet this standard by designing the deck addition to the north or south of the pre-existing deck along the eastern exterior wall of the home, this alternative was rejected as it would have resulted in the removal of existing woody vegetation, including a mature vine maple. The deck addition described in this report and shown on Figure 5 only impacts lawn, which does not provide the same habitat or water quality benefits as woody vegetation. In addition, functional and aesthetic factors, including the desire to maintain unobstructed views to the east from existing windows, decrease stair lengths for deck users, and to connect with the backyard ground elevations were considered when choosing the deck design.

B. The proposal has fewer adverse impacts on significant resources and resource functions found in the local NROD area than actions that would meet the applicable environmental development standards;

Response: As described above, the deck project detailed in this report and shown on Figure 5 impacted only lawn and did not result in the removal of any native plants or woody vegetation.

Although an alternative deck design along the eastern exterior wall of the home would have met the applicable environmental development standards, the alternative would have resulted in the removal of native species and woody vegetation.

C. The proposed use or activity proposes the minimum intrusion into the NROD area that is necessary to meet development objectives;

Response: The development objectives for the deck project were to address safety hazards of the pre-existing deck and to provide a modest deck addition that would improve the recreational use and aesthetic quality of the deck. The addition increased the surface area of the deck by 100 square feet, which is less than the allowance for existing development detailed in Section 17.49.130. Further minimization would not have been possible without reducing the recreational use of the new deck area.

D. Fish and wildlife passage will not be impeded;

Response: The project is within the backyard of a developed residential lot and does not impact wetlands or waterways. Fish passage in the existing stream is impeded by off-site fish passage barriers, and the proposed project will not alter the existing fish passage. Wildlife passage through the property is already impeded by existing developments, fences, and adjacent roads. The addition of 100 square feet of new deck is not expected to further impede wildlife passage.

E. With the exception of the standard(s) subject to the adjustment request, all other applicable NROD standards can be met; and

Response: With the exception that the project encroaches closer than one-half the distance of the regulated NROD buffer, all other applicable NROD standards have been met.

F. The applicant has proposed adequate mitigation to offset the impact of the adjustment.

Response: The mitigation plan detailed in Section 5.3 will increase the coverage of native trees, shrubs, and groundcover within the regulated NROD buffer. The mitigation area is twice the size of the impact area, and will provide improved habitat and water quality functions between existing development and the resource area. The mitigation plan meets the standards of Section 17.49.180, and is expected to adequately offset the impact of the adjustment.

17.49.220 – Required site plans
Site plans showing the following required items shall be part of the application:

A. For the entire subject property (NROD and non-NROD areas):
1. ***The NROD district boundary. This may be scaled in relation to property liens from the NROD Map;***
2. ***One hundred-year floodplain and floodway boundary (if determined by FEMA);***
3. ***Creeks and other waterbodies;***
4. ***Any wetlands, with the boundary of the wetland that will be adjacent to the proposed development determined in a wetlands delineation report prepared by a professional wetland specialist and following the Oregon Division of State Lands wetlands delineation procedures;***
5. ***Topography shown by contour lines of two or one foot intervals for slopes less than fifteen percent and by ten-foot intervals for slopes fifteen percent or greater;***
6. ***Existing improvements such as structures or buildings, utility lines, fences, driveways, parking areas, etc.***
7. ***Extent of the required Vegetated Corridor required by Table 17.49.110.***

Response: The required site plan items for the entire parcel are included on Figure 4 and/or Figure 5.

B. Within the NROD area of the subject property:
1. ***The distribution outline of shrubs and ground covers, with a list of most abundant species;***
2. ***Trees six inches or greater in diameter, identified by species. When trees are located in clusters they may be described by the approximate number of trees, the diameter range, and a listing of dominant species;***
3. ***An outline of the disturbance area that identifies the vegetation that will be removed. All trees to be removed with a diameter of six inches or greater shall be specifically identified as to number, trunk diameters and species;***
4. ***If grading will occur within the NROD, a grading plan showing the proposed alteration of the ground at two foot vertical contours in areas of slopes less than fifteen percent and at five foot vertical contours of slopes fifteen percent or greater.***

Response: The required site plan items within the NROD are included on Figure 4 and/or Figure 5.

C. A construction management plan including:

1. ***Location of site access and egress that construction equipment will use;***
2. ***Equipment and material staging and stockpile areas;***
3. ***Erosion control measures that conform to City of Oregon City erosion control standards;***
4. ***Measures to protect trees and other vegetation located outside the disturbance area.***

Response: Because the deck project has already been completed, a construction management plan is not included. The project was completed using hand tools and did not require that construction equipment enter the site. Material staging and stockpile areas were located in the existing driveway, outside of the required vegetated corridor. No native vegetation or trees were disturbed during construction, and lawn/turf grass areas that were temporarily disturbed were replanted in kind when construction was complete.

D. A mitigation site plan demonstrating compliance with Section 17.49.180 or 17.49.190, including:

1. ***Dams, weirs or other in-water features;***
2. ***Distribution, species composition, and percent cover of ground covers to be planted or seeded;***
3. ***Distribution, species composition, size, and spacing of shrubs to be planted;***
4. ***Location, species and size of each tree to be planted;***
5. ***Stormwater management features, including retention, infiltration, detention, discharges and outfalls;***
6. ***Water bodies or wetlands to be created, including depth;***
7. ***Water sources to be used for irrigation of plantings or for a water source for a proposed wetland.***

Response: The mitigation site plan is shown on Figure 6 and includes the items required in this section, as applicable.

17.49.230 – Mitigation plan report

Response: The mitigation plan report is detailed in Section 5.3, below.

17.49.250 – Verification of NROD boundary
The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

Response: Based on a site specific environmental survey, it appears that the NROD boundary mapped by the City within the subject parcel does not represent the true location of the resource (Coffee Creek) or its functional values on the site. Further, the City NROD boundary appears to be measured from the edge of additional resources (wetlands) adjacent to Coffee Creek that were confirmed to not be present during the survey.

The site specific environmental survey was conducted by PHS on June 8, 2017. PHS identified Coffee Creek at or just outside of the eastern property boundary. The stream is within a defined channel with no wetlands present along its western bank within the subject parcel. The true location of the stream channel is approximately 15 to 35 feet further east than the Title 3 Stream mapped by the City.

As described above, Coffee Creek adjacent to the Applicant's parcel is not considered to be an anadromous fish-bearing stream (DSL 2017; Shapiro and Associates 1999; StreamNet 2017). In addition, slopes adjacent to Coffee Creek do not exceed 25 percent within the parcel (a slope measurement is provided on Figure 4). As such, the width of vegetated corridor is 50 feet from the edge of bankfull flow according to Table 17.49.110.

17.49.265 – Corrections to violations

For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met then the applicant's remediation plan shall demonstrate that there will be:

- ***A. No permanent loss of any type of resource or functional value listed in Section 17.49.10, as determined by a qualified environmental professional;***
- ***B. A significant improvement of at least one functional value listed in section 17.49.10, as determined by a qualified environmental professional; and***
- ***C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.***

Response: The deck project was completed before obtaining the required City approvals, and is considered a violation. With the exception that the deck addition encroachment is closer than 25 feet from the stream, all of the applicable standards of the NROD have been met by the deck project, as detailed in the code responses and additional narrative included in this report. According to Section 17.49.10, the NROD contributes to the following functional values:

A. Protect and restore streams and riparian areas for their ecologic functions and as an open space amenity for the community.

B. Protect floodplains and wetlands, and restore them for improved hydrology, flood protection, aquifer recharge, and habitat functions.

C. Protect upland habitats, and enhance connections between upland and riparian habitat.

D. Maintain and enhance water quality and control erosion and sedimentation through the revegetation of disturbed sites and by placing limits on construction, impervious surfaces, and pollutant discharges.

E. Conserve scenic, recreational, and educational values of significant natural resources.

As described above, the deck project impacted only a small area of lawn (100 square feet of new encroachment); did not result in the removal of native or woody vegetation; and will increase the coverage of native trees, shrubs, and groundcover in the regulated NROD buffer through mitigation. As such, the project will not result in any permanent loss in these functions, and will significantly improve at least one function. The most significant improvement will be to the water quality and erosion and sedimentation control function, which will be improved through the establishment of native trees and shrubs that provide shade to the stream and soil stabilization in the riparian area.

Given the relatively small amount of new encroachment area (100 square feet), the limited habitat value of the lawn within the encroachment area, and the absence of temporary disturbance areas, it is reasonably certain that the temporal loss of resources and functional values during the remediation action will be minimal.

5.3 Mitigation Plan Report

As described above, the deck project includes 100 feet of additional development area within the vegetated corridor. No native vegetation or trees have been removed to complete the deck project. Mitigation Standards require that Option 1 or Option 2 under Section 17.49.180 be selected based on which option will result in more trees planted. Both mitigation options require a minimum of two times the mitigation area for the proposed NROD disturbance area.

The number of trees and shrubs to be planted using Option 1 is based on the number and size of the trees to be removed. As no trees have been removed, Option 1 would result in no trees planted. The number of trees and shrubs to be planted using Option 2 is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area. The total disturbance area for the proposed project is 100 square feet, which results in one tree and five shrubs to be planted.

Option 2 will be used for the mitigation plan as it results in a greater number of trees and shrubs to be planted than Option 1. The mitigation will be conducted on the subject parcel within a 200 square foot area within the vegetated corridor. The existing vegetated corridor has marginal to good combination of trees, shrubs, and groundcover; however, it is in degraded condition overall due the low canopy coverage. It is anticipated that the mitigation will improve the functional value of the vegetated corridor by improving canopy coverage and increasing native plant diversity and overall coverage.

As required for the mitigation plan report (Section 17.49.230), a written response to each applicable Mitigation Standard described in Section 17.49.180 indicating how the proposed development complies with the mitigation standards follows:

A. ***Mitigation shall occur at a two-to-one ratio of mitigation area to proposed NROD disturbance area […].***

Response: The proposed disturbance area is 100 square feet. A 200 square-foot mitigation area has been selected from within the existing vegetated corridor and is identified on Figure 6.

B. ***Mitigation shall occur on the site where the disturbance occurs, […].***

Response: The proposed mitigation area is within the subject parcel where the disturbance occurs.

C. ***Mitigation shall occur within the NROD area of a site unless it is demonstrated that this is not feasible because of a lack of available and appropriate area. In such cases, the proposed mitigation area shall be contiguous to the existing NROD area so the NROD boundary can be easily extended in the future to include the new resource site.***

Response: The proposed mitigation area is within the NROD area of the site.

D. Invasive and nuisance vegetation shall be removed within the mitigation area.

Response: Invasive vegetation listed on the Oregon City Nuisance Plant List will be removed within the mitigation area.

E. Required Mitigation Planting. An applicant shall meet Mitigation Planting Option 1 or 2 below, whichever option results in more tree plantings[…]. All trees, shrubs, and groundcover shall be selected from the Oregon City Native Plant List.

Response: Mitigation Planting Option 2 will be used as it results in a greater number of trees and shrubs to be planted. As shown on the attached mitigation plan (Figure 6), all trees, shrubs, and ground cover selected for the mitigation plan are from the Oregon City Native Plant List.

2. Mitigation Planting Option 2.

a. Option 2 - Planting Quantity. In this option, the mitigation requirement is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by five hundred, and then multiplying that result times five trees and twenty-five shrubs, and rounding all fractions to the nearest whole number of trees and shrubs; for example, if there will be three hundred thirty square feet of disturbance area, then three hundred thirty divided by five hundred equals .66, and .66 times five equals 3.3, so three trees must be planted, and .66 times twenty-five equals 16.5, so seventeen shrubs must be planted). Bare ground must be planted or seeded with native grasses or herbs. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.

Response: The total disturbance area for the proposed project is 100 square feet, which results in one tree and five shrubs to be planted. The location of the required plantings is identified on Figure 6. One additional shrub and several groundcover species will also be planted in the mitigation area, as shown on Figure 6.

b. Option 2 - Plant Size. Plantings may vary in size dependent on whether they are live cuttings, bare root stock or container stock, however, no initial plantings may be shorter than twelve inches in height.

Response: The plant sizes for proposed mitigation plantings are shown on Figure 6. No initial plantings are shorter than 12 inches in height.

c. Option 2 - Plant Spacing. Trees shall be planted at average intervals of seven feet on center. Shrubs may be planted in single-species groups of no more than four plants, with clusters planted on average between eight and ten feet on center.

Response: The plant spacing for proposed mitigation plantings is shown on Figure 6. The mitigation tree will be a minimum of 7 feet from other existing trees. Shrubs will be planted with an average spacing of 3 to 4 feet on center.

d. Option 2 — Mulching and Irrigation shall be applied in the amounts necessary to ensure eighty percent survival at the end of the required five-year monitoring period.

Response: The Applicant will apply mulching and irrigation in the amounts necessary to ensure eighty percent survival at the end of the required five-year monitoring period.

e. Option 2 — Plant Diversity. Shrubs shall consist of at least three different species. If twenty trees or more are planted, no more than one-third of the trees may be of the same genus.

Response: The proposed mitigation shrubs include three different species. As only one mitigation tree is required, only a single tree species will be planted.

F. Monitoring and Maintenance. The mitigation plan shall provide for a five-year monitoring and maintenance plan with annual reports in a form approved by the director of community development. Monitoring of the mitigation site is the on-going responsibility of the property owner, assign, or designee, who shall submit said annual report to the city's planning division, documenting plant survival rates of shrubs and trees on the mitigation site. Photographs shall accompany the report that indicate the progress of the mitigation. A minimum of eighty percent survival of trees and shrubs of those species planted is required at the end of the five-year maintenance and monitoring period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than ten square feet that remain at the end the five-year monitoring period shall be replanted or reseeded with native grasses and ground cover species.

Response: The proposed mitigation will be monitored and maintained for a minimum of five years, with approved annual progress reports submitted to the City's planning division. The mitigation area will be inspected annually during the active growing season. During site monitoring, survival rates of the planted tree and shrubs and invasive plant species cover will be documented. This information, along with photo-documentation of the mitigation area, will be used to inform the annual progress report. Given the small size of the mitigation area and the limited number of required mitigation plantings, it is proposed that the Applicant provide the annual progress report in a brief email.

Should the survival rate drop below 80 percent or invasive plant coverage exceed 10 percent at any time during the maintenance period, immediate remedial action will be taken. Monitoring and maintenance is the ongoing responsibility of the property owner, assign, or designee.

G. Covenant or Conservation Easement. Applicant shall record a restrictive covenant or conservation easement, in a form provided by the city, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the city to complete mitigation work in the event of default by the responsible party. Costs borne by the city for such mitigation shall be borne by the owner.

Response: The Applicant will record a restrictive covenant or conservation easement in the form provided by the City that will require owners and assigns of the property to comply with the applicable mitigation requirements. The covenant or easement will run with the land and permit the City to complete mitigation work in the event of default by the responsible party. Should the City need to complete the mitigation work, such cost will be borne by the owner. The covenant or conservation easement is the responsibility of the property owner, assign, or designee.

H. Financial Guarantee. A financial guarantee for establishment of the mitigation area, in a form approved by the city, shall be submitted before development within the NROD disturbance area commences. The city will release the guarantee at the end of the five-year monitoring period, or before, upon its determination that the mitigation plan has been satisfactorily implemented pursuant to this section.

Response: A financial guarantee for establishment of the mitigation area will be provided to the City by the Applicant. The financial guarantee is the responsibility of the property owner, assign, or designee.

5.4 Administration and Procedures

The applicable sections of Chapter 17.50 – Administration and Procedures are detailed below:

17.50.050 Preapplication Conference

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall

provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

Response: The Oregon City Planning Division waived the pre-application conference requirement, as detailed in an email from Oregon City Planner Diliana Vassileva on November 17, 2016.

17.50.055 Neighborhood Association Meeting

A. The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.

1. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, planning commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the city-recognized neighborhood association in whose territory the application is proposed. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.

2. The applicant shall send, by certified mail, return receipt requested letter to the chairperson of the neighborhood association and the citizen involvement committee describing the proposed project. Other communication methods may be used if approved by the neighborhood association.

3. A meeting shall be scheduled within thirty days of the notice. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall hold their own meeting after six p.m. or on the weekend, with notice to the neighborhood association, citizen involvement committee, and all property owners within three hundred feet. If the applicant holds their own meeting, a copy of the certified letter requesting a neighborhood association meeting shall be required for a complete application. The meeting held by the applicant shall be held within the boundaries of the neighborhood association or in a city facility.

4. If the neighborhood association is not currently recognized by the city, is inactive, or does not exist, the applicant shall request a meeting with the citizen involvement committee.

5. To show compliance with this section, the applicant shall submit a sign-in sheet of meeting attendees, a summary of issues discussed, and letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.

Response: The neighborhood association meeting is not required for this project, as was noted in an email from Oregon City Planner Diliana Vassileva on June 30, 2017.

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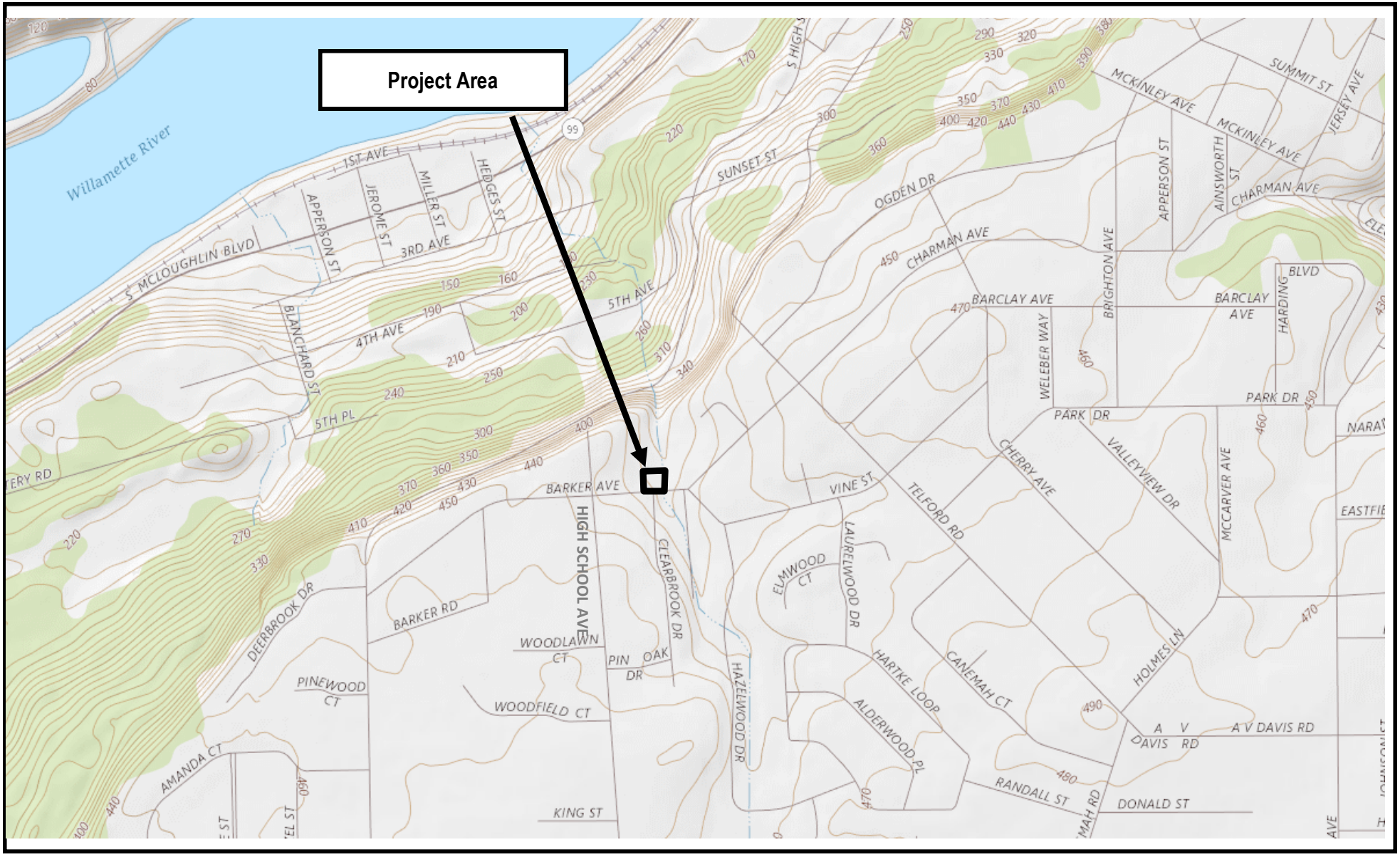
Appendix A

Figures



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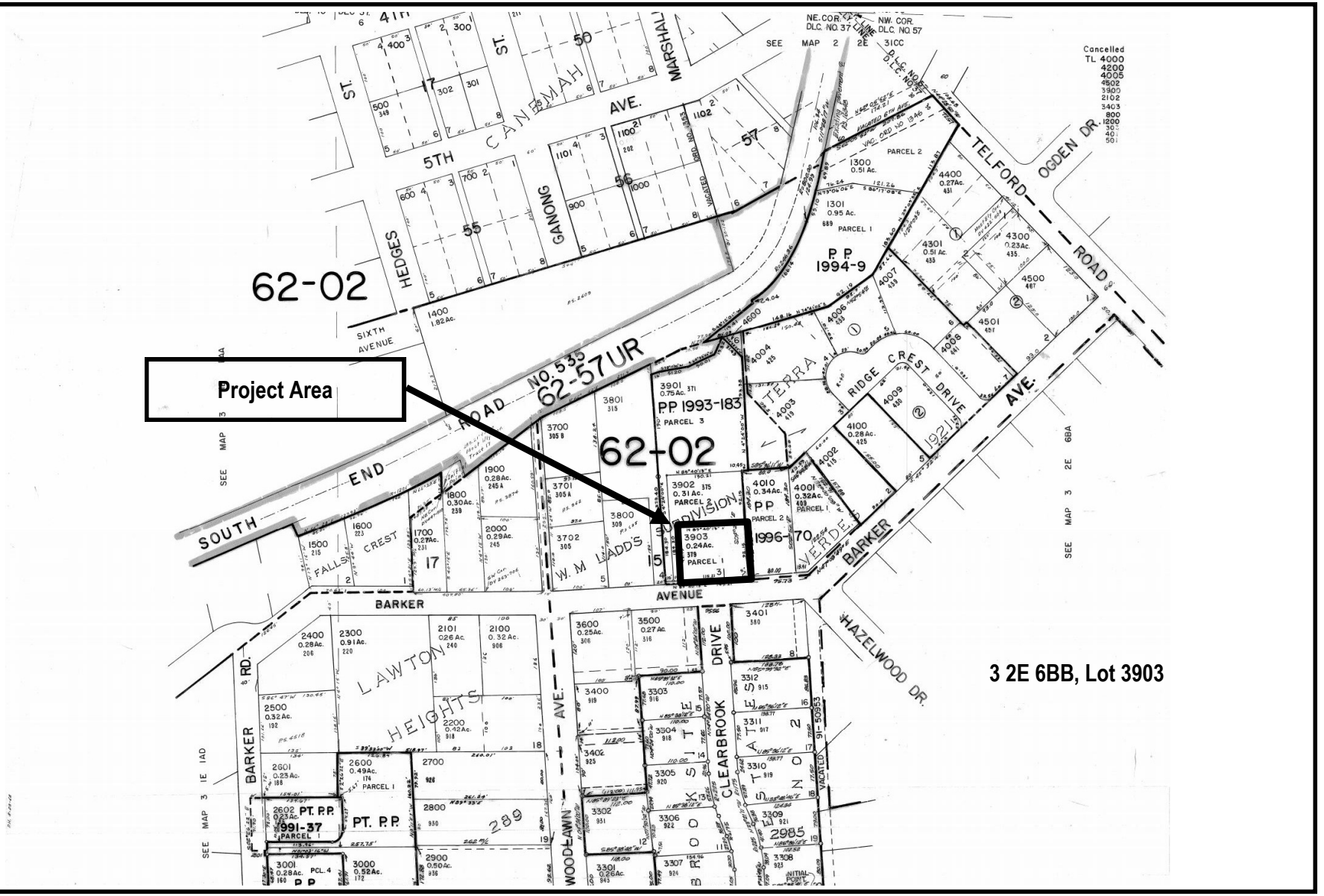
Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Location and General topography
379 Barker Avenue, Oregon City, Oregon
(USGS The National Map, Oregon City, Oregon quadrangle, 2017)

FIGURE
1



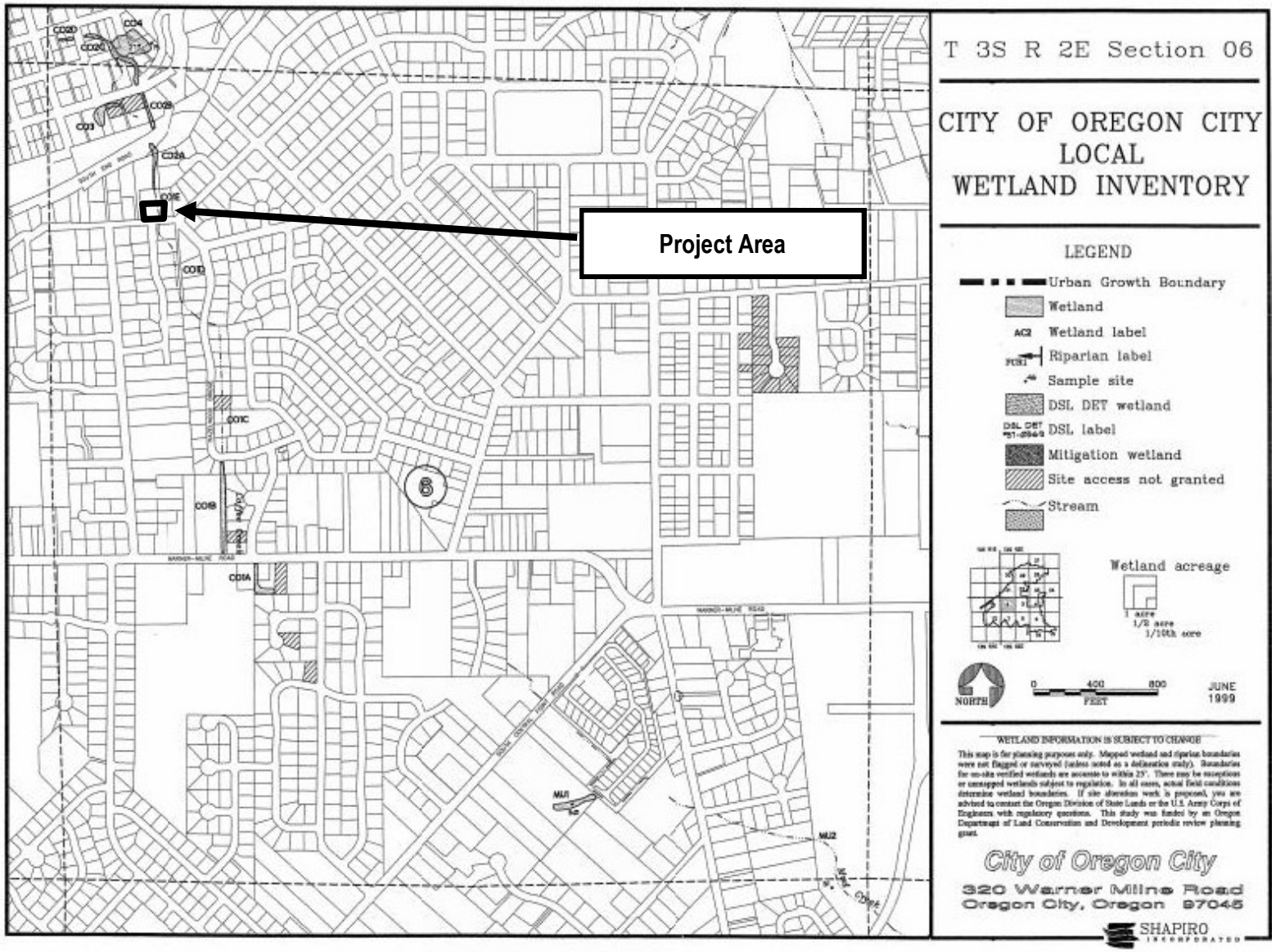
6226
7/17/17

PHS

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Tax Lot Map
379 Barker Avenue, Oregon City, Oregon
(ormap.net, 2017)

FIGURE
2

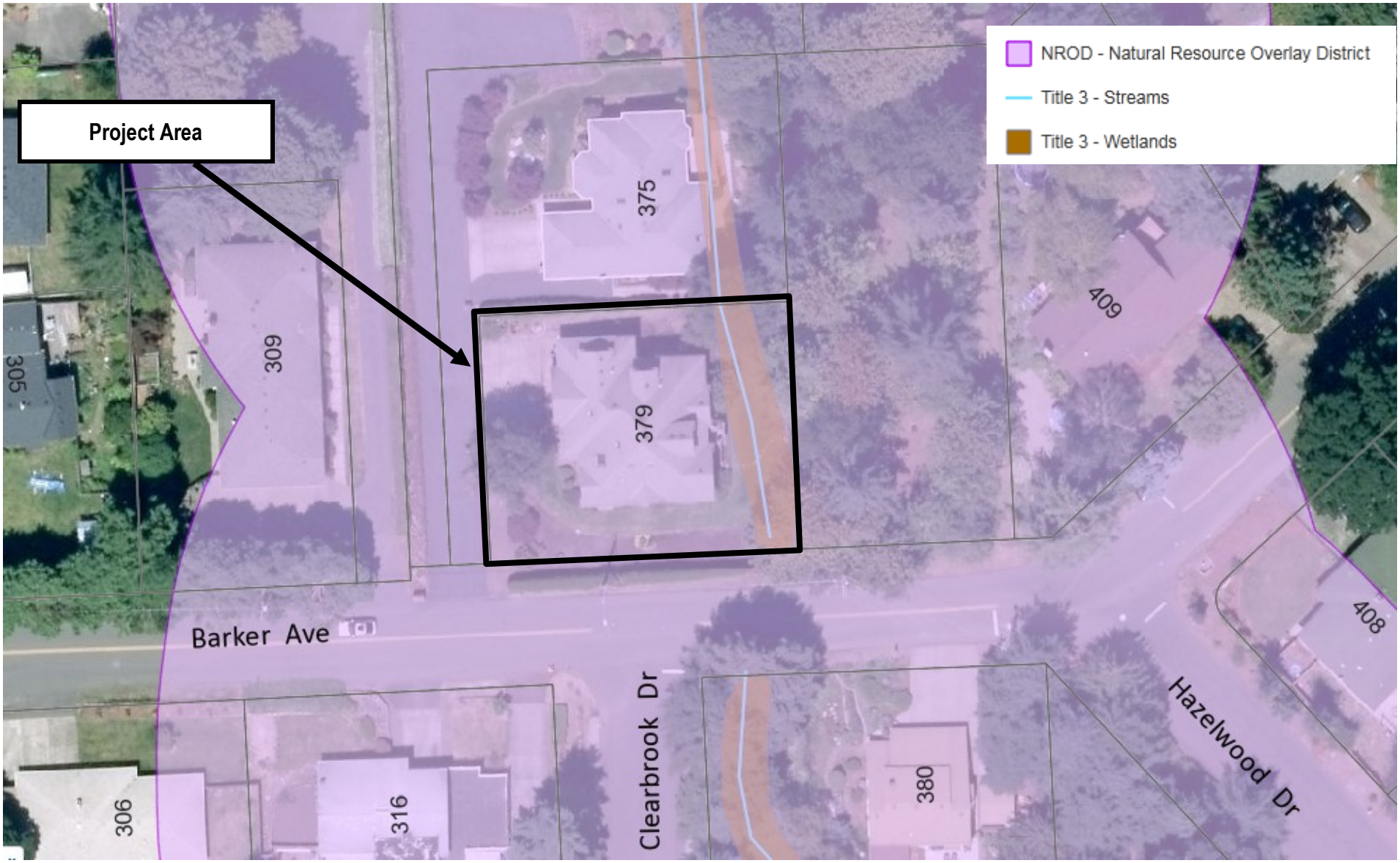


6226
7/17/17

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Local Wetlands Inventory map
379 Barker Avenue, Oregon City, Oregon
(Shapiro and Associates, Inc., 9/1/1999)

FIGURE
3A

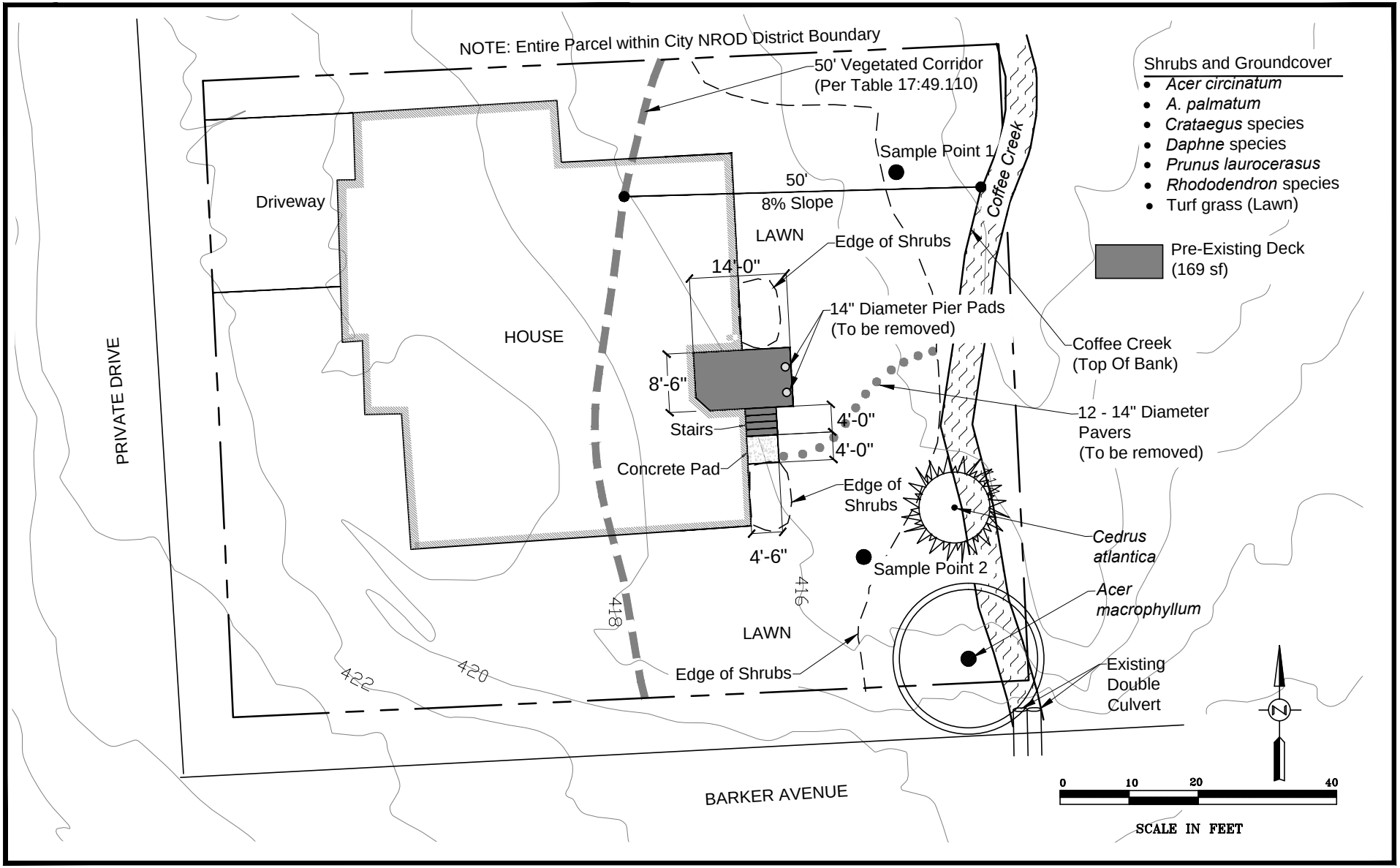


6226
7/17/17

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Natural Resources Overlay District map
379 Barker Avenue, Oregon City, Oregon
(Oregon City Web Maps, 2017)

FIGURE
3B



PHS

Pacific Habitat Services,Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax (503) 570-0855

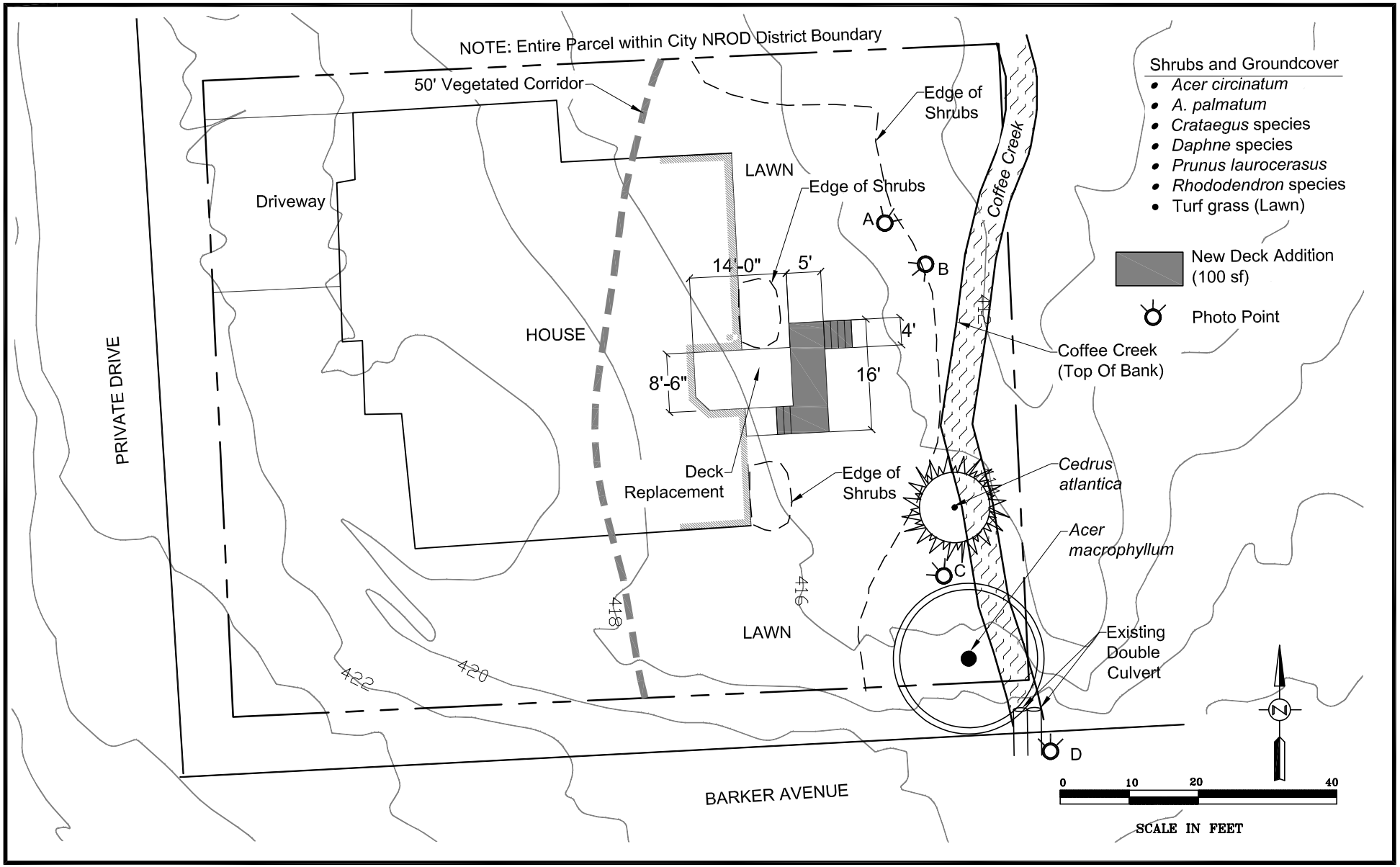
Deck Plans Provided by Kevin Dier

Existing Conditions and Pre-existing Deck and Impervious Surfaces
379 Barker Avenue - Oregon City, OR

FIGURE
4

9-7-2017

X:\Project Directories\6200\6226 379 Barker Ave NROD\AutoCAD\Fig4 ExistCond.dwg, 9/13/2017 2:21:01 PM



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax (503) 570-0855

Deck Plans Provided by Kevin Dier

Deck Replacement and Additon
379 Barker Avenue - Oregon City, OR

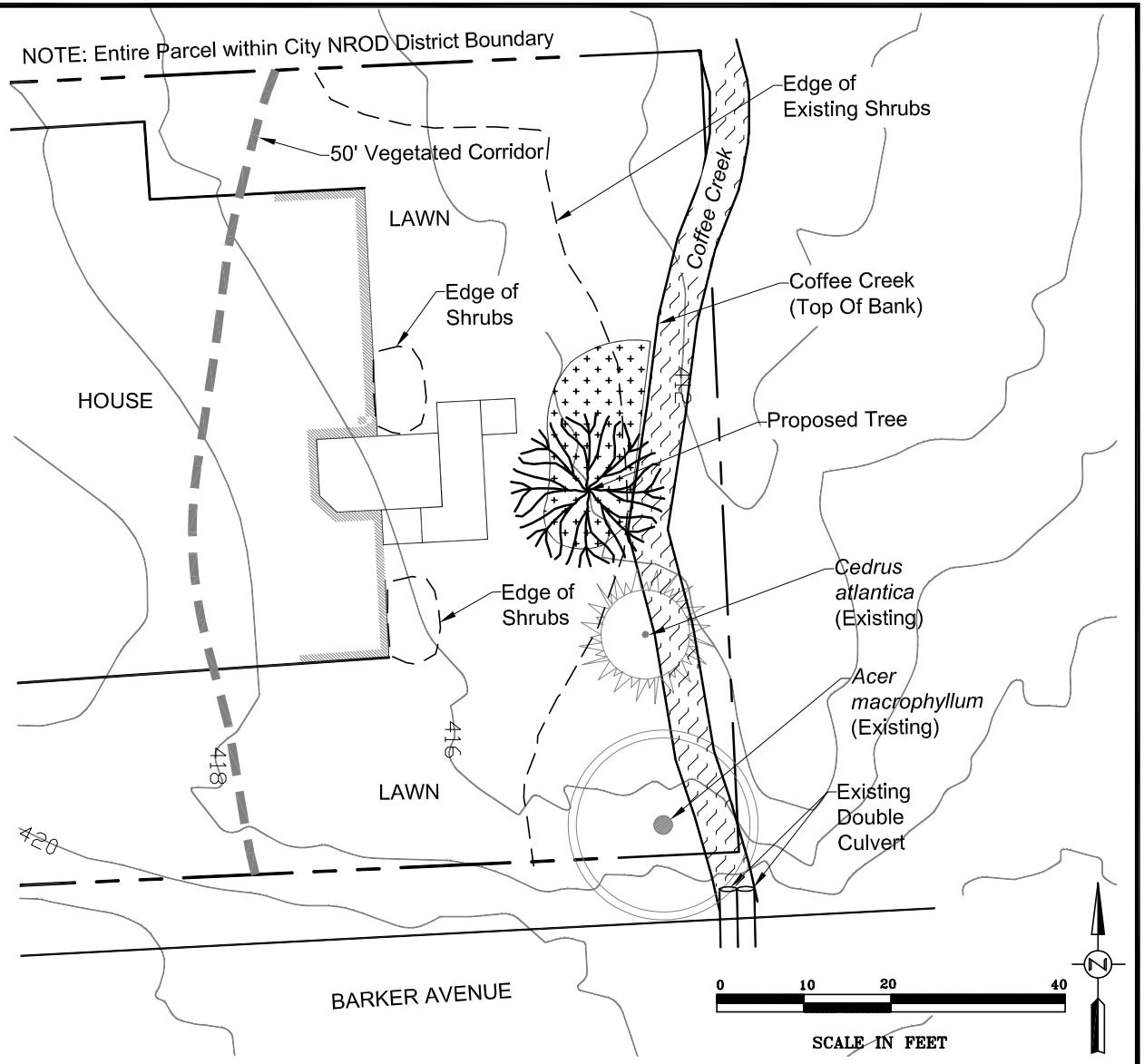
FIGURE 5

9-7-2017

X:\Project Directories\6200\6226 379 Barker Ave NROD\AutoCAD\Fig5 Proposed Plan.dwg, 9/7/2017 3:56:49 PM, CutePDF Writer

MITIGATION AREA PLANTING (200 sf)

Count	Species	Size / Height
	Tree:	
1	*Acer circinatum*/ Vine Maple	5ft
	Shrubs: (at least 12" Height)	
1	*Ribes sanguineum*/ red flowering current	5 Gal.
3	*Mahonia aquafolium* / tall Oregon grape	3 Gal.
2	*Vaccinium ovatum*/ evergreen huckleberry	3 Gal.
	Rush and Fern:	
8	*Juncus effusus* / rush	1 Gal. / 16 plugs
7	*Polystichum minutum*/ sword fern	1 Gal.



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax (503) 570-0855

Deck Plans Provided by Kevin Dier
Landscape Plan Provided By
Donna Giguere, APLD Landscape Design

Mitigation Plan
379 Barker Avenue - Oregon City, OR

FIGURE 6

9-7-2017

X:\Project Directories\6200\6226 379 Barker Ave NROD\AutoCAD\Fig6 Mitigation.dwg, 9/7/2017 3:57:05 PM, CutePDF Writer

Appendix B

Wetland and Vegetated Corridor Data Sheets and Site Photos

PHS # 6226

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Deck Project / 379 Barker Ave** City/County: **Oregon City / Clackamas** Sampling Date: **6/8/2017**

Applicant/Owner: **Kevin Dier** State: **OR** Sampling Point: **1**

Investigator(s): **Tina Farrelly, Amy Hawkins** Section, Township, Range: **Sec 6BB, 3 South 2 East**

Landform (hillslope, terrace, etc.:) **Terrace** Local relief (concave, convex, none): **None** Slope (%): **1**

Subregion (LRR): **LRR A** Lat: **45.343594** Long: **-122.6176** Datum: **WGS84**

Soil Map Unit Name: **Delena silt loam, 3 to 12 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No		**Is Sampled Area within a Wetland?** Yes ____ No **X**
Hydric Soil Present?	Yes		No	**X**	
Wetland Hydrology Present?	Yes		No	**X**	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: **5**)			
1 ***Prunus laurocerasus***	**3**	**X**	**UPL**
2 ***Crataegus monogyna***	**5**	**X**	**FAC**
3 ***Crataegus douglasii***	**5**	**X**	**FAC**
4			
5			
	13	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Unidentified turf grass***	**50**	**X**	**(FAC)**
2			
3			
4			
5			
6			
7			
8			
	50	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **50**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

X 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL PHS # **6226** Sampling Point: **1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	**10YR 3/3**	**90**					**Silt loam**	
0-10	**NA**	**10**					**Gravel**	
10+	**NA**							**Gravel layer**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- _____ Histosol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- _____ Loamy Gleyed Matrix (F2)
- _____ Depleted Matrix (F3)
- _____ Redox Dark Surface (F6)
- _____ Depleted Dark Surface (F7)
- _____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- _____ 2 cm Muck (A10)
- _____ Red Parent Material (TF2)
- _____ Very Shallow Dark Surface (TF12)
- _____ Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: **Gravel**

Depth (inches): **10**

Hydric Soil Present? Yes _____ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _____ Surface Water (A1)
- _____ High Water Table (A2)
- _____ Saturation (A3)
- _____ Water Marks (B1)
- _____ Sediment Deposits (B2)
- _____ Drift Deposits (B3)
- _____ Algal Mat or Crust (B4)
- _____ Iron Deposits (B5)
- _____ Surface Soil Cracks (B6)
- _____ Inundation Visible on Aerial Imagery (B7)
- _____ Sparsely Vegetated Concave Surface (B8)
- _____ Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- _____ Salt Crust (B11)
- _____ Aquatic Invertebrates (B13)
- _____ Hydrogen Sulfide Odor (C1)
- _____ Oxidized Rhizospheres along Living Roots (C3)
- _____ Presence of Reduced Iron (C4)
- _____ Recent Iron Reduction in Plowed Soils (C6)
- _____ Stunted or Stressed Plants (D1) **(LRR A)**
- _____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- _____ Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- _____ Drainage Patterns (B10)
- _____ Dry-Season Water Table (C2)
- _____ Saturation Visible on Aerial Imagery (C9)
- _____ Geomorphic Position (D2)
- _____ Shallow Aquitard (D3)
- _____ Fac-Neutral Test (D5)
- _____ Raised Ant Mounds (D6) **(LRR A)**
- _____ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water Table Present? Yes _____ No **X** Depth (inches): **>10**

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): **>10**

Wetland Hydrology Present?

Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Vegetated Corridor Sample Sites

Plant Community	A	
Sample Point	**1**	**2**
TREES		
Acer macrophyllum		5
Cedrus atlantica		5
Fraxinus latifolia		
Pseudotsuga menziesii		
Quercus garryana		
Salix scouleriana		
Thuja plicata		
Nuisance Plant		
Crataegus monogyna	5	
Prunus avium		
SHRUBS & SAPLINGS		
Acer circinatum		3
Acer palmatum		3
Berberis aquifolium		
Corylus cornuta		
Crataegus douglasii	5	
Frangula purshiana		
Gaultheria shallon		
Mahonia aquifolium		
Oomleria cerasiformis		
Pseudotsuga menziesii		
Rhododendron species		20
Rosa gymnocarpa		
Rosa pisocarpa		
Rubus ursinus		
Sambucus racemosa		
Symphoricarpos albus		
Thuja plicata		
Nuisance Plant		
Ilex aquifolium		
Crataegus monogyna	5	
Prunus laurocerasus	3	
Rubus armeniacus		
HERBS		
Carex leptopoda		
Equisetum arvense		
Galium aparine		
Geum macropyllum		
Impatiens noli-tangere		
Juncus effusus		
Juncus tenuis		
Polystichum munitum		
Pteridium aquilinum		
Rubus ursinus		
Turfgrass	50	90
Urica dioica		
Nuisance Plant		
Cirsium arvense		
Cirsium vulgare		
Clematis ligusticifolia		
Clematis vitabla		
Convolvulus sp.		
Cytsus scoparius		
Dipsacus fullonum		
Hedera Helix		
Heracleum mantegazzianum		
Lythrum salicaria		
Phalaris arundinacea		
Polygonum cuspidatum		
Solanum dulcamara		

	A		Average
Canopy cover	**5**	**10**	**8**
% Native Species	**7**	**6**	**7**
% Invasive Species	**19**	**0**	**10**

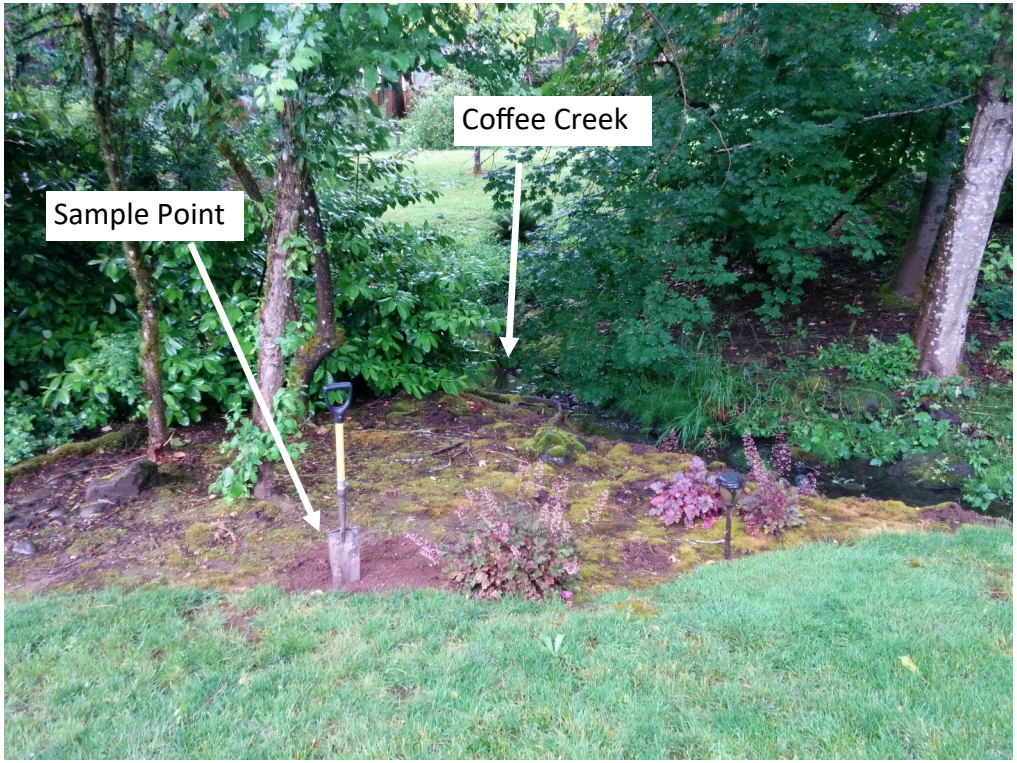


Photo A - Looking northeast at Sample Point (see attached wetland determination data form). Coffee Creek (tributary to the Willamette River) is present but obscured by vegetation.

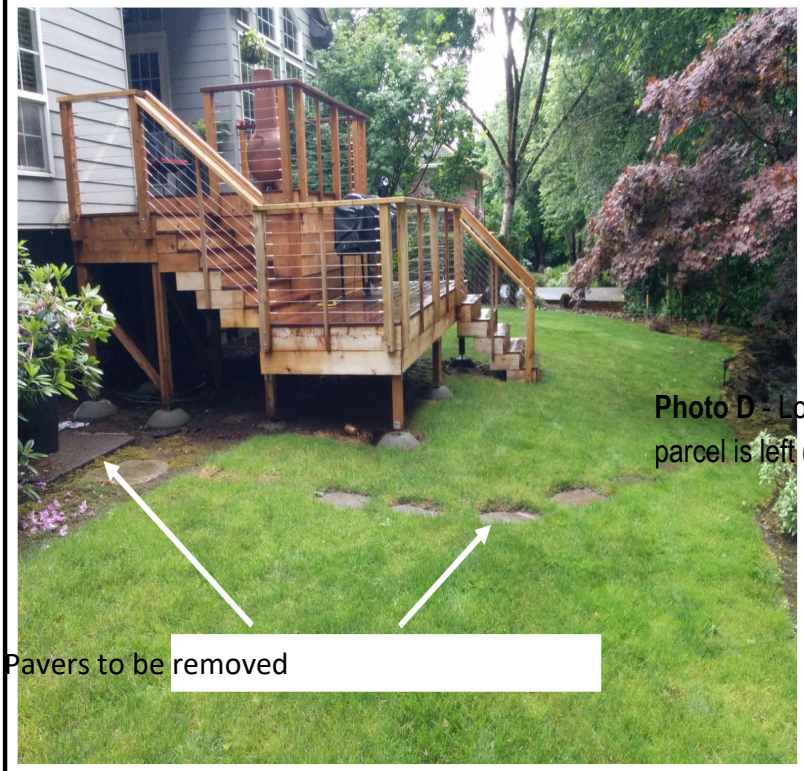
Photo B - Looking southwest at the deck replacement and addition.

6226
6/27/17

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation of the Deck Replacement and Addition at 379 Barker Avenue in Oregon City, Oregon.

Photos taken on June 8, 2017.



and Pavers to be removed

t at the deck replacement and addition.
d and pavers will be removed as part of

Photo D - Looking north at Coffee Creek. The deck project parcel is left (west) of the stream channel.

Photodocumentation of the Deck Replacement and Addition at 379 Barker Avenue in Oregon City, Oregon.

Photos taken on June 8, 2017.

Lawyers Title

Property Profile Report

379 BARKER AVE OREGON CITY, OR 97045

Ownership Information

Owner Name:
KEVIN DALE DIER
Mailing Address:
PO BOX 2409 OREGON CITY, OR 97045

Property Description

County:	Clackamas		
Map / Tax Lot:	32E06BB/03903	Map Grid:	717-B2
Account Num:	01597908	Census:	
Property ID:	01597908	Owner Occ.:	No
Land Use:	101-		
Subdivision:	WM LADDS SUBDIV		

Legal Description:
1993-183 PARTITION PLAT PARCEL 1 288 WM LADDS SUBDIV PT LTS 2&3

Property Characteristics

Property Type:	SINGLE FAMILY	Building SF:	2,926	Pool:	No
House Style:		Living Area SF:	2,926	Deck SF:	
Year Built:	1997	Square Feet:	2,926	Deck Desc:	
Bedrooms:	4	1st Floor SF:		Patio SF:	
Bathrooms:	3.00	2nd Floor SF:		Patio Desc:	
Heat:		3rd Floor SF:		Foundation:	
Cooling:		Attic SF:		Exterior:	
Lot Size:	10,616	Bsmnt SF:		Ext. Finish:	
Acres:	0.24	Fin Bsmt SF:		Interior:	
Garage Type:		Garage SF:		Roof Style:	
Fireplaces:		Bsmnt Type:		Roof Cover:	

Assessment Information

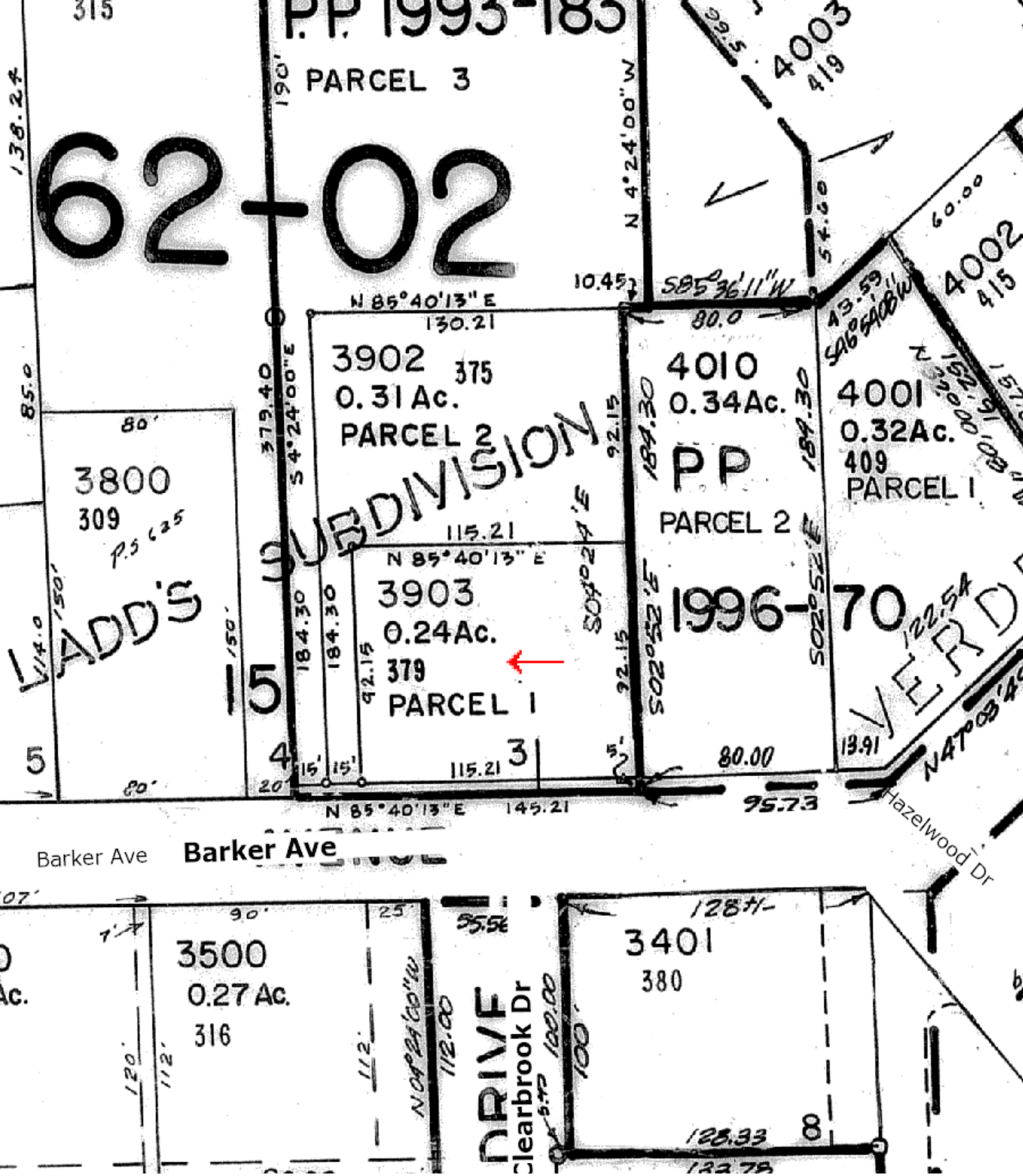
Real Market Value:	$ 455,982	Taxes:	$ 6,718.92
Land Value:	$ 108,922	Imp. Value:	$ 347,060
Total Assessed Value:	$ 371,295	Levy Code:	062002
M-5 Rate:	18.0959	Tax Year:	16-17

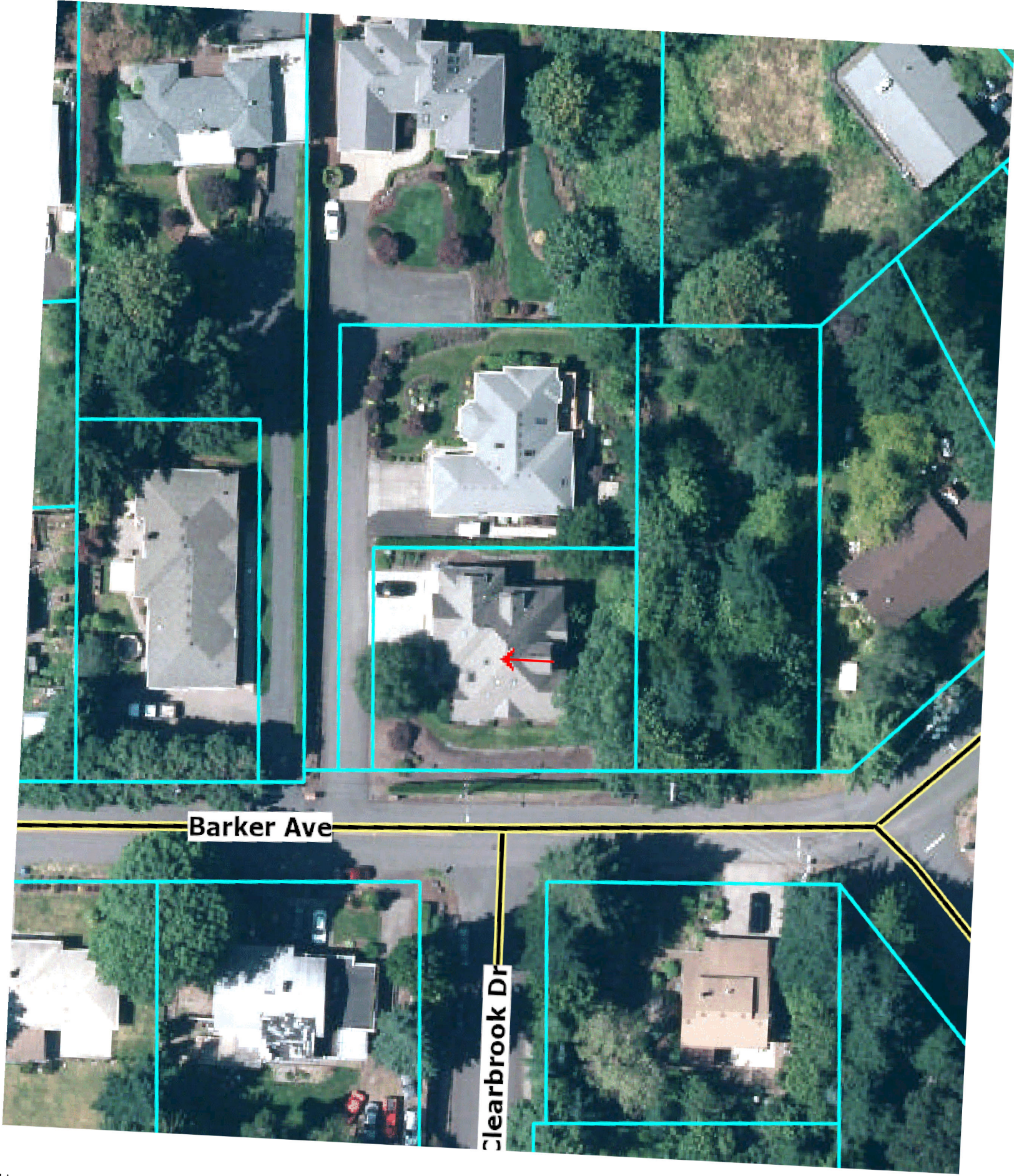
Previous Sale Information

Sale Amount:	$ 280,300	Sale Date:	04/01/1997
Document Num:	1997-030819		

Transaction History

Sale Date	Sale Amount	HPI Sale Amount	Document Type	Reception Num	Book/Page
4/1/1997	$ 280,300	$ 679,400		1997-030819	/





This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

150 Beavercreek Rd
Oregon City, OR 97045
503-655-8671

Property Account Summary

7/27/2017

Account Number	01597908	Property Address	379 BARKER AVE , OREGON CITY, OR 97045

General Information

Alternate Property #	32E06BB03903
Property Description	1993-183 PARTITION PLAT PARCEL 1 288 WM LADDS SUBDIV PT LTS 2&3
Last Sale Price	
Last Sale Date	
Last Sale Excise Number	
Property Category	Land &/or Buildings
Status	Active, Locally Assessed
Tax Code Area	062-002
Remarks	

Tax Rate

Description	Rate
Total Rate	18.0959

Property Characteristics

Neighborhood	13061: Oregon City newer 100, 101
Land Class Category	101: Residential land improved
Building Class Category	15: Single family res, class 5
Year Built	1997
Change property ratio	1XX

Related Properties

No Related Properties Found

Parties

Role	Percent	Name	Address
Taxpayer	100	DIER KEVIN DALE	PO BOX 2409, OREGON CITY, OR 97045
Tax Service Co.	100	CORELOGIC TAX SERVICES	UNKNOWN, MILWAUKIE, OR 00000

Owner	100	DIER KEVIN DALE	PO BOX 2409, OREGON CITY, OR 97045
Mortgage Company	100	PENNYMAC	UNKNOWN, MILWAUKIE, OR 00000

Property Values

Value Type	Tax Year 2016	Tax Year 2015	Tax Year 2014	Tax Year 2013	Tax Year 2012
AVR Total	$371,295	$360,481	$349,982	$339,788	$303,372
Exempt					
TVR Total	$371,295	$360,481	$349,982	$339,788	$303,372
Real Mkt Land	$108,922	$85,294	$76,073	$70,310	$73,192
Real Mkt Bldg	$347,060	$330,700	$304,180	$273,990	$230,180
Real Mkt Total	$455,982	$415,994	$380,253	$344,300	$303,372
M5 Mkt Land	$108,922	$85,294	$76,073	$70,310	$73,192
M5 Mkt Bldg	$347,060	$330,700	$304,180	$273,990	$230,180
M5 SAV					
SAVL (MAV Use Portion)					
MAV (Market Portion)	$371,295	$360,481	$349,982	$339,788	$339,788
Mkt Exception					
AV Exception					

Parents

Parcel No.	Seg/Merge No.	Status	From Date	To Date	Continued	Document Number
No Parents Found						

Children

Parcel No.	Seg/Merge No.	Status	From Date	To Date	Document Number
No Children Found					

Active Exemptions

No Exemptions Found

Events

Effective Date	Entry Date-Time	Type	Remarks
No Events Found			

Tax Balance

No Charges are currently due. If you believe this is incorrect, please contact the Assessor's Office.

Installments Payable/Paid for Tax Year(Enter 4-digit Year, then Click-Here): 2016

Receipts

Date	Receipt No.	Amount Applied	Amount Due	Tendered	Change
11/15/2016 00:00:00	4157414	$6,718.92	$6,718.92	$6,517.35	$0.00
11/13/2015 00:00:00	3956660	$6,548.97	$6,548.97	$6,352.50	$0.00
11/12/2014 00:00:00	3752597	$6,302.01	$6,302.01	$6,112.95	$0.00

11/12/2013 00:00:00	3557021	$5,825.49	$5,825.49	$5,650.73	$0.00
11/07/2012 00:00:00	3310089	$5,156.95	$5,156.95	$5,002.24	$0.00

Sales History

Transfer Date	Receipt Date	Recording Number	Sale Amount	Excise Number	Deed Type	Transfer Type	Grantor (Seller)	Grantee (Buyer)	Other Parcels
04/01/1997		1997-030819	$280,300.00	97-30819					No
08/01/1996		1996-061720	$45,000.00	96-61720					No
04/01/1992		1992-022325	$67,000.00	92-22325					No

Property Details

Living Area Sq Ft	Manf Struct Size	Year Built	Improvement Grade	Stories	Bedrooms	Full Baths	Half Baths
2926	0 X 0	1997	55	1.0	4	3	0

AFTER RECORDING RETURN TO:
Kevin Dale Dier

379 Barker Street
Oregon City, OR 97045
Until a change is requested all tax statements shall be sent to the following address:

Same as above

Escrow No. 4500-32309TB
Order No. 164331

WARRANTY DEED - STATUTORY FORM
(INDIVIDUAL or CORPORATION)

WESTSTAR-ONE COMPANY, an Oregon Corporation

Grantor, conveys and warrants to KEVIN DALE DIER

Grantee, the following described real property free of encumbrances except as specifically set forth herein:

Parcel 1, PARTITION PLAT NO. 1993-183, in the County of Clackamas and State of Oregon.

TOGETHER WITH an easement for fire access and private ingress and egress and utilities as delineated on the partition plat.

This instrument will not allow use of the property described in this instrument in violation of applicable land use laws and regulations. Before signing or accepting this instrument, the person acquiring fee title to the property should check with the appropriate city or county planning department to verify approved uses and to determine any limits on lawsuits against farming or forest practices as defined in ORS 30.930.

ENCUMBRANCES:

1. Rights of the public and of governmental bodies in and to that portion of the premises herein described lying below the high water mark of Coffee Creek.

(Continued)

CHICAGO TITLE INSURANCE CO. C16433

The true consideration for this conveyance is $280,300.00

97-030819

Dated April 23, 1997 ; if a corporate grantor, it has caused its name to be signed by order of its board of directors.

Weststar-One Company

Susan K Driesel
Susan K. Driesel President

STATE OF OREGON, County of Clackamas)ss.
This instrument was acknowledged before me on _____, 19____, by _____.
This instrument was acknowledged before me on April 23, 1997, by Susan K. Dreisal as President of WestStar-One Company, an Oregon corporation

Notary Public for Oregon
My commission expires 8-13-00

OFFICIAL SEAL
LINDA G VAN DYKE
NOTARY PUBLIC-OREGON
COMMISSION NO. 055068
MY COMMISSION EXPIRES AUGUST 13, 2000

Encumbrances, continued

2. Restrictive Covenants regarding consent to local improvements, including the terms and provisions thereof and including among other things a waiver of right of remonstrance.
   Recorded: December 2, 1993
   Recorder's Fee No.: 93 90124

3. Non-Access reservation as shown on the recorded plat,
   Affects: The Southerly 1 foot of said parcel

4. Easements as dedicated or delineated on the recorded plat,
   For: Public Utilities
   Affects: The Northerly and Southerly 10 feet and the Easterly 5 feet of said parcel

5. Easements as dedicated or delineated on the recorded plat.
   For: Conservation and drainage
   Affects: The Easterly portion of said parcel being of variable width

6. Road Maintenance Agreement, including the terms and provisions thereof;
   Recorded: December 14, 1993
   Recorder's Fee No.: 93-94148

   The above document was re-recorded by instrument,
   Recorded: February 3, 1994
   Recorder's Fee No.: 94-09793

7. Covenants, conditions, restrictions and easements, but omitting restrictions, if any, based on race, color, religion, sex, handicap, familial status or national origin, unless and only to the extent that said covenant, (a) is exempt under Chapter 42, Section 3607 of the United States Code or (b) relates to handicap but does not discriminate against handicapped persons, imposed by instrument, including the terms and provisions thereof.
   Recorded: December 14, 1993
   Recorder's Fee No.: 93 94149

   Said instrument also contains maintenance obligation for private access roadway

   Said covenants, conditions and restrictions were amended by instrument.
   Recorded: May 15, 1995
   Recorder's Fee No.: 95-027783

8. Easement Agreement, including the terms and provisions thereof;
   Dated: September 20, 1994
   Recorded: September 21, 1994
   Recorder's Fee No.: 94-074319

STATE OF OREGON 97-030819
CLACKAMAS COUNTY
Received and placed in the public records of Clackamas County
RECEIPT# AND FEE: 53180 $30.00
DATE AND TIME: 04/25/97 09:26 AM
JOHN KAUFFMAN, COUNTY CLERK

2

tyler TECHNOLOGIES

City of Oregon City
Permit Receipt
RECEIPT NUMBER 00036682

Account Number: 019483 **Date:** 7/28/2017

Applicant: KEVIN DALE DIER

Type: check # 494

Permit Number	Fee Description	Amount
NR-17-0010	4332 NROD Fee	979.00
	Total:	$979.00

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

November 20, 2017

DISTRIBUTION OF APPLICATION

- Building Official
- Development Services
- Public Works Operations
- City Engineer
- Public Works Director
- Parks Manager
- Community Services Director
- Police
- Economic Development Manager
- Traffic Engineer
- Natural Resource Committee
- City Manager's Office
- Oregon City Neighborhood Associations
- Clackamas County Transportation
- Clackamas County Planning
- Clackamas Fire District #1
- ODOT – Division Review
- Oregon City School District
- Tri-Met
- Metro
- PGE
- South Fork Water Board
- Hamlet of Beavercreek
- Holcomb Outlook CPO
- Central Point / Leland Road / New Era CPO
- Other – See Email List

NOTICE OF THE APPLICATION MAILED TO

- All Properties within 300 feet

COMMENTS DUE BY:	December 8, 2017
HEARING BODY:	_ _Staff Review; _XX__PC; ___ _HRB; ___CC Hearing Date: January 8, 2018
FILE # & TYPE:	NR 17-10: Natural Resource Overlay District Review
PLANNER:	Diliana Vassileva, Assistant Planner, 503-974-5501, dvassileva@orcity.org
APPLICANT:	Kevin Dier
REQUEST:	The applicant has requested approval of a Natural Resource Overlay District Review application for a deck replacement and addition.
ZONING:	"R-10" Single-Family Dwelling District
LOCATION:	379 Barker Avenue, Oregon City, OR 97045 Clackamas County Map 3-2E-06BB, Tax Lot 3903

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.

- X 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 Wes Rogers Director of Operations

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

From: Dorothy Dahlsrud
To: Diliana Vassileva
Subject: Re: Land Use Application NR 17-10
Date: Tuesday, November 21, 2017 7:31:17 AM
Attachments: image001.jpg

Looks good to me.
I did not visit the site. I will today if I have time.
Thank you

On Nov 20, 2017 11:51 AM, "Diliana Vassileva" <dvassileva@orcity.org> wrote:

> Good morning,
>
> The applicant is seeking approval of an Natural Resource Overlay District (NROD) Review application for a deck replacement and addition within the NROD. The subject site is located at 379 Barker Avenue, Oregon City. Please review the proposed development posted here and provide your comments by December 8, 2017.
>
> COMMENTS DUE BY: December 8, 2017
>
> HEARING BODY: _ _Staff Review; _XX__PC; ___ _HRB; ___CC Hearing Date: January 8, 2018
>
> FILE # & TYPE: NR 17-10: Natural Resource Overlay District Review
>
> PLANNER: Diliana Vassileva, Assistant Planner, 503-974-5501, dvassileva@orcity.org
>
> APPLICANT: Kevin Dier
>
> REQUEST: The applicant has requested approval of a Natural Resource Overlay District Review application for a deck replacement and addition.
>
> ZONING: "R-10" Single-Family Dwelling District
>
> LOCATION: 379 Barker Avenue, Oregon City, OR 97045
>
> Clackamas County Map 3-2E-06BB, Tax Lot 3903
>
> Thank you.
>
> ---
>
> **Diliana Vassileva**
>
> **Assistant Planner**

Planning Division

City of Oregon City
PO Box 3040
221 Molalla Avenue, Suite 200

Oregon City, Oregon 97045
Direct - 503.974.5501

Planning Division - 503.722.3789

Fax 503.722.3880

Website: www.orcity.org | webmaps.orcity.org | Follow us on: Facebook!|Twitter

Think **GREEN** before you print.

Please visit us at 221 Molalla Avenue, Suite 200 between the hours of 8:30am-3:30pm Monday through Friday.

DAVID EVANS
AND ASSOCIATES INC.

December 18, 2017

Diliana Vassileva, Assistant Planner
City of Oregon City, Planning Division
PO Box 3040, 221 Molalla Avenue, Suite 200
Oregon City, OR 97045

SUBJECT: NR 17-10 Deck Replacement/Addition

Dear Diliana,

In response to your request, I have reviewed the applicant's NROD report, prepared by Pacific Habitat Services, Inc. (PHS), dated September 21, 2017.

The applicant is seeking approval of a Natural Resources Overlay District (OCMC Ch. 17.49) application for a deck replacement and addition at 379 Barker Avenue in the R-6 zoning district.

A checkmark on a comment indicates information that DEA verified. A box indicates a potential issue to address with recommendations.

Comments

- ✓ ***17.49.060.B. Compliance with Federal and State Requirements.*** The NROD report and the applicant's submittal state that there are no wetlands on the site, and PHS collected one sample point and included the wetland determination data form as well as the City inventory on Figure 3A. The wetland manuals cited are current.
- ☐ ***17.49.070- Prohibited uses. D. Grading and placement of fill.*** The NROD report states that 10 cubic yards of fill was not exceeded, but there is no way to verify the volume. The report states that no grading occurred on the site, but does not state the source of the fill.
- ✓ ***17. 49.100 General Development Standards, E. and F., setbacks.*** Please note that these are not applicable because the applicant is not requesting a setback reduction, and not because setbacks are not applicable to decks, as stated in the report.
- ☐ ***17. 49.100 General Development Standards, I., floodplain.*** DEA did not verify whether the property is not within the 100-year floodplain The NROD report does not include a floodplain map.
- ✓ ***17.49.110 Width of Vegetated Corridor.*** DEA verified that Coffee Creek is not listed on StreamNet as anadromous-bearing. As the creek also is intermittent, it therefore is categorized as "all other protected water features." PHS calculation of the slope as less than 25% appears to be correct, according to the topography shown on Figures 4 and 5 (approximately 10% slope). PHS correctly interprets Table 17.49.110 that the required vegetated corridor is 50 feet.
- ✓ ***17.49.130 A.1 Existing Development Standards***. Since the previous deck was demolished and the new deck and stairs were constructed prior to receiving a permit, the square footage of the previous deck cannot be verified. However, the total square footage of the new structure is less than 500 square feet, and the encroachment requires an adjustment from standards.
- ✓ ***17.49.180 Mitigation Standards*** DEA verified the PHS calculations: the requirements are for 200 square feet of mitigation area, 1 tree, and 5 shrubs, and the planting plan on Figure 6 ("Mitigation Plan") appears to conform to spacing and size requirements. The tree, shrubs, and rush/fern listed on the plan are on the Oregon City Native Plant List.

- ✓ ***17.49.200 Adjustment from standards.*** The responses are generally adequate, but the existing mature vine maple that cited as a reason for not locating the deck north or south of the selected location is not shown on Figure 4 ("Existing Conditions"). DEA assumes that the "existing woody vegetation" also cited is labeled as the "edge of shrubs" on Figure 4.
- ✓ ***17.49.220 Required Site Plans.*** The applicant included the required elements on the required plans, with the exception of a floodplain map, as mentioned above.
- ☐ ***17.49.250 Verification of NROD boundary.*** It would be helpful if PHS would state that the applicant is requesting a Type II verification, as the proposal does not meet the Type I criteria 17.49.255 B.1. (disturbance) and B.5 (presence of a stream). The report specifically should address the criteria in 17.49.260.
- ☐ ***17.49.265. Corrections to Violations***. In terms of addressing criterion B., improvement in functional value, PHS selects value D. However, value D. includes "…*and* by placing limits on construction, impervious surfaces, and pollutant discharges." (emphasis added) However, no such limits have been placed. DEA suggests instead demonstrating compliance with C., that the new native plantings and removal of concrete will facilitate connections between upland and riparian habitat.

Conclusions and Recommendations

We find that the applicant's NROD report provides an adequate basis upon which to assess compliance with 17.49 and impacts to the NROD area. We recommend:

1. Verifying the fill;
2. Verifying the floodplain;
3. Requesting that the applicant address 17.49.260; and
4. Requesting that the applicant address functional value C instead of D in 17.49.265.

If you have any questions or need further information concerning this review, please contact me at GCooper@deainc.com.

Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

Gigi Cooper
Planner

Enter Copies: List Items: Enter Project Number

City of Oregon City

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

Staff Report

File Number: PC 17-161

Agenda Date: 1/8/2018

Status: Agenda Ready

To: Planning Commission

Agenda #: 4b.

From: Community Development Director Laura Terway

File Type: Planning Item

SUBJECT:
Request to Continue Planning File LE 17-02 to February 12, 2018: Legislative Amendment to Adopt the McLoughlin-Canemah Trail Plan, Amending the Transportation System Plan, Trails Master Plan, and Parks Master Plan

RECOMMENDED ACTION (Motion):
Staff recommends that City Commission continue Planning file LE 17-02 until February 12, 2018.

BACKGROUND:
The proposal would update and amend the Oregon City Transportation System Plan (2013), the Parks Master Plan, and Trails Master Plan by adopting the McLoughlin-Canemah Trail Plan. The plan refines various TSP Project Projects, and Trail Project #L19 linking the McLoughlin Promenade to Canemah Children's Park. A continuance is proposed to allow additional time for review by the Parks and Recreation adviosry Committee and the Transportation Adviosry Committee.

City Commission Goals for 2017/2019 (See Attached Booklet)

1. Cultivate an environment for successful economic development
2. Address critical facility needs
3. Enhance the livability of the community
4. Pursue opportunities to increase transparency and encourage citizen participation
5. Maintain fiscal health and long-term stability

Items from the Adopted City Commission Goals which Require Planning Division Resources

- Willamette Falls Legacy Project
- McLoughlin to Canemah Trail
- Community Development Relocation to Mt. Pleasant Annex
- Beavercreek Road Concept Plan Implementation
- Equitable Housing Project – Remove and Reduce Housing Barriers
- Alternate Mobility Targets
- The Cove (DDA, Phase I, and II)
- Former Landfill
- Public Works Operations Center
- Police and Court Facility
- Parks Maintenance Facility
- Houseless Community Projects
- Community Engagement Plan
- Electronic Records Management System
- Replace Permitting Software
- Tourism Plan
- City-Wide Economic Development Plan
- Waterfront Master Plan

Are there corresponding action items that go with these goals?

Goals Identified by the Planning Commission

- Dedicated Work Session for Input to 2019/2021 City Commission Budget and Goals
- Identify Communication Avenue to City Commission
- Amending Lot Averaging Code Language
- Wetland Delineation in Canemah and other Known Locations
- Improve Stormwater Standards to Avoid Ponding in Basements
- Regulations to Prohibit Clearcutting Trees Prior to Development
- Consider Allowing Food Carts
- City Wide Facilities Plan
- Update the Comprehensive Plan
- One Map System for Zoning (Zoning Identified for Land Outside City)
- Learn more about stormwater standards

At the January 8, 2019 Planning Commission meeting, the list of goals will be refined and prioritized.