

## DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT <b>Ben Gardner</b>	PROJECT NO(S). <b>WAP-22-02</b>	PRE-APPLICATION NO. <b>PA-22-24</b>
NON-REFUNDABLE FEE(S) <b>\$2,850</b>	REFUNDABLE DEPOSIT(S)	TOTAL <b>\$2,850</b>

**Type of Review** (Please check all that apply):

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Annexation (ANX)        | <input type="checkbox"/> Historic Review                                  | <input type="checkbox"/> Subdivision (SUB)  |
| <input type="checkbox"/> Appeal and Review (AP)  | <input type="checkbox"/> Legislative Plan or Change                       | <input type="checkbox"/> Temporary Uses   |
| <input type="checkbox"/> Code Interpretation     | <input type="checkbox"/> Lot Line Adjustment (LLA)                        | <input type="checkbox"/> Time Extension   |
| <input type="checkbox"/> Conditional Use (CUP)   | <input type="checkbox"/> Minor Partition (MIP) (Preliminary Plat or Plan) | <input type="checkbox"/> Variance (VAR)   |
| <input type="checkbox"/> Design Review (DR)      | <input type="checkbox"/> Modification of Approval                         | <input checked="" type="checkbox"/> Water Resource Area Protection/Single Lot (WAP) |
| <input type="checkbox"/> Tree Easement Vacation  | <input type="checkbox"/> Non-Conforming Lots, Uses & Structures           | <input type="checkbox"/> Water Resource Area Protection/Wetland (WAP)               |
| <input type="checkbox"/> Final Plat or Plan (FP) | <input type="checkbox"/> Planned Unit Development (PUD)                   | <input type="checkbox"/> Willamette & Tualatin River Greenway (WRG)                 |
| <input type="checkbox"/> Flood Management Area   | <input type="checkbox"/> Street Vacation                                  | <input type="checkbox"/> Zone Change  |



Pre-Application, Home Occupation, Sidewalk Use, Addressing, and Sign applications require different forms, available on the City website.

**Site Location/Address:**

19679 Wildwood dr.  
West Linn OR 97068

**Assessor's Map No.:**

Tax Lot(s): 2S 1E 23AC tax lot 4600

Total Land Area: 0.67 acre

**Brief Description of Proposal:**

Water Resouce Area Permit request - attached Naturalist Report

**Applicant Name:** Alex Kalmanson  
(please print)  
Address: 19679 Wildwood dr.  
West Linn, OR 97068  
City State Zip:

Phone: 510 912 8575  
Email: akalmans12@gmail.com

**Owner Name** (required): Same as Applicant  
(please print)  
Address:  
City State Zip:

Phone:  
Email:

**Consultant Name:** Kim Cartwright  
(please print)  
Address: Wetland Ecologist & GIS Analyst  
Schott & Associates Inc  
City State Zip:

Phone: (503) 678-6028  
Email: kim@schottandassociates.com

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A decision may be reversed on appeal. The permit approval will not be effective until the appeal period has expired.
4. Submit this form and supporting documents through the [Submit a Land Use Application](https://westlinnoregon.gov/planning/submit-land-use-application) web page:  
<https://westlinnoregon.gov/planning/submit-land-use-application>

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Applicant's signature

Date

Owner's signature (required)

Date

10/6/22

10/6/22



**SCHOTT & ASSOCIATES**  
Ecologists & Wetlands Specialists

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21018 NE Hwy 99E • P.O. Box 589 • Aurora, OR 97002 • (503) 678-6007 • FAX: (503) 678-6011

**NATURAL RESOURCE ASSESSMENT**

**19679 Wildwood Drive**

T2S, R1E, Section 23AC, Tax Lot 4600  
West Linn, Oregon

**Prepared for**

Alex Kalmanson  
19679 Wildwood Drive  
West Linn, OR 97068

**Prepared by**

Kim Cartwright  
of  
Schott & Associates, Inc.

**Date:**

September 2022

Project #: 3011

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## **Introduction**

Schott & Associates (S&A) was contracted to conduct wetland delineation and natural resource assessment for the project site at 19679 Wildwood Drive, West Linn, Clackamas County, Oregon (T2S, R1E, Section 23AC, Tax Lot 4600; Figure 1). This property contains a Water Resource Area (WRA) that is subject to regulation under Chapter 32 of the West Linn Community Development Code (CDC). The purpose of this report is to document existing and proposed conditions with regards to regulated natural resources and meet City approval criteria for the proposed project. The applicant participated in a pre-application meeting with the City on August 18, 2022 (File PA-22-24)

All work on this project has been completed by a qualified natural resource specialist. Onsite assessment and reporting were conducted by Kim Cartwright, a wetland ecologist with over 10 years of experience in conducting natural resource assessments, including wetland and other water delineations, habitat and functional assessments, natural resource permitting, and mitigation planning.

## **Site Description and Land Use**

The project site consisted of the 0.67-acre parcel. Residential development, including a garage and circular driveway, was present in the northwestern portion of the property, accessed from Wildwood Drive to the north. A drainageway was present along the eastern site boundary, draining north into a storm drain that was recently improved by the City (the applicant's property was used for construction access). The drainage was a small, headwater tributary to the Willamette River. It was moderate to high-gradient and featured a narrow, relatively level terrace. The remainder of the property was a steep (gradient +25%) northeast-facing hillside. The hillside was vegetated by big-leaf maple (*Acer macrophyllum*) forest with an understory dominated by hazelnut (*Corylus cornuta*), western swordfern (*Polystichum munitum*), and trailing blackberry (*Rubus ursinus*). Many of the trees were damaged in the February 2021 ice storm, according to the landowner. The drainage terrace was vegetated primarily by Himalayan blackberry (*Rubus armeniacus*) along with a few trees; the blackberry had been recently cleared to facilitate access for this assessment. In addition, ground disturbance on the terrace was evident due to heavy machinery accessing the drainage during construction of the storm drain.

Surrounding land use was moderate-density, single-family residential within a wooded setting. The property was zoned for single-family residential (West Linn zoning designation R-10).

## **Methods**

Assessment consisted of a site visit and review of the following existing data and information:

- Clackamas County tax map
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) and West Linn 2005 Local Wetland Inventory (LWI)
- West Linn Water Resource Area (WRA) Map (Appendix A)
- Oregon Department of Forestry (ODF) and Metro stream mapping

- U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) gridded Soil Survey Geographic (gSSURGO) database for Clackamas County
- Aerial photographs from the time period between 1994 and 2021, obtained from Google Earth
- Contours derived from the Oregon Department of Geology and Mineral Industries (DOGAMI, 2014)
- Pre-application meeting conducted with City of West Linn; August 18, 2022 (PA-22-24)

Schott & Associates visited the site on September 8, 2022. Delineation data were collected according to methods described in the *1987 Manual* and the *Regional Supplement to the Corps of Engineers Delineation Manual: Western Mountains, Valleys, and Coast (Version 2.0)*. One sample plot was established at the lowest-lying portion of the site, adjacent to the stream, to document absence or presence of wetland. Data on vegetation, hydrology, and soils was collected at the sample plot, recorded in the field, and later transferred to data forms (Appendix C). Plant indicator status was determined using the 2020 National Wetland Plant List (Corps 2020). Onsite streams, where present, were delineated via the ordinary high-water mark (OHWM) as indicated by top of bank, wrack or scour lines, or change in vegetation communities. Where defined bed and bank weren't present, direction of water flow was mapped by estimated centerline based on topography, drainage patterns, rill erosion, sediment deposition, or other indicator of occasional surface flow.

Any identified wetlands and waters are classified according to the USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979) and the *Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Sites* (DSL 2001).

The Stream Duration Assessment Method (SDAM) was applied to document flow period of the stream. The SDAM was scientifically developed for the Pacific Northwest and provides a rapid assessment framework to distinguish between ephemeral, intermittent, and perennial stream flow at the reach scale. The SDAM is commonly accepted by regulatory agencies including DSL to establish flow period of streams.

Vegetation communities within the WRA were assessed in the field. Vegetation was identified by species and percent cover. The sample plot included in Appendix C represents vegetation cover in the WRA.

Ground level photographs were taken to document site conditions (Appendix B).

## **Results**

Saum silt loam, 30-60% slopes, was mapped within the site according to the NRCS soil survey. This soil series is well-drained, non-hydric, and not subject to flooding or ponding. The NWI, LWI, the West Linn WRA Map, and ODF stream mapping depicted the drainage along the eastern property boundary. The NWI classified the feature as a seasonally flooded, intermittent riverine streambed (R4SBC) aquatic habitat, the LWI classified the feature as a “ditch”, and ODF classified the feature as small, seasonal, and of unknown fish-bearing status. The drainage

is identified by the West Linn WRA Map as Robin Creek with a significant riparian corridor extending up to 200 feet. It should be noted that these sources are largely remotely sensed and are not verified through ground-truthing in most cases.

No wetlands were identified within the project site. The property was generally steeply sloped, featured non-hydric soils, and typically would not support the formation of wetland. A sample plot established at the lowest-lying portion of the site in the stream terrace yielded brown (10 YR 3/3) silt loam soils with no redoximorphic features. Vegetation was dominated by facultative turf grasses with a few scattered big leaf maple (FACU) trees. No wetland hydrological indicators were observed.

The onsite water resource (Robin Creek as mapped by the City) is described below.

### **Water Resource Area (WRA)**

#### *Protected Water Features*

**Robin Creek:** Robin Creek drained north along the eastern property boundary and into a grated storm drain at the northeastern property corner that was recently improved by the City. The drainage bed and bank were only intermittently defined, though evidence of surface flow (drainage patterns, rill erosion, sediment deposition) was observed between areas of defined channel as shown in Figure 2 (represented by a centerline). Where channel was present, it was approximately 3-5 feet wide and less than one foot deep, except the lowest segment of the stream in the area of the storm drain, which had been artificially deepened and widened during the construction of the storm drain. The drainage substrate was generally rocky (gravel, cobbles, and small boulders) with some areas of silt and no soil sample could be established within it. The channeled portion appeared to have formed from high-velocity stormwater runoff from steep slopes during heavy precipitation events which eroded softer substrates around trees and other vegetation. The drainage was partially vegetated with western swordfern (FACU), turfgrasses (FAC), trailing blackberry (FACU), Himalayan blackberry (FAC), and a few bigleaf maple trees. The drainage reach upslope of the property was densely vegetated by Himalayan blackberry and trailing blackberry and no defined channel or evidence of surface flow could be observed. Based on the SDAM (Appendix D), the drainage reach within the subject site met ephemeral criteria, that is, it only flows in direct response to precipitation events. Drainage gradient was greater than 10.5%, no aquatic macroinvertebrates were observed, no wetland plants were present in or near the drainage, and no distinctive riparian corridor vegetation community was present.

#### *Riparian Corridor/Buffer*

According to Table 32-2 of the CDC, the required width of the Water Resource Area for an ephemeral stream extends 15 feet from the stream centerline, provided a Construction Management Plan is prepared that meets 32.050(G)(1). The applicant will need to provide a Construction Management Plan to meet City requirements for a complete application.

The WRA consisted largely of mown turfgrasses, recently cleared Himalayan blackberry, and sparse cover of western swordfern and bigleaf maple trees. Some ground disturbance associated with the movement of heavy vehicles and equipment during storm drain construction was observed in the northern portion; these areas were not replanted following construction. Bare

ground areas were also present in the WRA which contribute to erosion and sedimentation into streams. WRA function was regarded as moderately low due to a lack of vegetation cover, prevalence of non-native or invasive species, lack of in-channel wood, and steep slopes just above the WRA, but with shade and forest canopy within 100 feet of the water resource. The drainage effectively serves more as a stormwater ditch, collecting and routing runoff quickly downstream, than a naturally functioning stream with in-stream and riparian habitat that can provide important ecosystem services.

## **Proposed Project**

The applicant proposes a minor partition of the lot and construction of a new residential development and driveway in the northern portion of the tax lot. The proposed construction will be adjacent to the existing home with an approximate footprint of 4,000 sq. ft. The home has not been designed yet, but a conceptual sketch is shown on Figure 2. This sketch is provided for illustrative purposes only and has not been designed to meet City zoning or building ordinance.

The riparian corridor accorded to ephemeral streams is 15 feet from the stream centerline according to Table 32-2 of the CDC. The applicant requests approval of the 15-foot WRA under the Alternative Review Process per Section 32.080 based on the flow-period of the stream which has been established as ephemeral according to assessment by a natural resource professional. No impacts to the 15-foot WRA are proposed by this project. The applicant proposes voluntary enhancement of the WRA on the western side of the stream (2,439 sq. ft.) to improve functions and serve as a vegetated buffer between the proposed development and the stream. Enhancement would consist of removing invasive species and planting native trees, shrubs, and groundcover.

## **Approval Criteria**

### **32.080 Approval Criteria (Alternate Review Process)**

*Applications reviewed under the alternate review process shall meet the following approval criteria:*

*A. The proposed WRA shall be, at minimum, qualitatively equal, in terms of maintaining the level of functions allowed by the WRA standards of CDC 32.060(D).*

As described in this report, the existing WRA is moderately low functioning, serving more to route stormwater than to provide habitat or protect downstream functions. The applicant proposes to voluntarily enhance the 15-foot WRA along the west side of the stream (2,439 sq. ft.) with a diverse mix of native trees, shrubs, and groundcover species (Figure 2 and Table 2). Planting the WRA will improve hydrological, water quality, and habitat functions including stream flow moderation, sediment and pollution control, and providing organic material sources and wildlife habitat. Enhancing the WRA will also provide protection of the drainage from the proposed development. The proposed WRA shall be, at minimum, qualitatively equal in terms of maintaining the level of functions allowed by the WRA standards of CDC 32.060(D) and is anticipated to be superior.

*B. If a WRA is already significantly degraded (e.g., native forest and ground cover have been removed or the site dominated by invasive plants, debris, or development), the approval authority may allow a reduced WRA in exchange for mitigation, if:*

1. *The proposed reduction in WRA width, coupled with the proposed mitigation, would result in better performance of functions than the standard WRA without such mitigation. The approval authority shall make this determination based on the applicant's proposed mitigation plan and a comparative analysis of ecological functions under existing and enhanced conditions (see Table 32-4).*

As described in this report, the existing WRA is degraded, dominated by non-native and invasive species, including turfgrasses and Himalayan blackberry, with areas of bare ground. Stormwater runoff from steep slopes and development above is unmitigated. The onsite water resource was assumed intermittent or perennial according to the City WRA map, but onsite assessment by a natural resource professional has found that the stream is most likely ephemeral in flow-period. The proposed WRA will extend 15 feet from the stream centerline per Table 32-2. The applicant will provide a Construction Management Plan that meets 32.050(G)(1). The applicant proposes voluntary enhancement of the WRA along the western side of the stream (2,439 sq. ft.) between the stream and the proposed development. Enhancement will consist of removal of invasive species and replacement of native trees, shrubs, and groundcover. The proposed WRA will result in higher functions than the larger (assumed) WRA without enhancement. Table 1 below presents existing and enhanced WRA ecological functions per Table 32-4.

Table 1. Ecological Functions Comparison per Table 32-4

<b>Ecological Functions</b>	<b>WRA existing conditions</b>	<b>WRA enhanced conditions</b>
Stream flow moderation and/or water storage	Little riparian vegetation is present to slow velocity of stormwater. Together with steep slopes above, stormwater is quickly routed into stream.	Planting of native woody vegetation and groundcover will slow stormwater runoff, moderating stream flow and subsequent erosion.
Sediment or pollution control	Little riparian vegetation is present to retain sediment or pollution. Bare ground areas are present.	Increased vegetation will increase the WRA's capacity and opportunity to filter nutrients and retain sediments.
Bank stabilization	Banks deepened for storm drain construction are very steep and may erode further over time.	Increased vegetation cover may help bank stabilization in this area.
Large wood recruitment for a fish bearing section of stream	Not a fish bearing stream. LWD from onsite could not carry downstream due to presence of a grated storm drain	No change.
Organic material sources	Little riparian vegetation cover with bare ground areas.	Planting diverse native vegetation will increase organic material sources throughout the WRA.



Shade (water temperature moderation) and microclimate	Water resource is shaded by trees within 100 feet.	Additional tree and shrub planting will provide additional shade sources adjacent to the stream.
Stream flow that sustains in-stream and adjacent habitats	Ephemeral flow	Ephemeral flow will be maintained. No hydrological impacts anticipated.
Other terrestrial habitat	Forested areas within 100-300 feet of the water resource are not contiguous. Areas immediately adjacent have little vegetation cover.	Enhancement of the WRA will augment existing forested natural area within 100-300 feet of the water resource.

2. *The mitigation project shall include all of the following components as applicable. It may also include other forms of enhancement (mitigation) deemed appropriate by the approval authority.*

- a. *Removal of invasive vegetation.*
- b. *Planting native, non-invasive plants (at minimum, consistent with CDC 32.100) that provide improved filtration of sediment, excess nutrients, and pollutants. The amount of enhancement (mitigation) shall meet or exceed the standards of CDC 32.090(C).*
- c. *Providing permanent improvements to the site hydrology that would improve water resource functions.*
- d. *Substantial improvements to the aquatic and/or terrestrial habitat of the WRA.*

No impacts are proposed to the 15-foot WRA and no mitigation is required. However, the applicant proposes voluntary enhancement of the WRA along the west side of the stream. The enhancement plan shall consist of removal of invasive species and planting of a diverse assemblage of native trees, shrubs, and groundcover species to improve hydrological and water quality functions including slowing runoff and filtration of sediment, excess nutrients, and pollutants. Proposed enhancement will substantially improve adjacent terrestrial habitat of the WRA onsite by increasing cover, nesting or burrowing sites and food availability and type. Proposed enhancement area is 2,439 sq. ft. and no impact to WRA is proposed which exceeds the standards of CDC 32.090(C).

*C. Identify and discuss site design and methods of development as they relate to WRA functions.*

Site design utilized the only developable area onsite that avoided steep, hazardous slopes and avoided impacts to the 15-foot WRA. Access to the proposed home would be from the existing driveway to avoid the WRA. The voluntary enhancement planting of the WRA on the west side of the stream will protect the WRA from the development as well as improve hydrological, water quality, and wildlife habitat functions. The existing WRA is in degraded with high cover of non-native species, little woody cover, and areas of bare ground.

*D. Address the approval criteria of CDC 32.060, with the exception of CDC 32.060(D).*

Applicable approval criteria addressed below.

*No application for development on property containing a WRA shall be approved unless the approval authority finds that the proposed development is consistent with the following approval criteria, or can satisfy the criteria by conditions of approval:*

- A. *WRA protection/minimizing impacts.*
  - 1. *Development shall be conducted in a manner that will avoid or, if avoidance is not possible, minimize adverse impact on WRAs.*
  - 2. *Mitigation and re-vegetation of disturbed WRAs shall be completed per CDC 32.090 and 32.100 respectively.*

Proposed development avoids impacts to the 15-foot WRA applicable to ephemeral streams. Applicant will provide a Construction Management Plan to City standards. The applicant requests approval of the 15-foot WRA pursuant to the Alternative Review Process provisions of Section 32.080 as the City WRA map shows a WRA that extends up to 200 feet in this location. While no impacts are proposed and mitigation should not be required, the applicant proposes voluntary enhancement of the WRA between the stream and proposed project. The enhancement plan meets the standards of CDC 32.090.

- B. *Storm water and storm water facilities.*
  - 1. *Proposed developments shall be designed to maintain the existing WRAs and utilize them as the primary method of storm water conveyance through the project site unless:*
    - a. *The surface water management plan calls for alternate configurations (culverts, piping, etc.); or*
    - b. *Under CDC 32.070, the applicant demonstrates that the relocation of the water resource will not adversely impact the function of the WRA including, but not limited to, circumstances where the WRA is poorly defined or not clearly channelized. Re-vegetation, enhancement and/or mitigation of the re-aligned water resource shall be required as applicable.*
  - 2. *Public and private storm water detention, storm water treatment facilities and storm water outfall or energy dissipaters (e.g., rip rap) may encroach into the WRA if:*
    - a. *Accepted engineering practice requires it;*
    - b. *Encroachment on significant trees shall be avoided when possible, and any tree loss shall be consistent with the City's Tree Technical Manual and mitigated per CDC 32.090;*
    - c. *There shall be no direct outfall into the water resource, and any resulting outfall shall not have an erosive effect on the WRA or diminish the stability of slopes; and*
    - d. *There are no reasonable alternatives available.**A geotechnical report may be required to make the determination regarding slope stability.*

3. *Roadside storm water conveyance swales and ditches may be extended within rights-of-way located in a WRA. When possible, they shall be located along the side of the road furthest from the water resource. If the conveyance facility must be located along the side of the road closest to the water resource, it shall be located as close to the road/sidewalk as possible and include habitat friendly design features (treatment train, rain gardens, etc.).*
4. *Storm water detention and/or treatment facilities in the WRA shall be designed without permanent perimeter fencing and shall be landscaped with native vegetation.*
5. *Access to public storm water detention and/or treatment facilities shall be provided for maintenance purposes. Maintenance driveways shall be constructed to minimum width and use water permeable paving materials. Significant trees, including roots, shall not be disturbed to the degree possible. The encroachment and any tree loss shall be mitigated per CDC [32.090](#). There shall also be no adverse impacts upon the hydrologic conditions of the site.*

A stormwater management plan will be developed to meet City requirements.

- D. WRA width. Except for the exemptions in CDC [32.040](#), applications that are using the alternate review process of CDC [32.070](#), or as authorized by the approval authority consistent with the provisions of this chapter, all development is prohibited in the WRA as established in Table 32-2 below:*

No impacts are proposed to the 15-foot WRA applicable to ephemeral streams. Applicant will provide a Construction Management Plan to City standards.

*F. Roads, driveways and utilities.*

1. *New roads, driveways, or utilities shall avoid WRAs unless the applicant demonstrates that no other practical alternative exists. In that case, road design and construction techniques shall minimize impacts and disturbance to the WRA by the following methods:*
  - a. *New roads and utilities crossing riparian habitat areas or streams shall be aligned as close to perpendicular to the channel as possible.*
  - b. *Roads and driveways traversing WRAs shall be of the minimum width possible to comply with applicable road standards and protect public safety. The footprint of grading and site clearing to accommodate the road shall be minimized.*
  - c. *Road and utility crossings shall avoid, where possible:*
    - 1) *Salmonid spawning or rearing areas;*
    - 2) *Stands of mature conifer trees in riparian areas;*
    - 3) *Highly erodible soils;*
    - 4) *Landslide prone areas;*
    - 5) *Damage to, and fragmentation of, habitat; and*
    - 6) *Wetlands identified on the WRA Map.*

No roads, driveways or utilities are proposed within the 15-foot WRA. Driveway access for the proposed home will be via the existing driveway. No roadway will extend through the proposed WRA and no crossing of fish bearing stream or riparian corridors is proposed.

2. *Crossing of fish bearing streams and riparian corridors shall use bridges or arch-bottomless culverts or the equivalent that provides comparable fish protection, to allow passage of wildlife and fish and to retain the natural stream bed.*

No fish bearing streams are present onsite and no crossings are proposed. This criterion is not applicable.

3. *New utilities spanning fish bearing stream sections, riparian corridors, and wetlands shall be located on existing roads/bridges, elevated walkways, conduit, or other existing structures or installed underground via tunneling or boring at a depth that avoids tree roots and does not alter the hydrology sustaining the water resource, unless the applicant demonstrates that it is not physically possible or it is cost prohibitive. Bore pits associated with the crossings shall be restored upon project completion. Dry, intermittent streams may be crossed with open cuts during a time period approved by the City and any agency with jurisdiction.*

No new utilities shall span the WRA.

4. *No fill or excavation is allowed within the ordinary high water mark of a water resource, unless all necessary permits are obtained from the City, U.S. Army Corps of Engineers and Oregon Department of State Lands (DSL).*

No fill or excavation is proposed within the ordinary high water mark

5. *Crossings of fish bearing streams shall be aligned, whenever possible, to serve multiple properties and be designed to accommodate conduit for utility lines. The applicant shall, to the extent legally permissible, work with the City to provide for a street layout and crossing location that will minimize the need for additional stream crossings in the future to serve surrounding properties.*

No fish bearing streams are present onsite and no crossings are proposed.

### **Enhancement Plan**

*A. A mitigation plan shall only be required if development is proposed within a WRA (including development of a PDA). (Exempted activities of CDC 32.040 do not require mitigation unless specifically stated. Temporarily disturbed areas, including TDAs associated with exempted activities, do not require mitigation, just grade and soil restoration and re-vegetation.) The mitigation plan shall satisfy all applicable provisions of CDC 32.100, Re-Vegetation Plan Requirements.*

The applicant is not proposing any impacts to the 15-foot WRA applied to ephemeral streams and mitigation should not be required provided the City approves the request to reclassify the flow-period of the onsite water resource to ephemeral. However, the applicant is proposing voluntary enhancement of 2,439 sq. ft. of WRA along the western bank of the stream in order to protect the stream from proposed development and improve WRA functions. The enhancement plan will meet City mitigation standards.

*B. Mitigation shall take place in the following locations, according to the following priorities (subsections (B)(1) through (4) of this section):*

*1. On-site mitigation by restoring, creating, or enhancing WRAs.*

Enhancement is proposed onsite.

*C. Amount of mitigation.*

*1. The amount of mitigation shall be based on the square footage of the permanent disturbance area by the application. For every one square foot of non-PDA disturbed area, on-site mitigation shall require one square foot of WRA to be created, enhanced, or restored.*

*2. For every one square foot of PDA that is disturbed, on-site mitigation shall require one half a square foot of WRA vegetation to be created, enhanced, or restored.*

No impacts are proposed to the 15-foot WRA and no mitigation is required. The applicant proposes voluntary enhancement of 2,439 sq. ft. of WRA between the proposed development and stream to protect the WRA and downstream functions.

*E. A mitigation plan shall contain the following information:*

*1. A list of all responsible parties including, but not limited to, the owner, applicant, contractor, or other persons responsible for work on the development site.*

The applicant and owner are:

Alex Kalmanson  
19679 Wildwood Drive  
West Linn, OR 97068

The applicant will provide contractor/designer and other responsible party contact information as it becomes available.

*2. A map showing where the specific adverse impacts will occur and where the mitigation activities will occur.*

Figure 2 illustrates the general concept of the development and the proposed enhancement planting area.

*3. A re-vegetation plan for the area(s) to be mitigated that meets the standards of CDC 32.100.*

See the response to CDC 32.100 below.

4. *An implementation schedule, including timeline for construction, mitigation, mitigation maintenance, monitoring, and reporting. All in-stream work in fish bearing streams shall be done in accordance with the Oregon Department of Fish and Wildlife.*

Enhancement shall occur after all approvals are met and in accordance with planting requirements outlined in 32.100. As per City of West Linn WRA protection requirements, 80% success is required for replanted areas. The enhancement planting site will be monitored and maintained for three years. If, after each year monitoring period, 80% survival has not been met, dead plants will be replaced up to the 80% success required. Monitoring reports shall be provided to document these activities. No work will be conducted in fish bearing streams and the in-stream work window is not applicable.

5. *Assurances shall be established to rectify any mitigation actions that are not successful within the first three years. This may include bonding or other surety.(Ord. 1623 § 1, 2014)*

The applicant can provide any necessary assurance based on coordination with City staff. We would propose that any bonding or surety be deferred based on the results of the ongoing monitoring, maintenance, and reporting requirements.

### **32.100 RE-VEGETATION PLAN REQUIREMENTS**

The enhancement planting plan will meet the mitigation requirements of CDC 32.090 and vegetative enhancement of CDC 32.080 including the following standards.

1. *All trees, shrubs and ground cover to be planted must be native plants selected from the Portland Plant List.*
2. *Plant size. Replacement trees must be at least one-half inch in caliper, measured at six inches above the ground level for field grown trees or above the soil line for container grown trees. Shrubs must be in at least a one-gallon container or the equivalent in ball and burlap and must be at least 12 inches in height.*
3. *Plant coverage.*
  - a. *Native trees and shrubs are required to be planted at a rate of five trees and 25 shrubs per every 500 square feet of disturbance area. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.*
  - b. *Trees shall be planted between eight and 12 feet on center and shrubs shall be planted between four and five feet on center, or clustered in single species groups of no more than four plants, with each cluster planted between eight and 10 feet on center. When planting near existing trees, the dripline of the existing tree shall be the starting point for plant spacing measurements.*
4. *Plant diversity. Shrubs must consist of at least two different species. If 10 trees or more are planted, then no more than 50 percent of the trees may be of the same genus*
5. *Invasive vegetation. Invasive non-native or noxious vegetation must be removed within the mitigation area prior to planting.*

6. *Tree and shrub survival. A minimum survival rate of 80 percent of the trees and shrubs planted is expected by the third anniversary of the date that the mitigation planting is completed.*
7. *Monitoring and reporting. Monitoring of the mitigation site is the ongoing responsibility of the property owner. Plants that die must be replaced in kind.*
8. *To enhance survival of tree replacement and plantings, the following practices are required:*
  - a. *Mulching. Mulch new plantings a minimum of three inches in depth and 18 inches in diameter to retain moisture and discourage weed growth.*
  - b. *Irrigation. Water new plantings one inch per week between June 15th to October 15th, for the three years following planting.*
  - c. *Weed control. Remove, or control, non-native or noxious vegetation throughout maintenance period.*
  - d. *Planting season. Plant bare root trees between December 1st and February 28th, and potted plants between October 15th and April 30th.*
  - e. *Wildlife protection. Use plant sleeves or fencing to protect trees and shrubs against wildlife browsing and resulting damage to plants.*

**WRA Enhancement Plan**

This WRA enhancement plan has been designed to meet the requirements of 32.100(A)1-8 as outlined above and described below. The applicant proposes enhancement of the 15-foot WRA along the western side of the stream, totaling 2,439 sq. ft. The plan is expected to improve functions of the WRA by removing invasive species and planting a diverse assemblage of native trees and shrubs along the entire length of onsite stream. The functions expected to be enhanced include hydrological functions (slowing velocity of stormwater runoff), water quality functions (retention of sediment and nutrients), organic material recruitment, and riparian wildlife habitat quality.

**Planting Plan**

The planting plan was developed according to 32.100 Revegetation requirements (Table 2). All plants were selected from the Portland Plant List and are adapted to upland/riparian conditions. Proposed quantities and sizing are according to the requirements. All bare ground within the enhancement planting area will be seeded with a native shade-adapted upland grass mix as shown below. Planting plan is subject to approval by the City.

Table 2. Planting Palette for WRA Enhancement Area (2,439 sq.ft..)

Species	Type	Minimum Size	Spacing	Quantity
Bigleaf maple <i>Populus balsamifera</i>	Tree	0.5” diam or 1 gal.	12’OC	8
Red alder <i>Alnus rubra</i>	Tree	0.5” diam or 1 gal.	12’OC	9
Swamp rose <i>Rosa pisocarpa</i>	Shrub	1 gal.	4-5’OC	26
Red elderberry <i>Sambucus racemosa</i>	Shrub	1 gal.	4-5’OC	26

Red flowering currant <i>Ribes sanguineum</i>	Shrub	1 gal.	4-5' OC	26
Western swordfern <i>Polystichum munitum</i>	Ground cover	1 gal.	Clusters 10' OC	26
*Protime 460 or equivalent	Ground cover	1 lb/1,000 sq. ft.		2.4 lbs

\*Seed mix includes California brome (*Bromus carinatus*), blue wildrye (*Elymus glaucus*), California Oatgrass (*Danthonia californica*), Roemer's Fescue (*Festuca roemerii*), Prairie Junegrass (*Koeleria macrantha*)

### Schedule and Maintenance Requirements

Bare root trees shall be planted between December 1st and February 28th, and potted plants shall be planted between October 15th and April 30th.

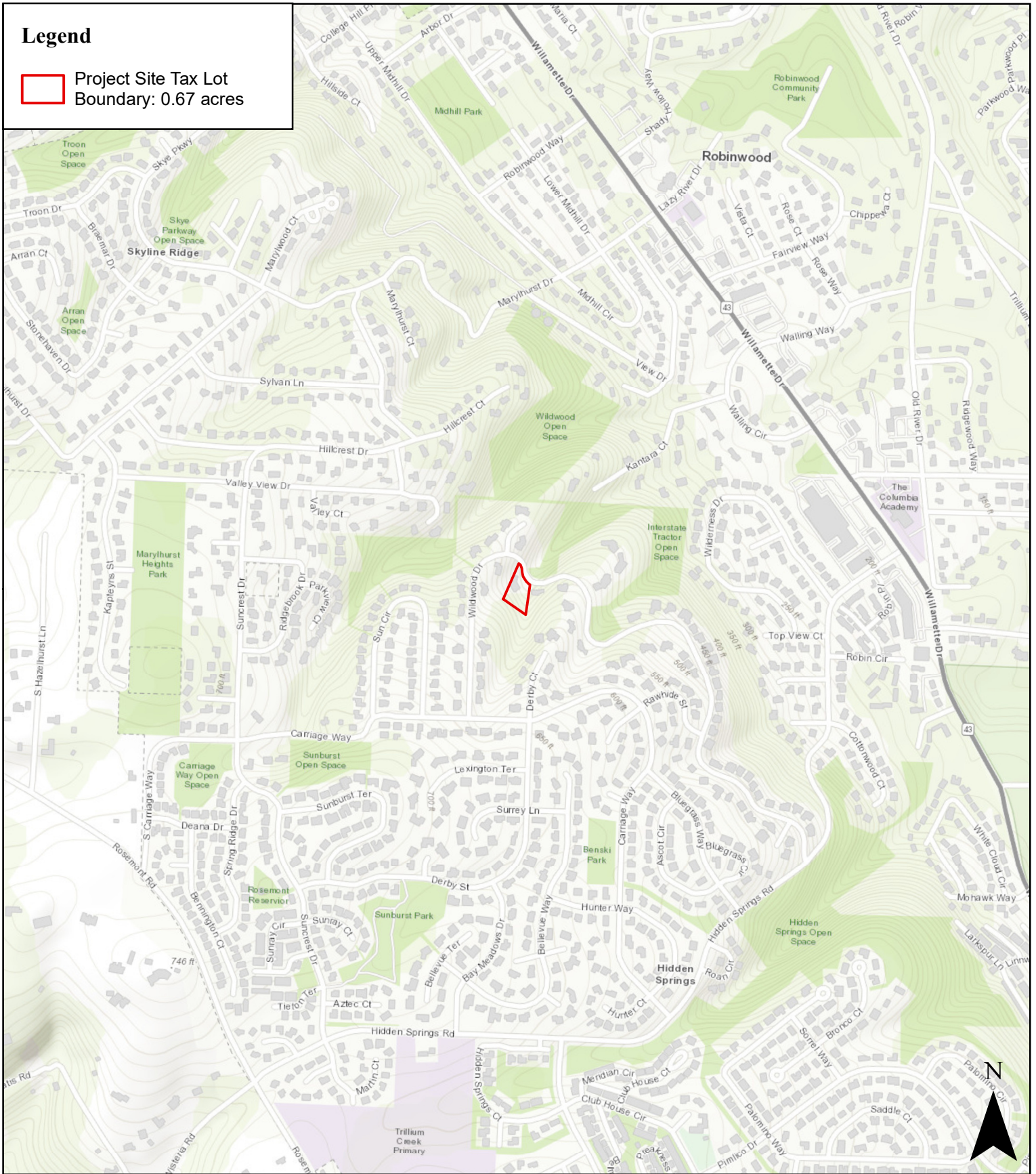
Monitoring of the mitigation site is the ongoing responsibility of the property owner. Plants that die must be replaced in kind. In accordance with City requirements a minimum survival rate of 80 percent of the trees and shrubs planted is expected by the third anniversary of the date that the mitigation planting is completed.

To enhance survival of tree replacement and plantings, in accordance with Section 32.100 the following practices are required:

- Mulch new plantings a minimum of three inches in depth and 18 inches in diameter to retain moisture and discourage weed growth.
- Irrigation for new plantings shall be provided in the amount of one inch per week between June 15th to October 15th, for the three years following planting.
- Non-native or noxious vegetation shall be removed or controlled throughout maintenance period.
- Use plant sleeves or fencing to protect trees and shrubs against wildlife browsing and resulting damage to plants.



**FIGURE 1: LOCATION MAP**

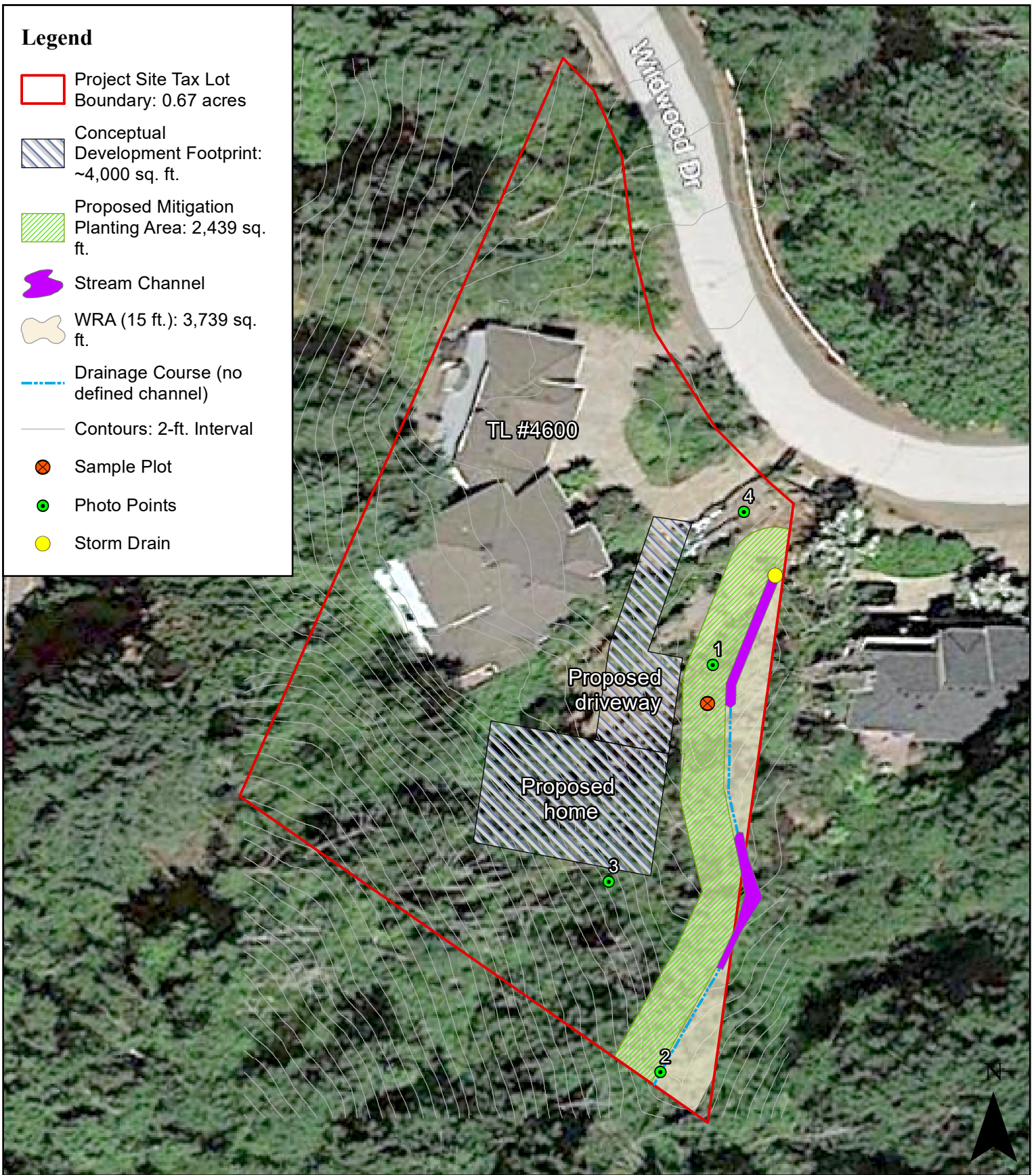


Date: 9/19/2022

Data Source: ESRI, 2022; Clackamas County GIS Dept

Figure 1. Location Map

**FIGURE 2: EXISTING AND PROPOSED CONDITIONS**

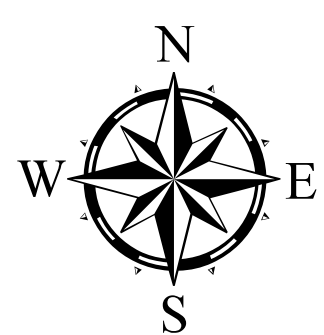


Date: 9/27/2022

Data Source: Google Earth, 2022; Clackamas County GIS Dept, 2022; DOGAMI, 2014

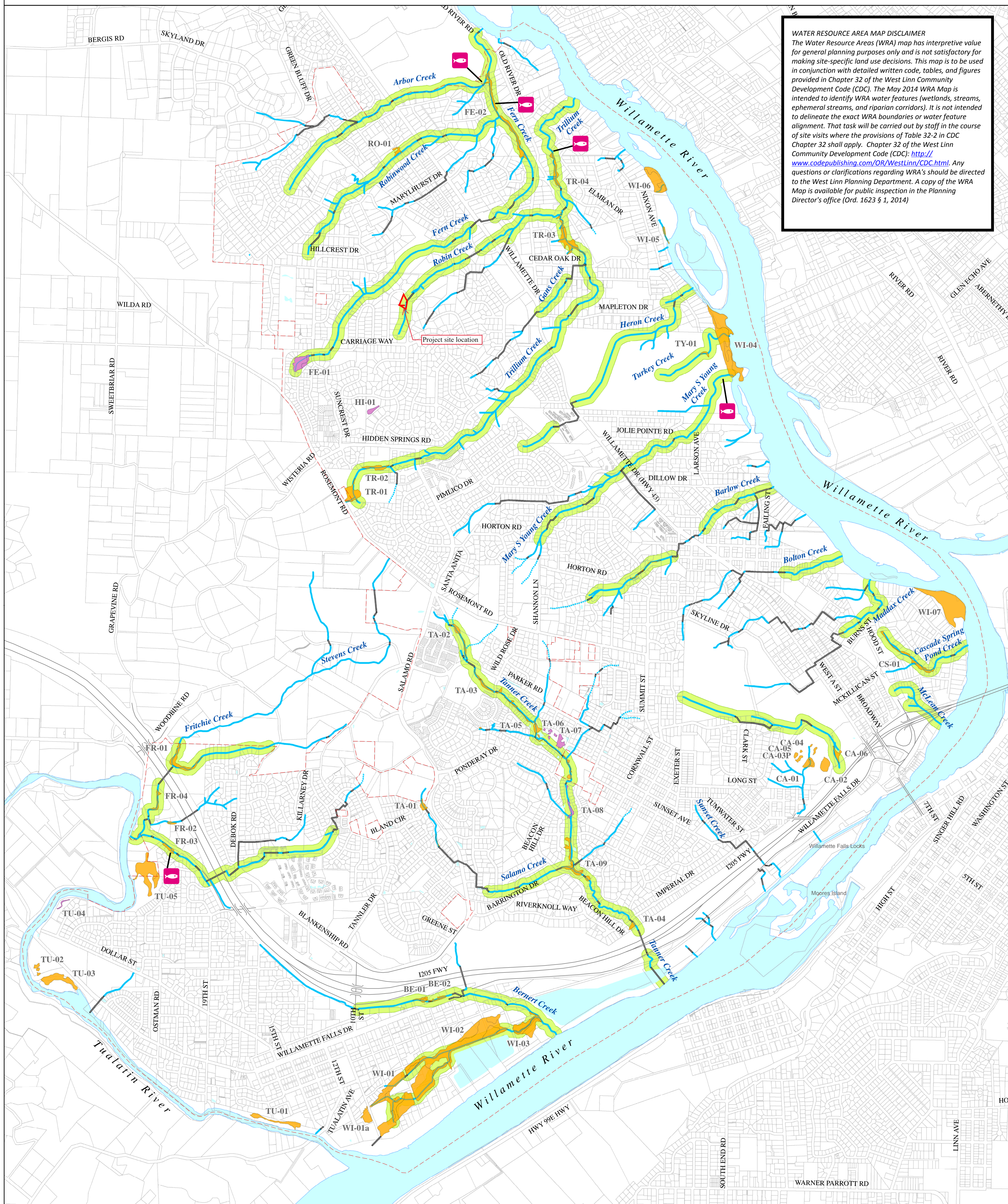
Figure 2. Existing and Proposed Conditions

**APPENDIX A. CITY OF WEST LINN WRA MAP**



# Water Resource Area (WRA) Map

**WATER RESOURCE AREA MAP DISCLAIMER**  
 The Water Resource Areas (WRA) map has interpretive value for general planning purposes only and is not satisfactory for making site-specific land use decisions. This map is to be used in conjunction with detailed written code, tables, and figures provided in Chapter 32 of the West Linn Community Development Code (CDC). The May 2014 WRA Map is intended to identify WRA water features (wetlands, streams, ephemeral streams, and riparian corridors). It is not intended to delineate the exact WRA boundaries or water feature alignment. That task will be carried out by staff in the course of site visits where the provisions of Table 32-2 in CDC Chapter 32 shall apply. Chapter 32 of the West Linn Community Development Code (CDC) is available at: <http://www.codepublishing.com/OR/WestLinn/CDC.html>. Any questions or clarifications regarding WRA's should be directed to the West Linn Planning Department. A copy of the WRA Map is available for public inspection in the Planning Director's office (Ord. 1623 § 1, 2014)



Map Developed by West Linn Planning Department and GIS

**MAP OVERLAYS:**  
 \*Streams, Pipe Segments, Other Open Ditches, and Significant Riparian Corridors  
 Map Source: "Significant Riparian Corridors West Linn Goal 5 Inventory, January 2007"  
 Map publication date: 1/2/2007.  
 Modified Streams and added Ephemeral Streams, April 2013, July 2013, September 2013

\*\*Locally Significant Wetlands and Other Wetlands  
 Map Source: "Local Wetland Inventory, West Linn Goal 5 Inventory, January 2005"  
 Map publication date: 6/5/2006.

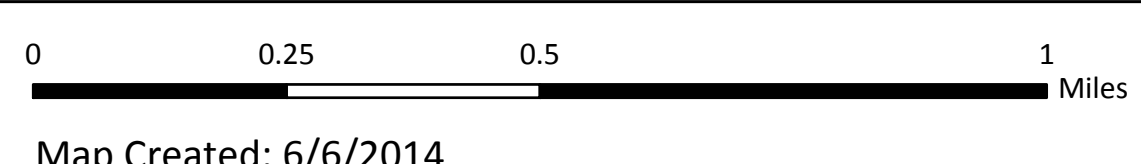
\*\*\*Taxlot Base Map provided by Clackamas County GIS, 2013

**WETLANDS/GOAL 5 DISCLAIMER (DSL STANDARD):**  
 Information shown on this map is for planning purposes only and wetland information is subject to change. There may be unmapped wetlands subject to regulation and all wetland boundary mapping is approximate. In all cases, actual field conditions determine wetland boundaries. You are advised to contact the Oregon Division of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

- Goal 5 Significant Riparian Corridors\***
- Significant Riparian Corridors
  - Streams
  - Ephemeral Stream
  - Piped Segments
  - Upper Stream Reach of Fish Inventory 2003/2004 Survey

- Goal 5 Wetland Inventory\*\***
- Locally Significant Wetlands, DSL 2005
  - Other Wetlands, DSL 2005
  - TA-05 Specific Wetland Identifier
  - Rivers & Ponds
  - West Linn City Limits
  - Taxlot Base Map\*\*\*



LOC: G:\PROJECTS\GIS\GOALS\_2006\SIGIPARIAN\SIGIPARIAN\_WETLANDS\_201406V6\_FINAL.MXD | KAH  
 VERSION 5 TO VERSION 6: REMOVED "PROPOSED" FROM MAP TITLE



**APPENDIX B. SITE PHOTOGRAPHS**



Photo Point 1. From the lower end of the drainage facing north toward the newly constructed storm drain.



Photo Point 1. From the lower end of the drainage facing south, upstream. No defined stream channel is present.





Photo Point 1. From the lower end of the drainage facing southwest toward stream terrace and area of cleared Himalayan blackberry.



Photo Point 1. From the lower end of the drainage facing northwest toward stream terrace and area of cleared Himalayan blackberry.



Photo Point 2.. From the upper end of the drainage at the southern property boundary facing north, downstream. No defined channel is present.



Photo Point 2.. From the upper end of the drainage at the southern property boundary facing south, upstream and offsite. No defined channel is present.



Photo Point 3. From the steep, forest hillside in the southern portion of the site facing southwest.



Photo Point 3. From the steep, forest hillside in the southern portion of the site facing northwest.



Photo Point 4. From the northern property boundary facing south toward the lower end of the drainage where it enters the storm drain.



Photo Point 4. From the northern property boundary facing north, offsite. It is assumed the drainage continues on the other side of the road in a very deep ravine..

**APPENDIX C. WETLAND DATA FORM**

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region**

Project/Site: Wildwood Dr City/County: West Linn/Clackamas Sampling Date: 9/8/2022  
 Applicant/Owner: Alex Kalmanson State: OR Sampling Point: 1  
 Investigator(s): K. Cartwright Section, Township, Range: T2S, R1E, Section 23AC  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0-2  
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Saum silt loam 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? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Remarks: _____ _____ _____	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <u><i>Acer macrophyllum</i></u>	40	Y	FACU <input type="checkbox"/>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: <u>40</u>				
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b>
1. <u><i>Rubus armeniacus</i></u>	15	Y	FAC <input type="checkbox"/>	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x1 = <u>0</u>
3. _____	_____	_____	_____	FACW species _____ x2 = <u>0</u>
4. _____	_____	_____	_____	FAC species _____ x3 = <u>0</u>
5. _____	_____	_____	_____	FACU species _____ x4 = <u>0</u>
Total Cover: <u>15</u>				UPL species _____ x5 = <u>0</u>
<b>Herb Stratum</b>				Column Totals: <u>0</u> (A) <u>0</u> (B)
1. <u><i>Holcus lanatus</i></u>	20	Y	FAC <input type="checkbox"/>	Prevalence Index = B/A = _____
2. <u><i>Lolium perenne</i></u>	60	Y	FAC <input type="checkbox"/>	
3. <u><i>Schedonorus arundinaceus</i></u>	20	Y	FAC <input type="checkbox"/>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>100</u>				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b>
1. _____	_____	_____	_____	_____ 1 - Rapid Test for Hydrophytic Vegetation
2. _____	_____	_____	_____	<u>X</u> 2 - Dominance Test is >50%
				_____ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
				_____ 4 - Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				_____ 5 - Wetland Non-Vascular Plants <sup>1</sup>
				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Total Cover: <u>0</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10 YR 3/3	100					SiL	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if present):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>      Yes _____ No <u>X</u></p>
---	---

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

<p><b>Field Observations:</b></p> <p>Surface Water Present?    Yes _____ No <u>X</u>    Depth (inches): _____</p> <p>Water table Present?      Yes _____ No <u>X</u>    Depth (inches): _____</p> <p>Saturation Present?        Yes _____ No <u>X</u>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b>      Yes _____ No <u>X</u></p>
---	---

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

Remarks:

**APPENDIX D. SDAM FORM**



# Streamflow Duration Field Assessment Form

Project # / Name Wildwood Dr		Assessor K. Cartwright								
Address 19679 Wildwood Dr, West Linn, OR			Date 9/8/2022							
Waterway Name Robin Creek		Coordinates at downstream end (ddd.mm.ss)	Lat. N							
Reach Boundaries project site			Long. W							
Precipitation w/in 48 hours (cm)	Channel Width (m)	1m where defined	<input type="checkbox"/> Disturbed Site / Difficult Situation (Describe in "Notes")							
<b>Observed Hydrology</b>	% of reach w/observed surface flow <u>0</u>									
	% of reach w/any flow (surface or hyporheic) <u>0</u>									
	# of pools observed <u>0</u>									
<b>Observations</b>	<b>Observed Wetland Plants</b> (and indicator status):		<b>Observed Macroinvertebrates:</b>							
	none		<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Taxon</th> <th style="text-align: left;">Indicator Status</th> <th style="text-align: left;">Ephemeroptera?</th> <th style="text-align: left;"># of Individuals</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;">none</td> </tr> </tbody> </table>	Taxon	Indicator Status	Ephemeroptera?	# of Individuals	none		
Taxon	Indicator Status	Ephemeroptera?	# of Individuals							
none										
<b>Indicators</b>	1. Are aquatic macroinvertebrates present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
	2. Are 6 or more individuals of the Order Ephemeroptera present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
	3. Are perennial indicator taxa present? (refer to Table 1)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
	4. Are FACW, OBL, or SAV plants present? (Within 1/2 channel width)		<input type="checkbox"/> Yes <input type="checkbox"/> No							
	5. What is the slope? (In percent, measured for the valley, not the stream)		<u>20-30%</u> %							
<b>Conclusions</b>	<pre> graph TD     Q1[Are aquatic macroinvertebrates present? (Indicator 1)] -- Yes --&gt; Q2[Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)]     Q1 -- No --&gt; Q4[Are SAV, FACW, or OBL plants present? (Indicator 4)]     Q2 -- Yes --&gt; Q3[Are perennial indicator taxa present? (Indicator 3)]     Q2 -- No --&gt; I2[INTERMITTENT]     Q3 -- Yes --&gt; P1[PERENNIAL]     Q3 -- No --&gt; Q5[What is the slope? (Indicator 5)]     Q4 -- Yes --&gt; Q5     Q4 -- No --&gt; E1[EPHEMERAL]     Q5 -- Slope &lt; 16% --&gt; I3[INTERMITTENT]     Q5 -- Slope &gt;= 16% --&gt; P2[PERENNIAL]     Q5 -- Slope &lt; 10.5% --&gt; I4[INTERMITTENT]     Q5 -- Slope &gt;= 10.5% --&gt; E2[EPHEMERAL]                     </pre>									
	<b>Single Indicators:</b> <input type="checkbox"/> Fish <input type="checkbox"/> Amphibians	<b>Finding:</b> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial								

**Notes:** (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)

**Difficult Situation:**

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

- Prolonged Abnormal Rainfall / Snowpack
  - Below Average
  - Above Average
- Natural or Anthropogenic Disturbance
- Other: \_\_\_\_\_

**Additional Notes:** (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

**Ancillary Information:**

- Riparian Corridor
- Erosion and Deposition
- Floodplain Connectivity

**Observed Amphibians, Snake, and Fish:**

Taxa	Life History Stage	Location Observed	Number of Individuals Observed