

## DEVELOPMENT REVIEW APPLICATION

For Office Use Only			
STAFF CONTACT <b>Arnold</b>	PROJECT NO(S). <b>WAP-20-02</b>	PRE-APPLICATION NO. <b>PA-20-03</b>	
NON-REFUNDABLE FEE(S) <b>\$2,600 + 250</b>	REFUNDABLE DEPOSIT(S)	TOTAL	<b>\$2,850.00</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"/> Conditional Use (CUP)                 | <input type="checkbox"/> Lot Line Adjustment (LLA)                        | <input type="checkbox"/> Time Extension   |
| <input type="checkbox"/> Design Review (DR)                    | <input type="checkbox"/> Minor Partition (MIP) (Preliminary Plat or Plan) | <input type="checkbox"/> Variance (VAR)   |
| <input type="checkbox"/> Easement Vacation                     | <input type="checkbox"/> Non-Conforming Lots, Uses & Structures           | <input checked="" type="checkbox"/> Water Resource Area Protection/Single Lot (WAP) |
| <input type="checkbox"/> Extraterritorial Ext. of Utilities    | <input type="checkbox"/> Planned Unit Development (PUD)                   | <input checked="" type="checkbox"/> Water Resource Area Protection/Wetland (WAP)    |
| <input type="checkbox"/> Final Plat or Plan (FP)               | <input type="checkbox"/> Pre-Application Conference (PA)                  | <input type="checkbox"/> Willamette & Tualatin River Greenway (WRG)                 |
| <input type="checkbox"/> Flood Management Area                 | <input type="checkbox"/> Street Vacation                                  | <input type="checkbox"/> Zone Change  |
| <input type="checkbox"/> Hillside Protection & Erosion Control |   |   |

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

<b>Site Location/Address:</b>  1221 9th Street West Linn, OR 97068	Assessor's Map No.: <b>31E2AB</b>
	Tax Lot(s): <b>8100</b>
	Total Land Area: <b>17,459 sq'</b>

**Brief Description of Proposal:**

Present a mitigation plan to allow us to build a covered patio in our back yard.

<b>Applicant Name:</b> Brian Wheeler <small>(please print)</small>	Phone: 503.519.1601
Address: 1221 9th Street	Email: brianw@heinz-mech.com
City State Zip: West Linn, OR 97068	



<b>Owner Name</b> (required): Brian Wheeler <small>(please print)</small>	Phone: 503.519.1601
Address: 1221 9th Street	Email: brianw@heinz-mech.com
City State Zip: West Linn, OR 97068	

<b>Consultant Name</b> Evren NW, Tori Bennett <small>(please print)</small>	Phone: 503.452.5561
Address: 40 SE 24th Ave a	Email: torib@evren-nw.com
City State Zip: Portland, OR 97214	

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. No permit will be in effect until the appeal period has expired.
4. **One complete hard-copy set of application materials must be submitted with this application.**  
**One complete digital set of application materials must also be submitted electronically in PDF format.**  
**If large sets of plans are required in application please submit one set.**

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.

**Received July 27, 2020**

	7/23/20		7/23/20
Applicant's signature	Date	Owner's signature <b>(required)</b>	Date



# NATURAL RESOURCE ASSESSMENT



## **Wheeler Property**

1221 9<sup>th</sup> Street  
West Linn, Oregon

**Prepared for:**

**Brian Wheeler**  
1221 9<sup>th</sup> Street  
West Linn, Oregon 97068

**Issued on:**

August 26, 2020

Project No. 1458-20001-01

EVREN NORTHWEST, INC.  
P.O. Box 14488, Portland, Oregon 97293  
T. 503-452-5561 / E. ENW@EVREN-NW.com

This

# Natural Resource Assessment

Report for:

1221 9<sup>th</sup> Street  
West Linn, Oregon

*Has been prepared for the sole benefit and use of our Client:*

**Brian Wheeler**  
1221 9<sup>th</sup> Street  
West Linn, Oregon 97068

Issued August 26, 2020 by:



A handwritten signature in blue ink, appearing to read "Chealsey Rosebrook".

**Chealsey Rosebrook**  
*Environmental Scientist*

A handwritten signature in blue ink, appearing to read "Heather Caporaso".

**Heather Caporaso**  
*Senior Environmental Scientist*

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## *List of Acronyms and Abbreviations*

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bgs	below ground surface
CDC	Community Development Code
Client	Brian Wheeler
ENW	EVREN Northwest, Inc.
Subject site	1221 9 <sup>th</sup> Street, West Linn, Oregon 97068
WRA	Water Resource Area

## 1.0 Introduction

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On behalf of Brian Wheeler (Client), EVREN Northwest, Inc. (ENW) has prepared this report documenting a Natural Resource Assessment (NRA) of a Wetland and Water Resource Area extending onto 1221 9<sup>th</sup> Street, West Linn, Oregon 97068 (subject site; Figures 1, 2 and 3).

The subject site consists of one (1) tax lot located to the northeast of 9<sup>th</sup> Street, and south of 4<sup>th</sup> Avenue in West Linn, Oregon (Figure 2). The subject site is currently occupied by a 3,637 square foot single-family residence with landscaped and vegetated areas to the north and south. A more detailed description of the site development is presented in Section 2.1.

A proposed 762 square foot additional permanent disturbance area is being evaluated for the subject site. The development will include the demolition of the current concrete patio structure (250 square feet) and construction of two covered porches totaling 742 square feet, as well as an uncovered concrete walkway (270 square feet). The new porch will be constructed in the same location as the current patio, with an additional 13 feet extending north on the furthest west section with the rest of the porch remaining within 8 feet of the house continuing to the east corner (Figure 5). Vegetated and landscaped areas in the north portion of the site are proposed to remain as is and are not included in the proposed redevelopment areas.

### 1.1 Purpose

Since the subject property is within 65 feet of a wetland (defined as a Water Resource), further investigation of the site was required prior to the issuance of a reduction in the Water Resource Area (WRA) boundary by the City of West Linn in accordance with Section 32.070 Alternative Review Process of Chapter 32 Water Resource Area Protection of the Community Development Code (CDC). As such, the Client met with the city of West Linn for a pre-application conference prior to contacting ENW.

The proposed development will encroach closer to the WRA than the existing development on the property, however, the proposed development is not believed to deteriorate the functions of the current ecosystem. Although the proposed development will add more than 500 square feet of impervious surface, the location of the additional impervious surface area is in an area that is highly landscaped and vacant of native plants, resulting in insignificant ecological support.

### 1.2 Proposed Development Activity

The proposed project and current residence will comprise approximately 4,122 square feet of impervious surface. As the current residence comprises approximately 3,360 square feet of ground floor and patio space, this redevelopment will add approximately 762 square feet of impervious surface area to the subject site. The proposed development activity on the subject site involves demolition of the current 250 square foot patio in the central west area of the property and construction of a new larger porch, spanning a total of 1,012 square feet, with 762 square feet of new impacts. This porch will encroach further to the WRA than the existing patio and is located within the 65-foot boundary around the WRA. However, the area surrounding the WRA on this property and many other residences adjacent to this site have previously impacted the WRA due to past development. The current building and patio on site are

approximately 25 to 45 feet from the wetland and therefore were either approved for development in the area or built before the WRA guidance was enacted.

The WRA between the wetland and the residence contains maintained landscaping, including bark, grass and ornamental plants. Denying the reduction in WRA would restrict the landowners, while not necessarily supporting a higher quality WRA. The WRA reduction is proposed through 32.070 Alternative Review Process and will result in a WRA ranging between 12 and 40 feet wide depending on location. (See Figure 5 for a detailed diagram). In accordance with 32.080 Approval Criteria, although the proposed WRA will be smaller in size, it will continue to provide the same, if not better, support for a thriving ecosystem post mitigation. Currently, the majority of vegetation within the WRA is a grass lawn which limits species diversity and functional habitat within the WRA. See Section 2.2 for further information.

## 2.0 Site Description

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The subject property is located at 1221 9<sup>th</sup> Street, West Linn, Oregon 97068 and is identified as Township 3 South, Range 1 East, Section 2, a portion of the NE 1/4, Tax Lot 8100 of the Willamette Meridian. It is zoned as part of Metro's Urban Growth Boundary and is generally level, ranging in elevation from between approximately 73 to 79 feet above mean sea level. The subject site measures approximately 0.40 acres and is currently occupied by a single-family residential structure and accessory structure (shed) near the northeast corner of the site. Remaining areas consist of landscaped and vegetated areas, with invasive shrub species near the northern and southern boundaries.

The site has an unnamed private drive traversing southeast-northwest through the southern portion of the tax lot which leads to the driveway and single-family residence located in the center of the tax lot. There is a fence separating the site from both the adjacent eastern and western single-family residences. Along the northern property boundary, a small stream traverses southeast-northwest and is surrounded by a wetland.

The subject site contains approximately 1,500 square feet of locally significant wetlands and the entire site was shown to be covered in the riparian corridor as mapped in West Linn's WRA Map (May 2014).

The subject site is situated on a southeast-facing slope approximately 1,000 feet northwest of the Willamette River. The parcel contains a stream along the northern boundary and mapped wetlands along both the northern and southern boundaries; at its closest proximity, the northern wetland area appeared to be encroaching onto the property by approximately 11 to 25 feet. The two closest structures to the wetland are the current patio (24 feet) and the accessory structure (16 feet). Vegetation of the subject site is characterized by a residential yard with lawn and trees (See Section 1.9 for more details).

### 2.1 Site Reconnaissance: Survey of On-Site Resources

A site reconnaissance was conducted on June 15, 2020 to document current site conditions. Onsite observations determined that vegetation consists mostly of landscaped grasses, common weeds, and ornamental plants bordering a highly degraded wetland along the northern property boundary with observed standing water up to 5 inches deep.

## 2.2 Extent and Condition of On-Site Vegetated Corridor

The slope adjacent to the edge of the wetlands on-site is less than 10%; therefore, according to Table 32-2 of Chapter 32 of the CDC Water Resource Area Protection the wetland has a vegetated corridor extending 65 feet from the mapped edge of the on-site wetland (Figure 4). However, due to the location of the current building and patio, the vegetated corridor presently only extends 25 to 50 feet.

The vegetated corridor (not including the wetland) of the subject site is characterized by a residential yard with lawn and trees including, western red cedar (*Thuja plicata*), vine maple (*Acer circinatum*), and flowering dogwood (*Cornus florida*). The lawn is a mix of Kentucky blue grass (*Poa pratensis*) and common weeds including white clover (*Trifolium repens*). The southern edge of the parcel borders a separate wetland that was not part of this study due to the distance and separation from the proposed porch of the current residential building and its associated landscaping.

Vegetation of the northern wetland mainly consisted of invasive species, including Himalayan blackberry (*Rubus armeniacus*) and reed canary grass (*Phalaris arundinacea*). Although there were fewer natives overall, several trees, shrubs and herbaceous species were identified, including black willow (*Salix nigra*), hazelnut sapling (*Corylus sp.*), nootka rose (*Rosa nutkana*), horsetail (*Equisetum arvense*), fireweed (*Chamaenerion angustifolium*), and red elderberry (*Sambucus racemosa*).

## 3.0 On-Site Mitigation

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### 3.1 Preparation

The goal of the WRA project is to create an upland buffer with a plant community dominated by native plants. The mitigation will take place in two separate areas, one in the northeast corner of the WRA covering 448 square feet and a second area covering 314 square feet in the northwest corner of the site. The proposed WRA area is currently maintained as a grass lawn. The first step to preparing both areas will be to spray out the existing lawn within the proposed WRA alignment. A glyphosate-based herbicide will be applied to the lawn two times, at least two-weeks apart to ensure any regrowth of the grass or weeds is controlled. All herbicide applications will be implemented in accordance with product label guidelines. Spot spraying of invasive species including reed canary grass and Himalayan blackberry will also be conducted at least once to reduced invasion risk into the proposed WRA from the adjacent wetland. Should surface water or saturated soils be present in the wetlands backing the WRA, an aquatic-safe glyphosate-based (e.g. Rodeo) will be used to treat noxious weeds along the wetland edge.

Following the chemical treatments, the WRA enhancement areas will be prepared for planting. The lawn area subject to conversion to the WRA will be mowed short, as tight to the ground as possible. Following the mowing, the areas will be vigorously raked to remove as much of the lawn material as possible. The intent of the tight mowing and subsequent raking is to expose as much bare ground as possible to improve germination of the native seed application. Alternately, a sod cutter could be used to remove the lawn. Tree and shrub planting locations will then be laid out in the proposed WRA. Trees will be planted as individuals, spaced 10 feet on-center, while shrubs will be planted in clusters of 4 to 5 plants in a 4 foot on-center spacing. Planting wells capable of accepting 2-gallon size containers will be hand-dug or augured. The planting wells will receive a 50% amendment of an outdoor potting mix to increase fertility and moisture retention.



The north west mitigation area will hold 41 percent of the proposed plants while the north east mitigation area will hold 59 percent of the proposed plants, or as close to this as possible with the provided planting plan.

Responsible parties for onsite mitigation work and proposed development include, but are not limited to, Brian Wheeler, property owner and applicant.

### 3.2 Planting Plan

The planting scheme for the proposed WRA includes 8 trees and 40 shrubs, all of native origin. The selection of plants is based upon native species present in the vicinity and those species well-adapted to local conditions. Trees and shrubs selected are intended to provide structural cover as well as nectar for pollinators and fruit and mast for small wildlife. Planting will be conducted between October 15th and April 30th. If animal damage is expected, plantings will be protected by sleeves. Once the trees and shrubs are installed, the plantings will be surrounded by a conifer-based bark mulch (preferably hemlock); trees will receive a ring of mulch extending 2 feet from the stem, while shrubs will receive a ring of mulch extending 1 foot from the stem. The mulch will be applied 3 inches deep surrounding the plantings. About 15 cubic feet (8 trade-size bags) of bark mulch will be required to cover the planting areas. After the mulch application, 1 pound of a native upland seed mix will be broadcast to the balance of the WRA not covered by the mulch. The seed mix will consist exclusively of species native to the West Linn area and include grasses and wildflowers. The WRA planting plan is included in Tables 3-1 and 3-2. The WRA will be irrigated from June 15th to October 15th at a rate of 1 inch per week to reduced drought-related mortality. Periodic deep watering is recommended to achieve the weekly rate, as opposed to regular light watering. Deep watering encourages deep rooting and will reduce irrigation needs long-term for the WRA. Summer irrigation will continue for the three years following the planting.

Beyond irrigation maintenance of the WRA includes non-native plant control, reapplication of mulch and replacement of dead plants. Noxious weeds along the wetland/WRA margin will be controlled by spot application of herbicides. Mowing and removal of reed canary grass along the wetland edge is recommended to reduce seed drift into the WRA. Repeated mowing will also reduce the vigor of reed canary grass and invasive blackberries. Mulch surrounding tree and shrub plantings will be reapplied as needed to maintain 3-inch material depth. All dead trees will be replaced in-kind. Shrubs will be replaced in-kind as needed to maintain 80% survival (n=32).

There are several significant trees on the property including, three western red cedar (*Thuja plicata*), one vine maple (*Acer palmatum*), and one Pacific willow (*Salix lucida*). These, along with other native plants, will be worked around and will remain unharmed throughout the mitigation process. This will allow for the least impact on the soil, species, and habitat while also increasing plant diversity and ecosystem functions in the WRA.

Mitigation will occur to the density standards and requirements outlined in CDC 32.100. Mitigation will take place in the WRA on site using the 1:1 ratio (permanent disturbed area to mitigation area) described in CDC 32.909 C. A total of 762 square feet of the subject property will be mitigated in the highly degraded WRA area. See below for upland planting details within the mitigation area.



**Table 3-1. Upland Planting Details for North West WRA Mitigation (314 ft<sup>2</sup>)**

Species	Zone	Type	Spacing	Size Class	Quantity
Madrone ( <i>Arbutus menziesii</i> )	Upland	Tree	10'	2 gallon	1
Garry oak ( <i>Quercus garryana</i> )	Upland	Tree	10'	2 gallon	2
Tall Oregon-grape ( <i>Mahonia aquifolium</i> )	Upland	Shrub	4'	2 gallon	4
Mock orange ( <i>Philadelphus lewisii</i> )	Upland	Shrub	4'	2 gallon	4
Red-flowering currant ( <i>Ribes sanguineum</i> )	Upland	Shrub	4'	2 gallon	4
Snowberry ( <i>Symphoricarpos albus</i> )	Upland	Shrub	4'	1 gallon	4
Silver Falls Seed Company Upland Savannah Economy Mix*	Upland	Seed	Broadcast	n/a	1 pound

**Table 3-2. Upland Planting Details for North East WRA Mitigation (448 ft<sup>2</sup>)**

Species	Zone	Type	Spacing	Size Class	Quantity
Madrone ( <i>Arbutus menziesii</i> )	Upland	Tree	10'	2 gallon	2
Garry oak ( <i>Quercus garryana</i> )	Upland	Tree	10'	2 gallon	3
Tall Oregon-grape ( <i>Mahonia aquifolium</i> )	Upland	Shrub	4'	2 gallon	6
Mock orange ( <i>Philadelphus lewisii</i> )	Upland	Shrub	4'	2 gallon	6
Red-flowering currant ( <i>Ribes sanguineum</i> )	Upland	Shrub	4'	2 gallon	6
Snowberry ( <i>Symphoricarpos albus</i> )	Upland	Shrub	4'	1 gallon	6
Silver Falls Seed Company Upland Savannah Economy Mix*	Upland	Seed	Broadcast	n/a	1 pound

\*Contents of seed mix: <https://silverfallsseed.com/product/upland-savannah-economy-mix/>

**Container Total: 48**

**Seed Total: 1 Pound**

### 3.3 Storm Water Discharge

Currently stormwater runs along this site following topographic contours into the WRA and stream, while the roof runoff flows into an existing storm pipe below grade. The construction of this covered patio will reduce the amount of water flow into the wetland and vegetated surrounding without implementing any mitigation.

To mitigate for the loss of water, ENW recommends the following treatment method for the stormwater runoff of the new/replacement of impervious surfaces:

- Use of a raingarden or multi-functional open drainage system in lieu of conventional gutter systems that lead to a storm pipe below grade, as well as the use of permeable paving of porch areas and/or pathways. These methods would help to increase diversity of native plants, while also filtering and allowing the water to enter back into the WRA and wetland systems.
- If the previous methods are not possible with the porch and landscaping layout, we recommend the use of a rain barrel to collect roof runoff that can then be used to water the lawn and other

landscaped features. While not as direct as a rain garden, this method will still allow the runoff rainwater to re-enter the surrounding ecosystem.

## 4.0 Narrative Responses

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### **CDC Chapter 30.080 Approval Criteria (Alternative Review Process)**

**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):**

The slope adjacent to the edge of the wetlands on-site is less than 10%; therefore, according to Table 32-2 of Chapter 32 of the CDC Water Resource Area Protection the wetland has a vegetated corridor extending 65 feet from the mapped edge of the on-site wetland (Figure 4). However, due to the location of the current building and patio, the vegetated corridor presently only extends 25 to 50 feet.

The vegetated corridor (not including the wetland) of the subject site is characterized by a residential yard with lawn and trees including, western red cedar (*Thuja plicata*), vine maple (*Acer circinatum*), and flowering dogwood (*Cornus florida*). The lawn is a mix of Kentucky blue grass (*Poa pratensis*) and common weeds including white clover (*Trifolium repens*).

Vegetation of the northern wetland mainly consisted of invasive species, including Himalayan blackberry (*Rubus armeniacus*) and reed canary grass (*Phalaris arundinacea*). Although there were fewer natives overall, several trees, shrubs and herbaceous species were identified, including black willow (*Salix nigra*), hazelnut sapling (*Corylus sp.*), nootka rose (*Rosa nutkana*), horsetail (*Equisetum arvense*), fireweed (*Chamaenerion angustifolium*), and red elderberry (*Sambucus racemosa*).

The current conditions of the WRA of the subject site is significantly degraded due to the residential yard with landscaped areas, as well as a dominant presence of invasive plants in the northern wetland. A reduced vegetated buffer is proposed, however, in exchange for mitigation measures which will enhance the WRA with native plant species and removal of invasive species such as reed canary grass along the wetland edge. See Section 3.2 for further information on planting plans.

**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:**

- a. 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.**

The proposed WRA reduction and conjugate mitigation will result in better performance and function of the WRA due to the removal of invasive species along the northern wetland boundary and planting of native species, as well as improved stormwater functions on the subject site. The mitigation will cover a total of 762 square feet and take

place in two separate areas, one in the northeast corner of the WRA covering 448 square feet and an area in the northwest corner covering 314 square feet.

- b. **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.**

i. **Removal of invasive vegetation.**

The proposed mitigation includes the removal of invasive reed canary grass which is significantly dominant along the wetland boundary, to limit further seeding and growth, especially in proposed mitigation areas.

ii. **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).**

The planting plan for the proposed WRA includes all native species including 8 trees and 40 shrubs. See Section 3.2 and Tables 3-1 and 3-2 for further information on planting details.

iii. **Providing permanent improvements to the site hydrology that would improve water resource functions.**

Stormwater on site currently infiltrates the ground surface and flows along topographic contours of the property, releasing into the WRA and stream. Additionally, stormwater from roof runoff currently is directed into an existing subsurface storm pipe. To mitigate for the loss of water, which is expected to be encountered due to the proposed covered patio, use of a raingarden or multi-function open drainage system is proposed along with the installation of permeable paving of porch areas and/or pathways. These methods will assist in the filtration and direction of stormwater flow to the WRA and wetland system.

iv. **Substantial improvements to the aquatic and/or terrestrial habitat of the WRA.**

Mitigation on the subject site is expected to enhance the habitat of the WRA by planting native plant species which will improve erosion and pollution along with habitats for native wildlife.

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

Mitigation will occur to the density standards and requirements outlined in CDC 32.1000. Mitigation will take place in the WRA on site using the 1:1 ratio (permanent disturbed area to mitigation area) described in CDC 32.909 C. A total of 762 square feet of the subject property will be mitigated in the highly degraded WRA area, which encompasses two separate areas in the northeast and northwest corners of the WRA. See Tables 3-1 and 3-2 for planting plan details. The methods of development include the creation of an upland buffer with a plant community dominated by native plants. A glyphosate-based herbicide will be applied to the current landscaped lawn on site, along with spot spraying of invasive species. Planting preparation will

then ensue, which includes diminishing or removing the current lawn in mitigation areas. Trees and shrubs will be planted in accordance with on-center spacing recommendations along with the inclusion of an outdoor potting mix. See Section 3.0 for further details of mitigation design and methods.

**D. Address the approval criteria of CDC 32.060, with the exception of CDC 32.060(D). *No application for development on property containing a WRA shall be approved unless the approval authority find 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:**

Current conditions of the WRA consist of landscaping typical of residential use, which includes a lawn and several native trees, thus the WRA has already endured impacts which has resulted in a significantly degraded condition. Proposed development will include 1:1 mitigation of the WRA, which will enhance the function of the vegetated buffer.

**b. Storm water and storm water facilities:**

Stormwater on site currently infiltrates the ground surface and flows along topographic contours of the property, releasing into the WRA and stream. Additionally, stormwater from roof runoff currently is directed into an existing subsurface storm pipe. To mitigate for the loss of water, which is expected to be encountered due to the proposed covered patio, use of a raingarden or multi-function open drainage system is proposed along with the installation of permeable paving of porch areas and/or pathways. These methods will assist in the filtration and direction of stormwater flow to the WRA and wetland system. No roadways, rights-of-ways, or storm water detention and/or treatment facilities are proposed or currently located within the WRA of the proposed development.

**c. Repealed by Ord. 1647.**

**d. Approval of criterion of CDC 32.060(D) is exempted under CDC 30.080 Approval Criteria.**

**e. Per the submittals required by CDC 32.050(F)(4), the applicant must demonstrate that the proposed methods of rendering known or potential hazard sites for development, including proposed geotechnical remediation, are feasible and adequate to prevent landslides or other damage to property and safety. The review authority may impose conditions, including limits on type of intensity of land use, which it determines are necessary to mitigate known risks of landslides or property damage.**

The project site is generally level and measures at less than a 10% slope. Development hazards relating to risk of landslides or property damage are not expected to occur under the proposed development.

**f. Roads, driveways and utilities:**

No new roads, driveways or utilities are included in the proposed development of the residential porch extension. No crossing of fish bearing streams or utilities spanning fish

bearing streams is included in the proposed development. No fill or excavation is proposed within the ordinary high-water mark of the wetland.

**g. Passive recreation:**

No paved or unpaved trails, footbridges or interpretive facilities are included in the proposed development.

**h. Daylight piped streams:**

No daylight piped or covered streams are located within the WRA on site or existing wetland.

**i. The following habitat friendly development practices shall be incorporated into the design of any improvements or projects in the WRA to the degree possible:**

- i. Restore disturbed soils to original or higher level of porosity to regain infiltration and storm water storage capacity.
- ii. Apply a treatment train or series of storm water treatment measures to provide multiple opportunities for storm water treatment and reduce the possibility of system failure.
- iii. Incorporate storm water management in road rights-of-way.
- iv. Landscape with rain gardens to provide on-lot detention, filtering of rainwater, and ground water recharge.
- v. Use multi-functional open drainage systems in lieu of conventional curb-and-gutter systems.
- vi. Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics.
- vii. Retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden watering.
- viii. Disconnect downspouts from roofs and direct the flow to vegetated infiltration/filtration areas such as rain garden.
- ix. Use pervious paving materials for driveways, parking lots, sidewalks, patios and walkways.
- x. Reduce sidewalk width to a minimum four feet. Grade the sidewalk so it drains to the front yard of a residential lot or retention area instead of towards the street.
- xi. Use shared driveways.
- xii. Reduce width of residential streets and driveways, especially at WRA crossings.
- xiii. Reduce street length, primarily in residential areas, by encouraging clustering.
- xiv. Reduce cul-de-sac radii and use pervious and/or vegetated islands in center to minimize impervious surfaces.
- xv. Use previously developed areas (PDAs) when given an option of developing PDA versus non-PDA land.
- xvi. Consider multi-story construction over a bigger footprint.



The proposed development on site includes the addition of a porch structure to the existing residence noted with landscaped areas. Mitigation will occur at a 1:1 ratio, resulting in 762 square feet of enhancements to the WRA which will include planting native species to assist with soil porosity and infiltration, along with a raingarden or multi-function open drainage system and permeable paving in order to improve current storm water systems. No streets, sidewalks, or driveways are present in the WRA project area. See Sections 3.2 and 3.3 for further information.

#### **CDC Chapter 30.090 Mitigation Plan**

See Section 3.0 which details the preparation and planning of the onsite mitigation of the WRA. Additionally, refer to Figure 6 for location of planned mitigation areas.

#### **CDC Chapter 30.100 Re-Vegetation Plan Requirements**

See Sections 3.1 and 3.2 which detail the re-vegetation preparation and planting plan of native species within the WRA. Additionally, refer to Tables 3-1 and 3-2 which detail the species to be planted for mitigation, along with the species' zone, type, space, size class and quantity.

#### **CDC Chapter 30.110 Hardship Provisions**

**The purpose of this section is to ensure that compliance with this chapter does not deprive an owner of reasonable use of land. To avoid such instances, the requirements of this chapter may be reduced. The decision-making authority may impose such conditions as are deemed necessary to limit any adverse impacts that may result from granting relief. The burden shall be on the applicant to demonstrate that the standards of this chapter, including Table 32-2, Required Width of WRA, will deny the applicant "reasonable use" of his/her property.**

Clackamas County Assessor's Office identified the construction date of the residence on the subject property as 2001. The total of impervious surfaces on the subject site include 3,360 square feet which include the ground floor square footage of the residence and existing patio space. The proposed porch will include an additional 762 square feet of impervious surface.

The vegetated corridor extends 65 feet from the mapped edge of the onsite wetland. However, due to the location of the current building and patio, the vegetated corridor presently only extends 25 to 50 feet. The total MDA of the site is 4,122 square feet of impervious surface, which includes the proposed porch addition of 762 square feet.

The proposed porch will encroach further to the WRA than the existing patio and is located within the 65-foot boundary around the WRA. However, the area surrounding the WRA on this property and many other residences adjacent to this site have previously impacted the WRA due to past development. The current building and patio on site are approximately 25 to 50 feet from the wetland and therefore were either approved for development in the area or built before the WRA guidance was enacted. The proposed porch will be further than 15 feet from the wetlands. Although the proposed WRA will be smaller in size, it will continue to provide the same, if not better, support for a thriving ecosystem post



mitigation. Currently, the majority of vegetation within the WRA is a grass lawn which limits species diversity and functional habitat within the WRA. See Figure 4 for existing conditions at the subject site.

## 5.0 Limitations

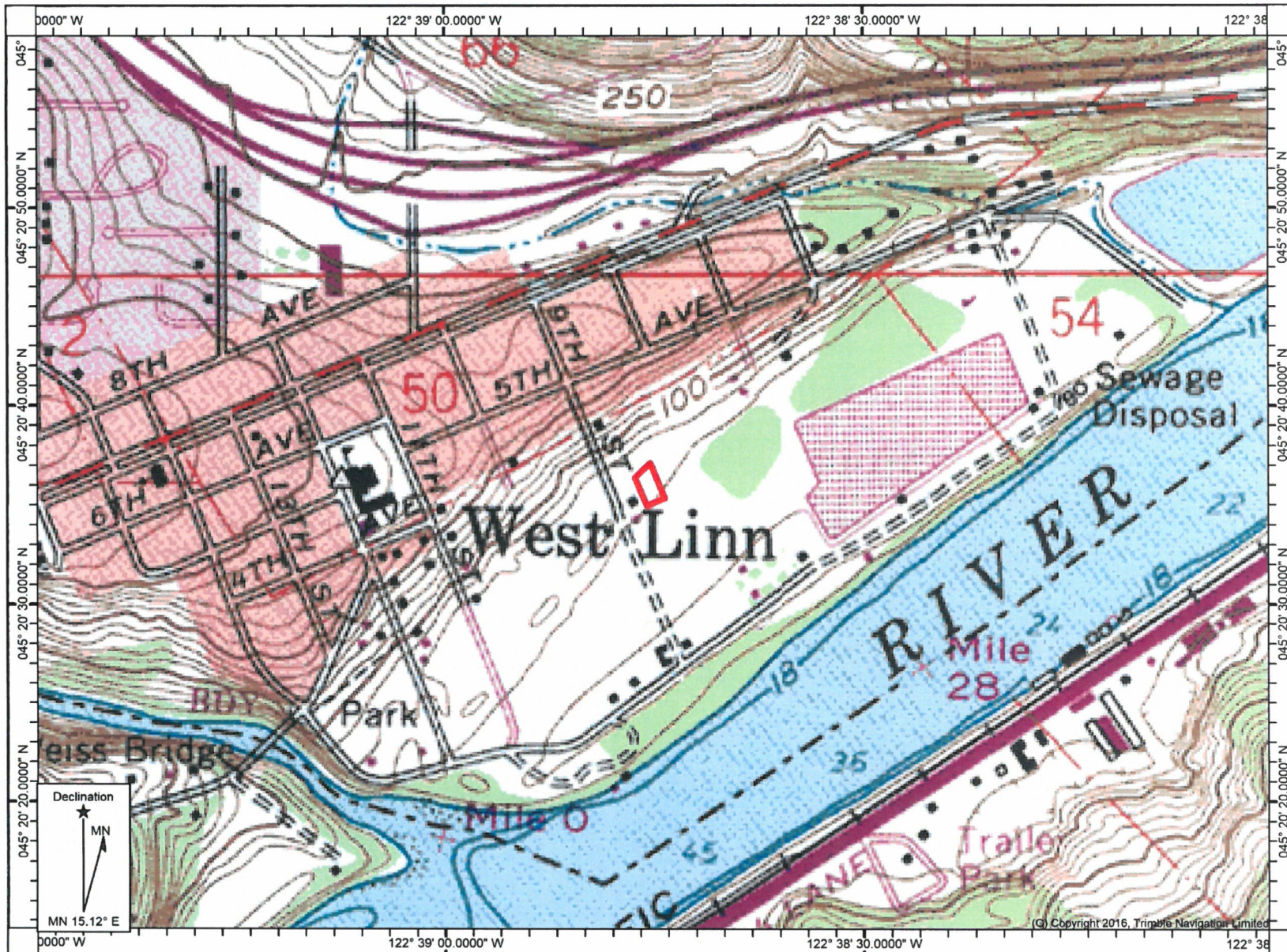
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The scope of this report is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

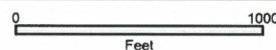
We have performed our services for this project in accordance with our agreement and understanding with the Client. This document and the information contained herein have been prepared solely for the use of the Client.

## *Figures*


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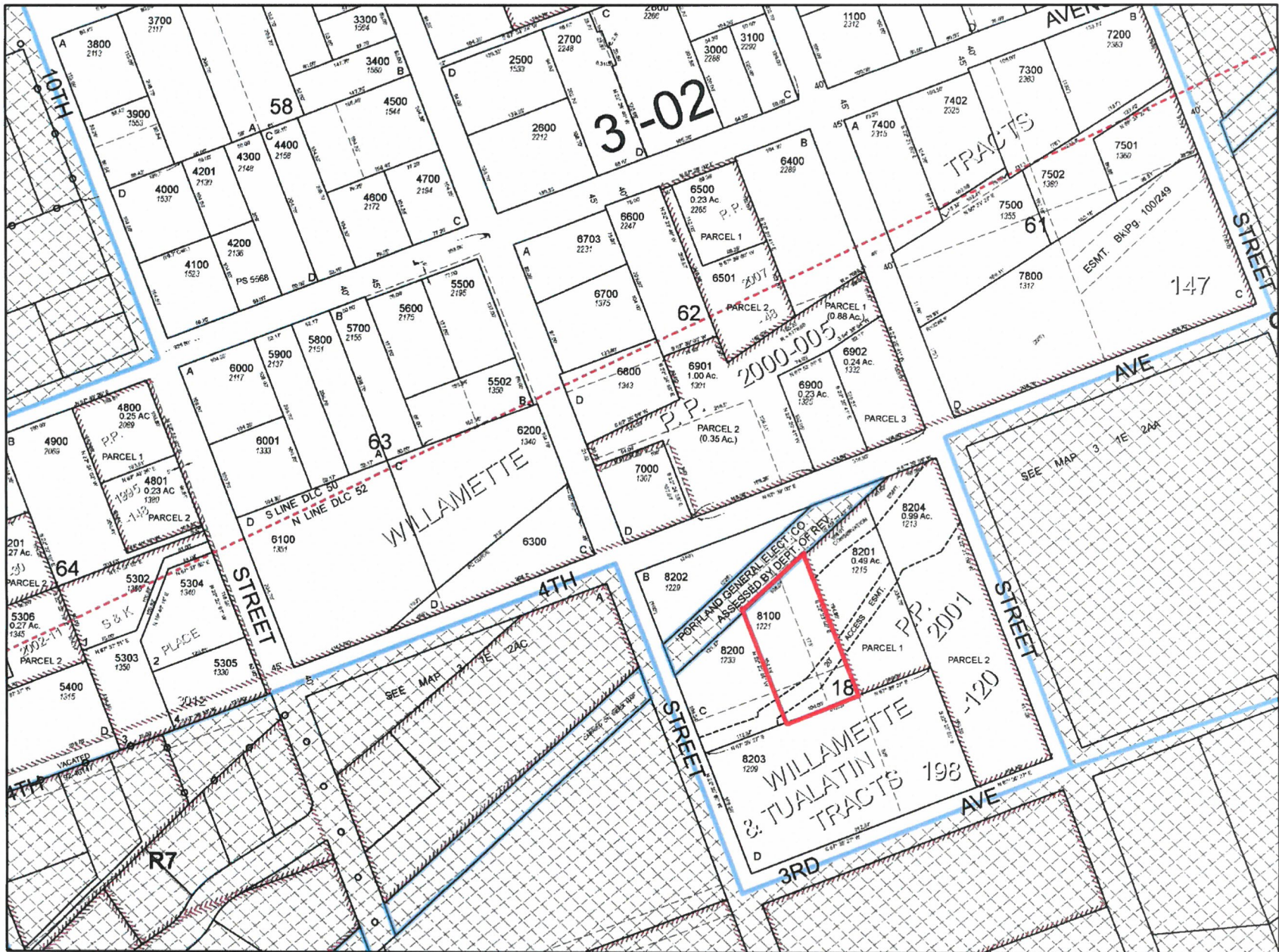
Name: CANBY  
Date: Jan 1, 1985



Location: 045° 20' 36.1354" N, 122° 38' 45.1861" W  
Contour Interval: 10 ft

	Date Drawn: 6/3/2020 CAD File Name: 1458-20001-01_fig1GeneralLocationandTopo Drawn By: CLR Approved By: LDG	<b>Wheeler Property</b> 1221 9th Street West Linn, Oregon	<b>General Location and Topography</b>	Project No. 1458-20001
				Figure No. 1





Date Drawn: 6/3/2020  
 CAD File Name: 1458-20001-01\_fig2TaxlotMap  
 Drawn By: CLR  
 Approved By: LDG


Wheeler Property  
 1221 9th Street  
 West Linn, Oregon

**Tax Lot Map**

Project No. 1458-20001  
 Figure No. 2











	Date Drawn: 6/3/2020 CAD File Name: 1458-20001-01_fig3AerialMap Drawn By: CLR Approved By: LDG	<b>Wheeler Property</b> 1221 9 <sup>th</sup> Street West Linn, Oregon	<h1>Aerial Map</h1>	Project No. 1458-20001
				Figure No. <b>3</b>





**LEGEND:**

- |   |   |   |                    |
|---|---|---|--------------------|
|  | EXISTING BUILDINGS  |  | LOCATION OF STREAM |
|  | SUBJECT PROPERTY BOUNDARIES   |   |                    |
|  | EXISTING VEGETATED BUFFER (WATER RESOURCE AREA)                         |   |                    |
|  | WETLAND AREA PER WEST LINN INVENTORY 2005 AND LANDSCAPED GRASS BOUNDARY |   |                    |
|  | CONCRETE SURFACE  |   |                    |

**NOTES:**

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2019 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE



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**FIGURE 4**

**EXISTING CONDITIONS**  
WHEELER PROPERTY  
1221 9TH STREET  
WEST LINN, OREGON





**LEGEND:**

- |   |  |
|---|--|
|  EXISTING BUILDINGS  |  LOCATION OF STREAM |
|  SUBJECT PROPERTY BOUNDARIES   |  CONCRETE SURFACE   |
|  PROPOSED WATER RESOURCE AREA  |  |
|  WETLAND AREA PER WEST LINN INVENTORY 2005 AND LANDSCAPED GRASS BOUNDARY |  |
|  PROPOSED PERMANENT DISTURBANCE AREA (762 SQ FEET)                       |  |

**NOTES:**

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2019 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE




environmental natural resource consultants  
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**FIGURE 5**  
 REQUIRED AND PROPOSED  
 WATER RESOURCE AREAS  
 WHEELER PROPERTY  
 1221 9TH STREET  
 WEST LINN, OREGON





Upland Planting Details for WRA Mitigation-1221 9th St Willamette (762 Sq Ft)					
Species	Zone	Type	Spacing	Size Class	Quantity
Madrone ( <i>Arbutus menziesii</i> )	Upland	Tree	10'	2 gallon	3
Garry oak ( <i>Quercus garryana</i> )	Upland	Tree	10'	2 gallon	5
Tall Oregon-grape ( <i>Mahonia aquifolium</i> )	Upland	Shrub	4'	2 gallon	10
Mock orange ( <i>Philadelphus lewisii</i> )	Upland	Shrub	4'	2 gallon	10
Red-flowering currant ( <i>Ribes sanguineum</i> )	Upland	Shrub	4'	2 gallon	10
Snowberry ( <i>Symphoricarpos albus</i> )	Upland	Shrub	4'	1 gallon	10
Silver Falls Seed Company Upland Savannah Economy Mix*	Upland	Seed	Broadcast	n/a	1 pound

**LEGEND:**

EXISTING BUILDINGS	STREAM
SUBJECT PROPERTY BOUNDARIES	APPROXIMATE MITIGATION AREA
PROPOSED WATER RESOURCE AREA	CONCRETE SURFACE
WETLAND AREA PER WEST LINN INVENTORY 2005 AND LANDSCAPED GRASS BOUNDARY	
PROPOSED PERMANANT DISTURBANCE AREA (762 SQ FEET)	

**NOTES:**

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2019 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

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**FIGURE 6**  
PROPOSED WATER RESOURCE AREA  
MITIGATION PLANTING PLAN  
WHEELER PROPERTY  
1221 9TH STREET  
WEST LINN, OREGON

*Appendix A*  
Site Photographs





View facing east at the residence, shed and landscaped area on the subject site.




View facing north at the WRA from the landscaped area.



View facing west at the boundary of the Water Resource Area (WRA) and landscaped area on site.



Eastern boundary of the WRA noted with reed canary grass, Himalayan blackberry, horsetail and red elderberry, and possible willow saplings.

	<p>Wheeler Property 1221 9<sup>th</sup> Street West Linn, Oregon</p>	<p><b>Site Photographs</b></p>	<p>Project No. 1458-20001-01 Appendix <b>A</b></p>
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Detailed view of eastern WRA noted with red elderberry, reed canary grass, Nootka rose and hazelnut saplings.




Groundcover of eastern WRA with horsetail.



View facing east at unidentified willow tree or tree cluster in eastern WRA.



View facing southwest at property boundary within the WRA noted with abundance of reed canary grass.

	<p>Wheeler Property 1221 9<sup>th</sup> Street West Linn, Oregon</p>	<p><b>Site Photographs</b></p>	<p>Project No. 1458-20001-01</p>
			<p>Appendix <b>A</b></p>





Standing water observed beneath reed canary grass towards southern boundary of the WRA on site.




Standing water observed beneath Nootka Rose and some unidentified vegetation in the eastern WRA area (near willow tree).



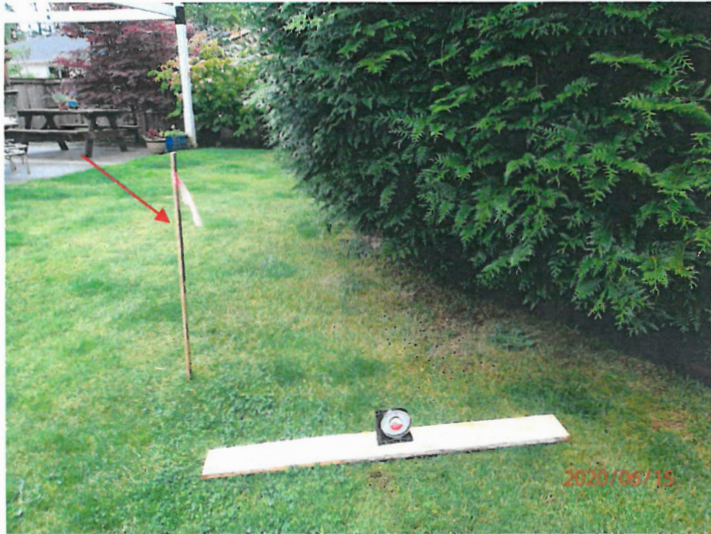
View facing northeast at WRA. Possible divot in vegetation, possibly indicating waterway or standing water area.



Measuring slope from WRA boundary to landscaped area and residence on site which was noted on average of less than 5% slope.

	<p>Wheeler Property 1221 9<sup>th</sup> Street West Linn, Oregon</p>	<p><b>Site Photographs</b></p>	<p>Project No. 1458-20001-01</p>
			<p>Appendix <b>A</b></p>






Slope measurement on landscaped area near easement marker.



Three cedar trees were noted in the western landscaped area.



Westernmost area of WRA boundary, north of three cedars, noted with thick Himalayan blackberry and reed canary grass.

	<p>Wheeler Property 1221 9<sup>th</sup> Street West Linn, Oregon</p>	<p><b>Site Photographs</b></p>	Project No. 1458-20001-01
			Appendix <b>A</b>