

## DEVELOPMENT REVIEW APPLICATION

**For Office Use Only**

STAFF CONTACT <b>Darren Wyss</b>	PROJECT NO(S). <b>WAP-23-01/WRG-23-01/FMA-23-01</b>	PRE-APPLICATION NO.
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S)	TOTAL <b>\$0</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 type="checkbox"/> Water Resource Area Protection/Single Lot (WAP)         |
| <input type="checkbox"/> Tree Easement Vacation           | <input type="checkbox"/> Non-Conforming Lots, Uses & Structures           | <input checked="" type="checkbox"/> Water Resource Area Protection/Wetland (WAP) |
| <input type="checkbox"/> Final Plat or Plan (FP)          | <input type="checkbox"/> Planned Unit Development (PUD)                   | <input checked="" type="checkbox"/> Willamette & Tualatin River Greenway (WRG)   |
| <input checked="" 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:**

821 Willamette Falls Drive

**Assessor's Map No.:**

Tax Lot(s): 21E34C,

Total Land Area:

**Brief Description of Proposal:**

Reconstruction of Willamette Falls Drive to include bike and pedestrian facilities

**Applicant Name:** City of West Linn

(please print)  
 Address: 22500 Salamo Road  
 West Linn, OR 97068  
 City State Zip:

Phone: 503-722-3434  
 Email: elais@westlinnoregon.gov

**Owner Name** (required): City of West Linn

(please print)  
 Address: 22500 Salamo Road  
 West Linn, OR 97068  
 City State Zip:

Phone:  
 Email:

**Consultant Name:** Pacific Habitat Services, Inc.

(please print)  
 Address: 9459 SW Commerce Circle, Suite 180  
 Wilsonville, Oregon 97070  
 City State Zip:

Phone: 503-570-0800  
 Email: jvs@pacifichabitat.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.

Erich Laiss  
 Applicant's signature

1-5-2023  
 Date

Erich Laiss  
 Owner's signature (required)

1-5-2023  
 Date

# **Flood Management and Water Resource Area Review**

## **Willamette Falls Drive Public Improvements in West Linn, Oregon**

**Prepared for:**

**City of West Linn  
Engineering Department**  
22500 Salamo Rd,  
West Linn, OR 97068

**Prepared by:**

Michael See  
John van Staveren, SPWS  
**Pacific Habitat Services, Inc.**  
9450 SW Commerce Circle, Suite 180  
Wilsonville, Oregon 97070  
(503) 570-0800  
(503) 570-0855 FAX

PHS Project Number: 6960

**December 22, 2022**





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**ATTACHMENT A: Figures**

Figure 1:	Project Location Map
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Figure 3:	Metro Habitat Conservation Area Map
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Figure 5:	Existing Conditions Habitat Conservation Areas, and Water Resource Areas
Figure 6A-6H:	Site Plans
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**ATTACHMENT B: Drainage Report by KPFF**

## **1.0 INTRODUCTION**

Pacific Habitat Services, Inc. (PHS) has prepared this Water Resource Area (WRA) Plan for the construction of offsite public roadway improvements adjacent to the New Athey Creek Middle School (currently being constructed) (Figures 1-2, all Figures are in Attachment 1). The onsite portion of the middle school project was previously approved, and currently under development. The offsite improvements include half-street improvements along Dollar Street to the north of the new school, and reconstruction of Willamette Falls Drive to the south. An extension of Brandon Place will cross through the site and connect to Willamette Falls Drive at a new roundabout.

The FEMA Flood insurance Rate Map (FIRM) Panels Identify floodways within the proposed project area. The HCA Map (Figure 3) is the basis for identifying and designating the habitat conservation areas in the City. The Tualatin River Protection Area and Water Resource Areas are within the project area boundary (Figure 4). Impacts to the 100-year floodplain, River Protection Areas, and Water Resource Areas are proposed, and therefore a Flood Management Area and Water Resource Protection Area Impact Report is required. The format follows the pertinent sections of the City of West Linn Planning and Community Development Code (WLCDC Chapter 27, 28, and Chapter 32). For ease of review by the City, key portions of the ordinance language are included (bold and italicized), followed by specific responses to the requirements.

## **2.0 APPLICANT INFORMATION**

### **2.1 Applicant**

City of West Linn  
Engineering Department  
22500 Salamo Rd,  
West Linn, OR 97068

### **2.2 Applicant's Agent**

Pacific Habitat Services, Inc.  
Attn: Michael See  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070  
Phone: 503-570-0800  
Email: [ms@pacifichabitat.com](mailto:ms@pacifichabitat.com)

## **3.0 SITE INFORMATION**

The following information is for the parcels which is the subject of this impact report.

**Site Address:** 840 Dollar Street, and 945 Dollar Street in West Linn, Oregon

**Zoning:** Residential

**Legal Description:** Township 2 South, Range 1 East Section 34, portion of tax lot 400; and within the Rights-of Ways (ROWS) of Willamette Falls Drive, (Figures 1-2).

### 3.1 Site Description

The project area includes the existing rights of way along the public streets receiving improvements. The project will include reconstruction of Willamette Falls Drive to the south, and construction of a new storm water treatment facility is proposed within Fields Bridge Park on a portion of tax lot 400.

Existing roadways and rights of ways are heavily disturbed and are regularly mowed and maintained. Fields Bridge Park consists of athletic fields, second growth forest, and pedestrian trails. Land use adjacent to the study area is primarily residential and park space. As mentioned above, the new Athey Creek Middle School is currently under construction.

On June 2 and June 15, 2022, PHS identified and delineated the ordinary high water (OHW) of the Tualatin River, and two wetlands. The delineation study area extended beyond the project area and included all of tax lot 400, 500 and an area between the two tax lots which is identified as a water feature on the tax lot map parcel map. A delineation report was completed on July 27, 2022, and was submitted to the Oregon Department of State Lands for concurrence. A summary of the resources identified in the Delineation is provided in Table 1 Below. Figure 5 shows existing conditions within the project area.

**Table 1. Summary of Wetlands and Other Waters within the Study Area**

<b>Feature</b>	<b>Area (acre / square feet)</b>	<b>Cowardin Class</b>	<b>HGM Class</b>
Waters of the State/US (Tualatin River)	0.76 / 33,024	R2UB	Riverine Flow Through
<b>Waters Total</b>	<b>0.76 / 33,024</b>		
Wetland A	0.81 / 35,183	PSS1E	Riverine
Wetland B	0.01 / 272	PSS1C	Riverine
<b>Wetland Total</b>	<b>0.82 / 35,455</b>		

### 4.0 PROJECT DESCRIPTION

The proposed project will include roadway and transportation improvements Willamette Falls Drive. An extension of Brandon Place from Dollar Street to Willamette Falls Drive, consistent with the West Linn’s 2016 Transportation System Plan is proposed to meet the City’s access standards. A roundabout is proposed at the new intersection of Willamette Falls Drive and Brandon Place. Sidewalks will be installed along the property frontage on Willamette Falls Drive. The proposed extension of Brandon Place will include sidewalks on both sides, providing a pedestrian connection between Dollar Street and Willamette Falls Drive (Figure 6A-6H).

## 5.0 EXISTING FLOOD MANAGEMENT AREAS

Flood Management Areas and administration thereof are described in Chapter 27 of the West Linn (CDC). Section 5.1 below describes the applicable standards for Flood Management areas and provides responses in accordance with the municipal code.

### 5.1 Flood Management Areas

#### *West Linn City Development Code 27.020 APPLICABILITY*

*This chapter shall apply to all flood management areas within the jurisdiction of West Linn. A flood management area permit is required for all development in the flood management area overlay zone. The standards that apply to flood management areas apply in addition to State or federal restrictions governing floodplains or flood hazard areas.*

- A. Basis for Establishing the Special Flood Hazard Areas (SFHA). The special flood hazard areas identified by the Federal Insurance Administrator in a scientific and engineering report entitled "Flood Insurance Study: Clackamas County, Oregon and Incorporated Areas," dated 06/2008 and revised 01/2019, FIRM Panels 41005C0018D, 41005C0019D, 41005C0038D, 41005C0257D, 41005C0259D, 41005C0260D, and 41005C0276D are hereby adopted by reference and declared to be a part of this chapter. The FIS and FIRM panels are on file at West Linn City Hall with the Community Development Department.*
- B. Coordination with State of Oregon Specialty Codes. Pursuant to the requirement established in ORS 455 that the City of West Linn administers and enforces the State of Oregon Specialty Codes, the City of West Linn does hereby acknowledge that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in special flood hazard areas. Therefore, this chapter is intended to be administered and enforced in conjunction with the Oregon Specialty Codes. (Ord. 1732 § 3 (Exh. B), 2022.)*

**Response:** The FIRM panel which covers the project area identifies special flood areas within the project area. Some of these mapped flood areas will be affected by the project; therefore, the project is required to comply with the terms of Chapter 27 of the CDC.

#### *27.030 EXEMPTIONS*

*This chapter does not apply to work necessary to protect, repair, or maintain existing public or private structures, utility facilities, roadways, driveways, accessory uses, and exterior improvements, or replace small public structures, utility facilities, or roadways in response to emergencies. Within 30 days after the work has been completed, the party responsible for the work shall initiate a flood management permit designed to analyze any changes effectuated during the emergency and mitigate adverse impacts. (Ord. 1522, 2005; Ord. 1732 § 3 (Exh. B), 2022.)*

**Response:** The project proposes new transportation improvements and storm water facilities and does not meet the exemptions described above.

#### *27.040 PROHIBITED USES*

*Prohibited uses in flood management areas include the following:*

- A. Any use prohibited in the base zone.*
- B. Uncontained areas of hazardous materials as defined by the Oregon Department of Environmental Quality. (Ord. 1732 § 3 (Exh. B), 2022.)*

**Response:** Not applicable. The project is not prohibited in the base zone and will follow all required regulations regarding hazardous materials.

### **27.045 CRITICAL FACILITIES**

*Construction of new critical facilities shall be, to the greatest extent possible, located outside the limits of the SFHA. Construction of new critical facilities shall only be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible. (Ord. 1732 § 3 (Exh. B), 2022.)*

**Response:** Not applicable. The project will not construct new critical facilities, nor are any structures, buildings, or finished floors proposed.

### **27.070 GENERAL STANDARDS**

*In all special flood hazard areas, the following standards shall be adhered to:*

#### **A. Alteration of Watercourses.**

- 1. Require that the flood carrying capacity within the altered or relocated portion of said watercourse is maintained. Require that maintenance is provided within the altered or relocated portion of said watercourse to ensure that the flood carrying capacity is not diminished. Require compliance with CDC 27.060(B)(3)(b) and (c).*

**Response:** Not applicable. No water courses or flood carrying capacity will be altered by the proposed project.

#### **B. Anchoring.**

- 1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.*

**Response:** All new construction within the floodway will be constructed on compacted fill and stabilized in accordance with accepted engineering practices for road construction.

- 2. All manufactured dwellings shall be anchored per CDC 27.080(C)(4).*

**Response:** Not applicable. No dwellings or structures are proposed as a part of this project.

#### **C. Construction Materials and Methods.**

- 1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.*

**Response:** The roadway improvements within the regulated flood area will be resistant to flood damage and constructed in accordance with current engineering standards.

- 2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.*

**Response:** The project will implement best construction practices to minimize flood damage.

#### **D. Utilities and Equipment.**

- 1. Water Supply, Sanitary Sewer and On-Site Waste Disposal Systems.
  - a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.**

- b. *New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.*
  - c. *On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding consistent with the Oregon Department of Environmental Quality.*
2. *Electrical, Mechanical, Plumbing, and Other Equipment.*
- a. *Electrical, heating, ventilating, air conditioning, plumbing, duct systems, and other equipment and service facilities shall be elevated at or above one foot above the base flood level or shall be designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during conditions of flooding. In addition, electrical, heating, ventilating, air conditioning, plumbing, duct systems, and other equipment and service facilities, if replaced as part of a substantial improvement, shall meet all the requirements of this section.*
- E. *Tanks.*
- 1. *Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood.*
  - 2. *Above-ground tanks shall be installed at or above one foot above the base flood level or shall be anchored to prevent flotation, collapse, and lateral movement under conditions of the base flood.*
- F. *Subdivision Proposals and Other Proposed Developments.*
- 1. *All new subdivision proposals and other proposed new developments (including proposals for manufactured dwelling parks and subdivisions) greater than 50 lots or five acres, whichever is the lesser, shall include within such proposals base flood elevation data.*
  - 2. *Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for any land division proposal.*
  - 3. *All new subdivision proposals and other proposed new developments (including proposals for manufactured dwelling parks and subdivisions) shall:*
    - a. *Be consistent with the need to minimize flood damage.*
    - b. *Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.*
    - c. *Have adequate drainage provided to reduce exposure to flood hazards.*

**Response:** Not applicable. The project does not propose any utilities, equipment, tanks, or structures within the flood zone. The project is not a subdivision

- G. *Use of Other Base Flood Elevation Data.*
- 1. *When base flood elevation data has not been provided in accordance with CDC 27.020, the local floodplain administrator shall obtain, review, and reasonably utilize any base flood elevation data available from a federal, State, or other source, in order to administer this section and CDC 27.080, 27.090, and*
  - 2. *Base flood elevations shall be determined for development proposals that are five acres or more in size or are 50 lots or more, whichever is lesser, in any A zone that does not have an established base flood elevation. Development proposals located within a riverine unnumbered A zone shall be reasonably safe from flooding; the test of reasonableness includes use of historical data, high water marks, FEMA provided base level engineering data, and photographs of past flooding. When no base flood elevation data is available, the elevation requirement for development proposals within a riverine unnumbered A zone is a minimum of two feet above the highest adjacent grade, to be reasonably safe from flooding. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.*

**Response:** Not applicable. The project is proposing to use the base flood elevation data provided on the FIRM Panel. The project does not propose new residential development.

*H. Structures Located in Multiple or Partial Flood Zones. In coordination with the State of Oregon Specialty Codes:*

**Response:** Not applicable. No structures are proposed to be constructed.

1. *When a structure is located in multiple flood zones on the community's flood insurance rate maps (FIRM) the provisions for the more restrictive flood zone shall apply.*

**Response:** Not applicable. No structures are proposed to be constructed.

2. *When a structure is partially located in a special flood hazard area, the entire structure shall meet the requirements for new construction and substantial improvements.*

**Response:** Not applicable. No structures are proposed to be constructed.

**I. Balanced Cut and Fill.**

1. *Development, excavation, and fill shall be performed in a manner to maintain or increase flood storage and conveyance capacity and not increase design flood elevations.*
2. *No net fill increase in any floodplain is allowed. All fill placed in a floodplain shall be balanced with an equal amount of soil material removal. Excavation areas shall not exceed fill areas by more than 50 percent of the square footage. Any excavation below the ordinary high water line shall not count toward compensating for fill.*
3. *Excavation to balance a fill shall be located on the same lot or parcel as the fill unless it is not reasonable or practicable to do so. In such cases, the excavation shall be located in the same drainage basin and as close as possible to the fill site, so long as the proposed excavation and fill will not increase flood impacts for surrounding properties as determined through hydrologic and hydraulic analysis.*

**Response:** A total of 460 cubic yards of fill will be placed in the floodplain in order to construct roadway and storm water improvements. A total of 497 cubic yards of material is proposed to be removed. The project will result in net removal of 37 cubic yards. The standard is met.

**J. Minimum Finished Floor Elevation.**

**Response:** Not applicable. No structures are proposed to be constructed.

1. *Minimum finished floor elevations must be at least one foot above the design flood height or highest flood of record, whichever is higher, for new habitable structures in the flood area.*

**Response:** Not applicable. No structures are proposed to be constructed.

**K. Other Requirements.**

1. *New culverts, stream crossings, and transportation projects shall be designed as balanced cut and fill projects or designed not to significantly raise the design flood elevation. Such projects shall be designed to minimize the area of fill in flood management areas and to minimize erosive velocities. Stream crossings shall be as close to perpendicular to the stream as practicable. Bridges shall be used instead of culverts wherever practicable.*

**Response:** Cut and fill is balanced, and the design flood elevation will not be significantly altered by project construction. New culverts may be installed to upgrade or replace existing drainage systems; however, no stream crossings are proposed.

2. *Excavation and fill required for the construction of detention facilities or structures, and other facilities, such as levees, specifically shall be designed to reduce or mitigate flood impacts and improve water quality. Levees shall not be used to create vacant buildable land. (Ord. 1732 § 3 (Exh. B), 2022.)*

**Response:** Excavation and fill is required to construct a new water quality facility will be constructed in the southern portion of the project on a portion of tax lot 0400. This facility is designed to improve water quality. The standard is met.

## 5.2 Additional Standards

Additional specific standards for development within Riverine Flood Zones and Flood Ways areas are outlined in CDC 27.080 and 27.090. Since the project does not propose to construct any new structures, CDC 27.080 of the code are not applicable to the proposed project. Responses to standards in 27.090 are provided below.

### ***27.090 STANDARDS FOR FLOODWAYS***

*Located within the special flood hazard areas established in CDC 27.020(A) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of the floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:*

*A. Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless:*

*1. Certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge; or*

*2. A community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations; provided, that a conditional letter of map revision (CLOMR) is applied for and approved by the Federal Insurance Administrator, and the requirements for such revision as established under 44 CFR 65.12 are fulfilled.*

*B. If the requirements of subsection (A) of this section are satisfied, all new construction, substantial improvements, and other development shall comply with all other applicable flood hazard reduction provisions of CDC 27.070, 27.080, this section, and CDC 27.100. (Ord. 1732 § 3 (Exh. B), 2022.)*

**Response:** No new encroachments are proposed within the floodway. The project will result in net removal of material from the 100-year floodplain. A CLOMR is not required since the base flood elevations will not change because of the project. The standard is met.



## 6.0 EXISTING TUALATIN RIVER PROTECTION AREA AND WATER RESOURCE PROTECTION AREA

Habitat Conservation Area Boundary Verification and Map Administration is described in Chapter 28, and Chapter 32 of the West Linn CDC. Sections 6.1 and 6.2, below, describe the verification of WQR and HCA on the project site in accordance with the municipal code.

### 6.1 Tualatin River Protection Area and Habitat Conservation Areas

#### *WEST LINN CITY DEVELOPMENT CODE*

##### *28.030 APPLICABILITY*

- A. The Willamette and Tualatin River Protection Area is an overlay zone. The zone boundaries are identified on the City's zoning map, and include:*
- 1. All land within the City of West Linn's Willamette River Greenway Area.*
  - 2. All land within 200 feet of the ordinary low water mark of the Tualatin River, and all land within the 100-year floodplain of the Tualatin River.*
  - 3. In addition to the Willamette Greenway and Tualatin River Protection Area boundaries, this chapter also relies on the HCA Map to delineate where development should or should not occur. Specifically, the intent is to keep out of, or minimize disturbance of, the habitat conservation areas (HCAs). Therefore, if all, or any part, of a lot or parcel is in the Willamette Greenway and Tualatin River Protection Area boundaries, and there are HCAs on the lot or parcel, a Willamette and Tualatin River Protection Area permit shall be required unless the development proposal is exempt per CDC 28.040.*

**Response:** In accordance with WLCDC 28.030(A)(2), All land within 200 feet of the ordinary low water mark of the Tualatin River, and all land within the 100-year floodplain of the Tualatin River are within the Tualatin River Protection Area. PHS mapped the ordinary high-water (OHW) mark of the Tualatin River adjacent to the project area. A 200 -foot buffer was applied to the OHW mark to determine the Tualatin River Protection Area within the project site. The Tualatin River protection area is shown on Figures 4, 5, and 6A. A total of 16,833 square feet of the river protection area will be permanently impacted to facilitate the construction of the roadway and storm water improvements. A total of 3,910 square feet of these impacts will occur within areas which are previously disturbed (Figures 6A through 6H).

### 6.2 Habitat Conservation Areas

#### *28.070 PLANNING DIRECTOR VERIFICATION OF METRO HABITAT PROTECTION MAP BOUNDARIES*

*The HCA Map is the basis for identifying and designating the habitat conservation areas in the City. A copy of the latest, updated HCA Map is on file at the City and is adopted by reference for use with this chapter.*

- B. The Planning Director shall verify the appropriate HCA or non-HCA designation by site visits or consultations with Metro or by other means. Determination is based on whether the Metro criteria are met or whether the Metro designation was based solely on tree overstory in which case a redesignation is appropriate. In cases where the determination is that the map is incorrect, the Planning Director will make a written finding of this as well as the site conditions that led to that conclusion.*

**Response:** Figures 3 and 5 show the HCA areas within the project area.

High and Moderate quality HCA are identified within the project area. Given the location and proximity of these areas to the Tualatin River and existing wetlands, the applicant believes that these HCA designations are appropriate. A total of 7,898 square feet of High-quality HCA, and 1,745 square feet of Moderate quality HCA will be permanently impacted by the project. The majority of the permanent HCA impacts (9,643 square feet) will occur within areas which have been previously disturbed (Figures 6A-6H).

In addition to the permanent impacts above, the project will temporarily impact 23,201 square feet of High Quality HCA and 10,361 square feet of moderate quality HCA. These areas will be revegetated in accordance with West Linn Development Code.

### 6.3 Water Resource Areas

West Linn Development Code Chapter 32 establishes protections to water resource areas in order to comply with Title 3, and Title 13 Requirements.

PHS identified the limits of two wetlands and the Tualatin River during the June 2022 field investigations. Wetland A and the Tualatin River are also identified on the City of West Linn Wetland, Riparian, and Wildlife Habitat Inventory. In accordance with the CDC 32.060 the width of the Water Resource Area is 60-feet from the upland edge of the wetlands. A total of 5,587 square feet of permanent impacts will occur within the WRAs, of which 3,354 square feet will occur within previously disturbed areas.

### 6.4 Application Submittal Requirements

#### 28.090 SUBMITTAL REQUIREMENTS: APPLICATION

- A. *An application for a protection area permit shall be initiated by the property owner or the owner's authorized agent. Evidence shall be provided to demonstrate that the applicant has the legal right to use the land above the OLW. The property owner's signature is required on the application form.*
- B. *A prerequisite to the filing of an application is a pre-application conference at which time the Planning Director shall explain the provisions of this chapter and provide appropriate forms as set forth in CDC 99.030(B).*
- C. *An application for a protection area permit shall include the completed application and:*
  1. *Narrative which addresses the approval criteria of CDC 28.110.*
  2. *A site plan, with HCA boundaries shown and by low, moderate, high type shown (CDC 28.120).*
  3. *A grading plan if applicable (CDC 28.130).*
  4. *Architectural drawings if applicable (CDC 28.140).*
  5. *A landscape plan if applicable (CDC 28.150).*
  6. *A mitigation plan if applicable (CDC 28.160).*
  7. *A storm detention and treatment plan and narrative statement pursuant to CDC 92.010(E)*

**Response:** This submittal constitutes the narrative requirement listed above. Site plans (Figure 6A-6H), Grading plans (Figure 7A-7G), Retaining Wall Detail plans (Figure 8A-8G), Landscape plans (Figure 9-9D), and Mitigation plan (Figure 10) are included in the attached figures. Since the project does not propose new structures or buildings, architectural drawings are not applicable. Tree removal shown on Figures 6A-6H was previously approved and completed in accordance with the authorization for construction of Athey Creek Middle School. A drainage report which includes

stormwater treatment and detention was developed for the site by KPFF and is included as Attachment B.

## 6.5 Application Approval Criteria

### 28.110 APPROVAL CRITERIA

*No application for development on property within the protection area shall be approved unless the decision-making authority finds that the following standards have been met or can be met by conditions of approval. The development shall comply with the following criteria as applicable:*

*A. Development: All sites.*

- 1. Sites shall first be reviewed using the HCA Map to determine if the site is buildable or what portion of the site is buildable. HCAs shall be verified by the Planning Director per CDC 28.070 and site visit. Also, "tree canopy only" HCAs shall not constitute a development limitation and may be exempted per CDC 28.070(A). The municipal code protection for trees and Chapters 55 and 85 CDC tree protection shall still apply.*

**Response:** The HCAs within the project area are shown on Figure 5, the applicant has removed HCA areas which are currently covered by impervious surfaces. A total of 7,898 square feet of HCA will be permanently impacted by the construction of new asphalt pavement, concrete sidewalks and driveways, landscaping, and retaining walls.

- 2. HCAs shall be avoided to the greatest degree possible and development activity shall instead be directed to the areas designated "Habitat and Impact Areas Not Designated as HCAs," consistent with subsection (A)(3) of this section.*

**Response:** HCAs have been avoided to the extent practicable. Impacts to HCAs are associated with construction of roadway improvements and new water quality facilities.

- 3. If the subject property contains no lands designated "Habitat and Impact Areas Not Designated as HCAs" and development within HCA land is the only option it shall be directed towards the low HCA areas first, then medium HCA areas and then to high HCA as the last choice. The goal is to, at best, avoid or, at least, minimize disturbance of the HCAs. (Water-dependent uses are exempt from this provision.)*

**Response:** Development within HCAs is needed to construct the roadway improvements. Impacts to HCAs have been reduced to the minimum amount necessary to achieve the project goals.

- 4. All development, including exempted activities of CDC 28.040, shall have approved erosion control measures per Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual, rev. 2008, in place prior to site disturbance and be subject to the requirements of CDC 32.070 and 32.080 as deemed applicable by the Planning Director.*

**Response:** An Erosion Prevention and Sediment Control Plan has been prepared in accordance with CDC 28.040.

*D. Development of lands designated for industrial, commercial, office, public and other non-residential uses.*

- 1. Development of lands designated for industrial, multi-family, mixed use, commercial, office, public and other non-single-family residential uses shall be permitted on the following land designations and in the following order of preference with "a" being the most appropriate for development and "d" being the least appropriate:*
  - a. "Habitat and Impact Areas Not Designated as HCAs"*

- b Low HCA*
- c Moderate HCA*
- d High HCA*

**2. Developing HCA land**

- a. Where non-HCA or areas designated as “Habitat and Impact Areas Not Designated as HCAs” are lacking or are in such limited supply as to render uses allowed by the underlying zone (e.g., general industrial) functionally impractical, the HCA may be utilized and built upon but shall emphasize “b” and “c” designations.*
- b. Where it is proposed that a “d” or high HCA classification be used, the property owner must demonstrate that the proposed use is clearly a water-dependent use. Proximity to the river for the purpose of views is not valid grounds. However, public interpretive facilities of historic facilities such as the government locks will be permitted as well as wildlife interpretive facilities and ADA-accessible platforms.*

**Response:** Impacts to high and moderate HCA land is proposed; however, the impact to the HCA is the minimum necessary to construct roadway improvements and water quality facilities. Given the location of the existing roadways, no practicable alternative exists which would not result in impacts to the HCAs. This impact is allowable in accordance with CDC 28.110 L.

*L. Roads, driveways, utilities, or passive use recreation facilities.*

*Roads, driveways, utilities, public paths, or passive use recreation facilities may be built in those portions of HCAs that include wetlands, riparian areas, and water resource areas when no other practical alternative exists but shall use water-permeable materials unless City engineering standards do not allow that. Construction to the minimum dimensional standards for roads is required. Full mitigation and revegetation is required, with the applicant to submit a mitigation plan pursuant to CDC 32.070 and a revegetation plan pursuant to CDC 32.080. The maximum disturbance width for utility corridors is as follows:*

- 1. For utility facility connections to utility facilities, no greater than 10 feet wide.*
- 2. For upgrade of existing utility facilities, no greater than 15 feet wide.*
- 3. For new underground utility facilities, no greater than 25 feet wide, and disturbance of no more than 200 linear feet of water quality resource area, or 20 percent of the total linear feet of water quality resource area, whichever is greater.*

**Response:** The existing roadway and its right of way dictate where roadway improvements can be constructed. The north side of Willamette Falls Drive is constrained by relatively steep slopes, which forces the roadway improvements to be constructed primarily south of the existing roadway. Improvements to existing public paths are proposed as well. The impacts to HCAs have been reduced to the minimum needed to achieve the project purpose. Mitigation and revegetation is proposed pursuant to CDC 32.080. The project does not propose new utility corridors. Utilities will remain within the existing ROWs and easements. No new underground utilities are proposed.

*N. Water-permeable materials for hardscapes. The use of water-permeable materials for parking lots, driveways, patios, and paths as well as flow-through planters, box filters, bioswales and drought tolerant plants are strongly encouraged in all “a” and “b” land classifications and shall be required in all “c” and “d” land classifications. The only exception in the “c” and “d” classifications would be where it is demonstrated that water-permeable driveways/hardscapes could not structurally support the axle weight of vehicles or equipment/storage load using those areas.*

*Flow through planters, box filters, bioswales, drought tolerant plants and other measures of treating and/or detaining runoff would still be required in these areas.*

**Response:** Water permeable materials are not appropriate for roadway improvements. Permeable materials are proposed for walkways along Willamette Falls Drive and within the proposed roundabout at the intersection of Willamette Falls Drive and the proposed Brandon Place Extension.

***Q. Parking. Parking and unenclosed storage areas located within or adjacent to the protection area boundary shall be screened from the river in accordance with Chapter 46 CDC, Off-Street Parking, Loading and Reservoir Areas. The use of water-permeable material to construct the parking lot is either encouraged or required depending on HCA classification per CDC 28.110(N)(4).***

**Response:** Not applicable, no new parking areas are proposed.

## **5.6 Mitigation Plan**

### **28.160 MITIGATION PLAN**

*If any HCA is permanently disturbed as a result of the proposed development of any uses or structures, the applicant shall prepare and implement a revegetation and mitigation plan pursuant to the provisions of CDC 32.070 and 32.080. (Ord. 1576, 2008)*

**Response:** The code citation above appears to be in error, as revegetation and mitigation are outlined in provisions of CDC 32.090, and 32.100. The applicant has prepared a mitigation plan to compensate for the permanent impacts to 7,898 square feet of High HCA, 1,745 square feet of Moderate HCA, 18,326 square feet of Tualatin River Protection Zone, and 5,587 square feet of Water Resource Areas (Figure 10).

### **32.090 MITIGATION 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.*

**Response:** Mitigation is required in accordance with CDC 28.160

- 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.*
  - 2. Off-site mitigation in the same sub-watershed will be allowed, but only if the applicant has demonstrated that:*
    - a. It is not practicable to complete mitigation on-site, for example, there is not enough area on-site;*
    - b. The mitigation will provide equal or superior ecological function and value.*
  - 3. Off-site mitigation outside the sub-watershed will be allowed, but only if the applicant has demonstrated that:*
    - a. It is not practicable to complete mitigation on-site, for example, there is not enough area on-site; and*

- b. The mitigation will provide equal or superior ecological function and value.*
- 4. Purchasing mitigation credits through DSL or other acceptable mitigation bank.*

**Response:** Mitigation will occur onsite adjacent to existing WRAs and HCAs (Figure 10).

**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.*

**Response:** The total permanent impacts to HCAs, the Tualatin River Protection Area, and WRAs is 33,556 square feet. PHS has determined that a total of 16,061 square feet of this area is within previously disturbed vegetation areas. The disturbance occurred to facilitate construction of Willamette Falls Drive, Fields Bridge Park and recreational fields. In accordance with this section of the CDC, the minimum required amount of mitigation is 17,495 square feet, the applicant is proposing a total of 21,600 square feet of compensatory mitigation to meet the standard.

- 3. For any off-site mitigation, including the use of DSL mitigation credits, the requirement shall be for every one square foot of WRA that is disturbed, two square feet of WRA shall be created, enhanced or restored. The DSL mitigation credits program or mitigation bank shall require a legitimate bid on the cost of on-site mitigation multiplied by two to arrive at the appropriate dollar amount.*

**Response:** Not applicable, mitigation will occur onsite. Mitigation credits will not be used to fulfill any portion of the required mitigation.

**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.*

**Response:** The responsible parties are provided below. Mitigation plantings will be installed by contractors who have not been selected at this time.

Property Owner: **City of West Linn – Engineering Department**  
22500 Salamo Rd,  
West Linn, OR 97068

Planning Consultant: **3J Consulting, Inc.**  
9600 SW Nimbus Avenue, Suite 100  
Beaverton, OR 97008  
Contact: Mercedes Serra  
Phone: 503-946-9365 x211  
Email: [mercedes.serra@3j-consulting.com](mailto:mercedes.serra@3j-consulting.com)

Civil Engineer: **KPFF Consulting**  
111 SE Fifth Avenue, Suite 2500  
Portland, Oregon 97204  
Contact: Mark Wharry  
Phone: 503-542-3860

Email: mark.wharry@kpff.com

Landscape Architect: **Walker Macy**  
111 SW Oak Street, Suite 200  
Portland, OR 97204  
Contact: Mike Zilis  
Phone: 503-228-3122  
Email: mzilis@walkermacy.com

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

**Response:** Figures 6A-6H shows the impact areas; Figure 10 shows the mitigation areas.

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

**Response:** The revegetation plan is showing on Figure 10. Mitigation will be installed concurrently with construction and will be conducted as soon as practicable based on the construction schedule. Construction of the proposed project is anticipated to begin in Autumn 2022. Monitoring of the mitigation area will be conducted in the summer of 2023.

An annual monitoring report documenting the survival of the mitigation plantings will be submitted to the City of West Linn by December 31 of each monitoring year. Plants that die shall be replaced in kind as needed to ensure the minimum 80% of the required quantity of 220 trees and 1,100 shrubs survive. No in-stream work is proposed to occur as part of this project.

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)*

**Response:** The applicant will work with the City of West Linn to establish appropriate assurances or bonds in order meet this requirement.

### ***32.050 Application***

- A. **An application requesting approval for a use or activity regulated by this chapter shall be initiated by the property owner, or the owner's authorized agent, and shall include an application form and the appropriate deposit or fee as indicated on the master fee schedule.**
- B. **A pre-application conference shall be a prerequisite to the filing of the application.**

**Response:** A pre-application conference was held prior to construction of the adjacent Athey Creek Middle School Project.

- C. **The applicant shall submit maps and diagrams at 11 by 17 inches and a written narrative addressing the approval criteria and requirements of this chapter, and any additional copies required by the Planning Director.**

Response: Maps are provided as Attachment 1.

- D. **Where review of soil maps, Department of Geology and Mineral Industries (DOGAMI) maps, or on-site inspection by the City Engineer reveals evidence of slope failures or that WRA slopes are potentially unstable or prone to failure, geotechnical studies may be required to demonstrate that the proposed development will not cause, or contribute to, slope failure or increased erosion or sedimentation in the WRA or adversely impact surface or modify groundwater flow or hydrologic conditions. These geotechnical studies shall include all necessary measures to avoid or correct the potential hazard.**

Response: The WRA slopes are not potentially unstable or prone to failure.

- E. **Applications proposing that streets or utilities cross water resources, or any other development that modifies the water resource, shall present evidence in the form of adopted utility master plans or transportation master plans, or findings from a registered Oregon civil engineer, certified engineering geologist or similarly qualified professional to demonstrate that the development or improvements are consistent with accepted engineering practices.**

Response: Roadway improvements have been designed consistent with accepted engineering practices. No street or utilities crossings are proposed. The standard is met.

- F. **Site plan. The applicant shall submit a site plan which contains the following information, as applicable:**
1. **The name, address, and telephone number of the applicant, the scale (lineal) of the plan, and a north arrow.**
  2. **Property lines, rights-of-way, easements, etc.**
  3. **A storm detention and treatment plan and narrative statement pursuant to CDC 92.010(E).**
  4. **Tables and maps identifying acreage, location and type of development constraints due to site characteristics such as slope, drainage and geologic hazards. For Type I, II, and III lands (refer to definitions in Chapter 02 CDC), the applicant must provide a geologic report, with text, figures and attachments as needed to meet the industry standard of practice, prepared by a certified engineering geologist and/or a geotechnical professional engineer, that includes:**



- a. **Site characteristics, geologic descriptions and a summary of the site investigation conducted;**
- b. **Assessment of engineering geological conditions and factors;**
- c. **Review of the City of West Linn’s Natural Hazard Mitigation Plan and applicability to the site; and**
- d. **Conclusions and recommendations focused on geologic constraints for the proposed land use or development activity, limitations and potential risks of development, recommendations for mitigation approaches and additional work needed at future development stages including further testing and monitoring.**

**Response:** A site plan and details are provided in Figure 6A-6H. A Geotechnical report which includes the proposed project area was prepared in support of the adjacent Athey Creek Middle School Site.

***5. Boundaries of the WRA, specifically delineating the water resource, and any riparian corridor boundary. If the proposal includes development of a wetland, a wetlands delineation prepared by a professional wetland specialist will be required. The wetland delineation may be required to be accepted or waived through the Department of State Lands (DSL) delineation review process.***

**Response:** Figure 5 Shows the Boundaries of the WRA. A delineation report has been submitted to DSL and the applicant is awaiting concurrence.

***6. Location of existing and proposed development, including all existing and proposed structures, accessory structures, any areas of fill or excavation, water resource crossings, alterations to vegetation, or other alterations to the site’s natural state.***

**Response:** Figure 5 Shows the existing conditions, Figures 6A-6H, and Figures 7A-7G show the proposed improvements and grading.

***7. Identify the location and square footage of previously disturbed areas, areas that are to be temporarily disturbed, and area to be permanently disturbed or developed.***

**Response:** Previously disturbed areas are shown on Figure 5. Temporary and permanent disturbance areas are shown on Figures 6A-6H, and Figures 7A-7G.

***8. When an application proposes development within the WRA, an inventory of vegetation within the WRA, sufficient to categorize the existing condition of the WRA, including:***

- a. ***The type and general quality of ground cover, including the identification of dominant species and any occurrence of non-native, invasive species;***

**Response:** The onsite WRA consists of a mix of second growth riparian forest and scrub shrub understory. Dominant species include red alder (*alnus Rubra*), salmonberry (*Rubus spectabilis*), Pacific blackberry (*Rubus ursinus*), and snowberry (*Symphoricarpos albus*). The plant community is considered to be in good condition and has approximately 10% coverage of invasive Himalayan blackberry (*Rubus armeniacus*).

**9. Locations of all significant trees as defined by the City Arborist.**

**Response:** Tree removal is shown on Figures 6A-6H and has already been conducted in accordance with prior approvals. No significant trees are required to be removed.

**10. Identify adopted transportation, utility and other plan documents applicable to this proposal.**

**Response:** The proposed roadway improvements are consistent with the West Linn's 2016 Transportation System Plan

**32.060 APPROVAL CRITERIA (STANDARD PROCESS)**

*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.**

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

**Response:** The proposed project has minimized impacts to WRAs to the extent practicable while maintaining a feasible project. All disturbed WRAs will be permanently revegetated before completion of the project. The project proposes a total of 3,390 sf of permanent WRA impacts. A total of 21,600 sf of mitigation is proposed to offset the cumulative impacts to the various resource areas affected by the project. Responses to standards found in *CDC 32.090* and *32.100* are provided below.

**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.*

*Geotechnical report may be required to make the determination regarding slope stability.*

**Response:** A storm water treatment facility and outfall is proposed to encroach into the WRA in the southeast portion of the project area. Compensatory mitigation and revegetation is proposed for this encroachment. The facility will treat runoff from Willamette Falls Drive. Currently, the existing roadside ditch discharges into the WRA untreated. The facility is designed to current accepted engineering practices and the standards above and will improve the quality of the water entering the WRA. Construction of the storm water detention will not affect significant trees. The storm water outfall will not directly discharge into the onsite wetlands and will not have an erosive effect.

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.).**

**Response:** The above standards have been incorporated into the design. The project will result in improved treatment along the south side of Willamette Falls Drive prior to entering the WRA.

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.**

**Response:** Perimeter fencing is not proposed around the storm water facility. Native vegetation will be installed in accordance with the landscape plans provided as Figure 9A-9D.

**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:*
    2. *Salmonid spawning or rearing areas;*
    3. *Stands of mature conifer trees in riparian areas;*
    4. *Highly erodible soils;*
    5. *Landslide prone areas;*
    6. *Damage to, and fragmentation of, habitat; and*
    7. *Wetlands identified on the WRA Map.*
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.*

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.*
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).*
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.*

**Response:** No new roadways or stream crossings are proposed within WRAS by the project. Rather the project proposes to upgrade existing roadways. No removal or fill will be conducted within the ordinary high water mark of any water resources. The standard is met.

*G. Passive recreation. Low impact or passive outdoor recreation facilities for public use including, but not limited to, multi-use paths and trails, not exempted per CDC 32.040(B)(2), viewing platforms, historical or natural interpretive markers, and benches in the WRA, are subject to the following standards:*

*Trails shall be constructed using non-hazardous, water permeable materials with a maximum width of four feet or the recommended width under the applicable American Association of State Highway and Transportation Officials (AASHTO) standards for the expected type and use, whichever is greater.*

5. **Paved trails are limited to the area within 20 feet of the outer boundary of the WRA, and such trails must comply with the storm water provisions of this chapter.**
6. **All trails in the WRA shall be set back from the water resource at least 30 feet except at stream crossing points or at points where the topography forces the trail closer to the water resource.**
7. **Trails shall be designed to minimize disturbance to existing vegetation, work with natural contours, avoid the fall line on slopes where possible, avoid areas**

with evidence of slope failure and ensure that trail runoff does not create channels in the WRA.

8. **Foot bridge crossings shall be kept to a minimum. When the stream bank adjacent to the foot bridge is accessible (e.g., due to limited vegetation or topography), where possible, fences or railings shall be installed from the foot bridge and extend 15 feet beyond the terminus of the foot bridge to discourage trail users and pets from accessing the stream bank, disturbing wildlife and habitat areas, and causing vegetation loss, stream bank erosion and stream turbidity. Bridges shall not be made of continuous impervious materials or be treated with toxic substances that could leach into the WRA.**
9. **Interpretive facilities (including viewpoints) shall be at least 10 feet from the top of the water resource's bankfull flow/OHW or delineated wetland edge and constructed with a fence between users and the resource. Interpretive signs may be installed on footbridges.**

**Response:** The proposed trails have been designed at the direction of the City's planning department and meet their requirements for materials, permeability, width, and slopes. Trails are generally located in areas with previously disturbed areas which exhibit poor quality vegetation communities. No new foot bridge crossings or interpretive facilities area proposed.

### **32.090**

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

**A. In order to achieve the goal of re-establishing forested canopy, native shrub and ground cover and to meet the mitigation requirements of CDC 32.090 and vegetative enhancement of CDC 32.080, tree and vegetation plantings are required according to the following standards:**

1. **All trees, shrubs and ground cover to be planted must be native plants selected from the Portland Plant List.**

**Response:** Only native species will be installed in the revegetation plantings. All species proposed for planting are selected from the Portland Plant List A list of species to be planted is provided on Figure 10.

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 (the one-half inch minimum size may be an average caliper measure, recognizing that trees are not uniformly round), unless they are oak or madrone which may be one gallon size. 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.**

**Response:** All trees will be a minimum one-half inch caliper, and all shrubs will be at least one-gallon container or equivalent ball and burlap and 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 (calculated by dividing the number of square feet of disturbance area by 500, and then multiplying that result times five trees and 25 shrubs, and rounding all fractions to the nearest whole number of trees and shrubs; for example, if there will be 330 square feet of disturbance area, then 330 divided by 500 equals 0.66, and 0.66 times five equals 3.3, so three trees must be planted, and 0.66 times 25 equals 16.5, so 17 shrubs must be planted). Bare ground must be planted or seeded with native grasses or herbs. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.*
- 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.**

**Response:** Trees and shrubs will be planted in accordance with the density requirements above. A total of 21,600 square feet of mitigation will be revegetated. Table 2 specifies the plant species and quantities proposed for the mitigation area. Trees will be installed between 8 and 12 feet on center, and shrubs will be installed between four and five feet on center.

**Table 2. Mitigation Area A Planting List (21,600 square feet)**

Species	Common Name	Quantity	Stock Type	Plant Size
<b>Trees</b>				
<i>Acer macrophyllum</i>	Bigleaf maple	74	Container or field grown	½ in caliper
<i>Quercus garryana</i>	Oregon Oak	74	Container or field grown	½ in caliper
<i>Pseudotsuga menziesii</i>	Douglas Fir	72	Container or field-grown	½ in caliper
<b>Shrubs</b>				
<i>Cornus alba</i>	Red-osier dogwood	220	1 gal.	12 in
<i>Lonicera involucrata</i>	Twinberry Honeysuckle	220	1 gal.	12 in
<i>Physocarpus capitatus</i>	Pacific ninebark	220	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	220	1 gal.	12 in
<i>Symphoricarpos alba</i>	Snowberry	220	1 gal.	12 in
<b>Herbaceous seed mix</b>				
PT Lawn Seed ‘PT 454 Native Urban Meadow Mix’		6 lbs	Seed	n/a

Species	Common Name	Quantity	Stock Type	Plant Size
(Roemer's Fescue - <i>Festuca roemerii</i> , California Oatgrass - <i>Danthonia californica</i> , Foothill Sedge - <i>Carex tumulicola</i> , Chamisso Sedge - <i>Carex pachystachya</i> , Lance Self-heal - <i>Prunella vulgaris</i> var. <i>lanceolata</i> , Oregon Sunshine - <i>Eriophyllum lanatum</i> , Cinquefoil - <i>Potentilla gracilis</i> , Large-flowered Blue-eyed Mary - <i>Collinsia grandiflora</i> , Rosy Plectritis - <i>Plectritis congesta</i> , Rose checkermallow - <i>Sidalcea malviflora</i> ssp. <i>Virgata</i> , Canary Violet - <i>Viola praemorsa</i> , Western Buttercup - <i>Ranunculus occidentalis</i> , Biscuit Root - <i>Lomatium nudicaule</i> , Spring Gold - <i>Lomatium utriculatum</i> , Green-flowered Alumroot - <i>Heuchera chlorantha</i> , Slim-leaf Onion - <i>Allium amplexans</i> , Western Yarrow - <i>Achillea millefolium</i> )				

5. ***Invasive vegetation. Invasive non-native or noxious vegetation must be removed within the mitigation area prior to planting.***

**Response:** All invasive non-native or noxious weeds will be removed or treated prior to planting mitigation areas.

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.***

**Response:** A minimum 80 percent survival of trees and shrubs planted will be achieved within three years of mitigation construction.

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.***

**Response:** Plants will be replaced in kind up to the minimum needed in order to achieve 80 percent survival.

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.***

**Response:** Mulch will be applied to new plantings within mitigation area at the time of installation.

- b. ***Irrigation. Water new plantings one inch per week between June 15th to October 15th, for the three years following planting.***

**Response:** New plantings will be irrigated to ensure survival beyond the monitoring period.

- c. ***Weed control. Remove, or control, non-native or noxious vegetation throughout maintenance period.***

**Response:** Weeds will be monitored and controlled as needed throughout the maintenance period.



- d. Planting season. Plant bare root trees between December 1st and February 28th, and potted plants between October 15th and April 30th.*

**Response:** Trees and shrubs will be planted between October 15 and April 30.

- e. Wildlife protection. Use plant sleeves or fencing to protect trees and shrubs against wildlife browsing and resulting damage to plants.*

**Response:** Plant sleeves will be utilized on trees and shrubs to minimize damage from wildlife browsing.

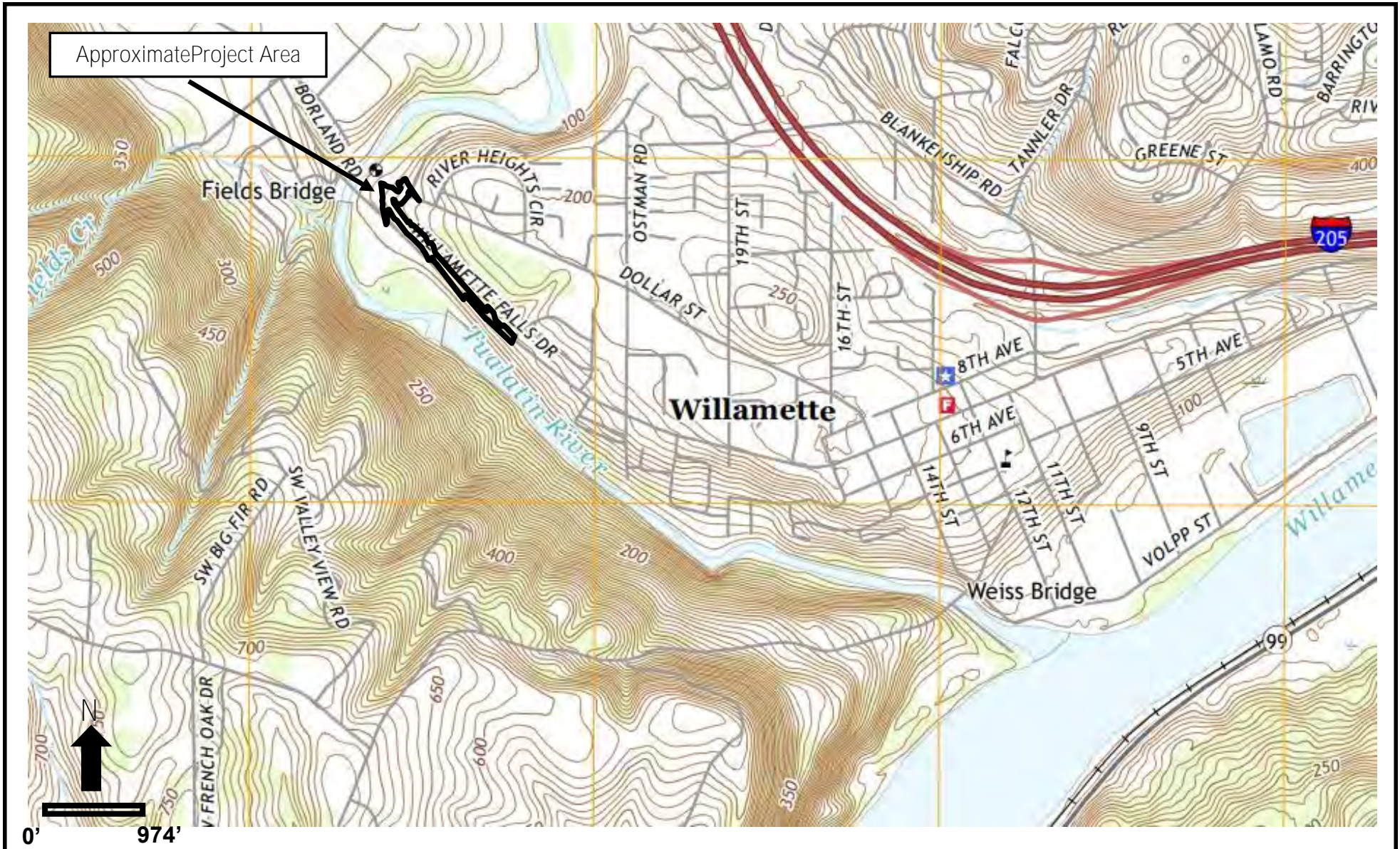
- B. When weather or other conditions prohibit planting according to schedule, the applicant shall ensure that disturbed areas are correctly protected with erosion control measures and shall provide the City with funds in the amount of 125 percent of a bid from a recognized landscaper or nursery which will cover the cost of the plant materials, installation and any follow up maintenance. Once the planting conditions are favorable the applicant shall proceed with the plantings and receive the funds back from the City upon completion, or the City will complete the plantings using those funds. (Ord. 1623 § 1, 2014).*

**Response:** The applicant is committed to conducting the required mitigation as soon as site conditions are conducive. In the unlikely event that mitigation areas cannot be installed on schedule, the applicant will provide the necessary revegetation funds described above.

# Attachment A

## Figures





General Location and Topography  
 Athey Creek Middle School Improvements - West Linn, Oregon  
 United States Geological Survey (USGS) Canby, Oregon 7.5 quadrangle, 2020  
 (viewer.nationalmap.gov/basic)

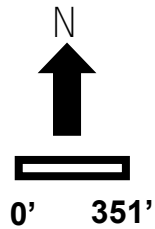
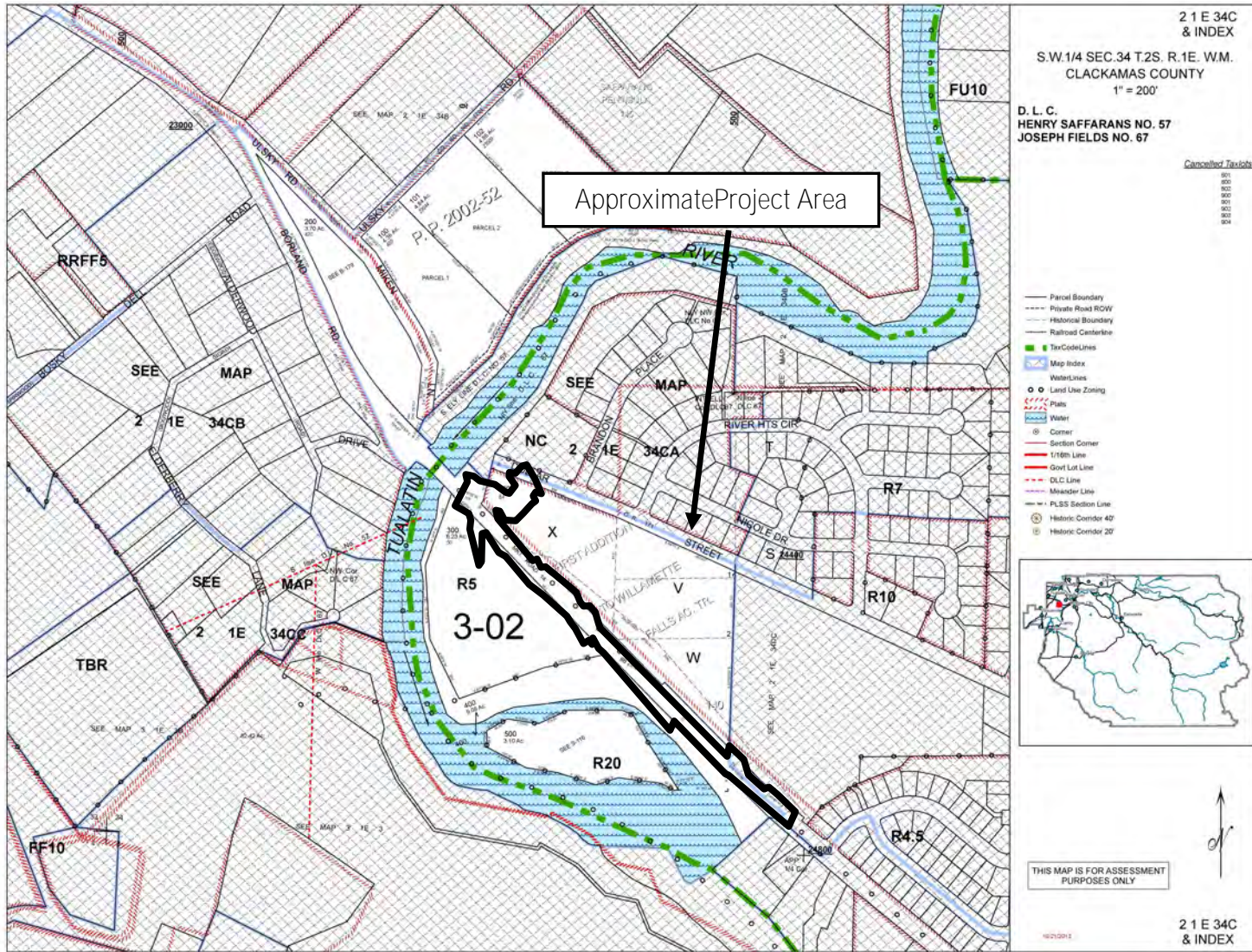
FIGURE  
 1

#6960  
 7/29/2020



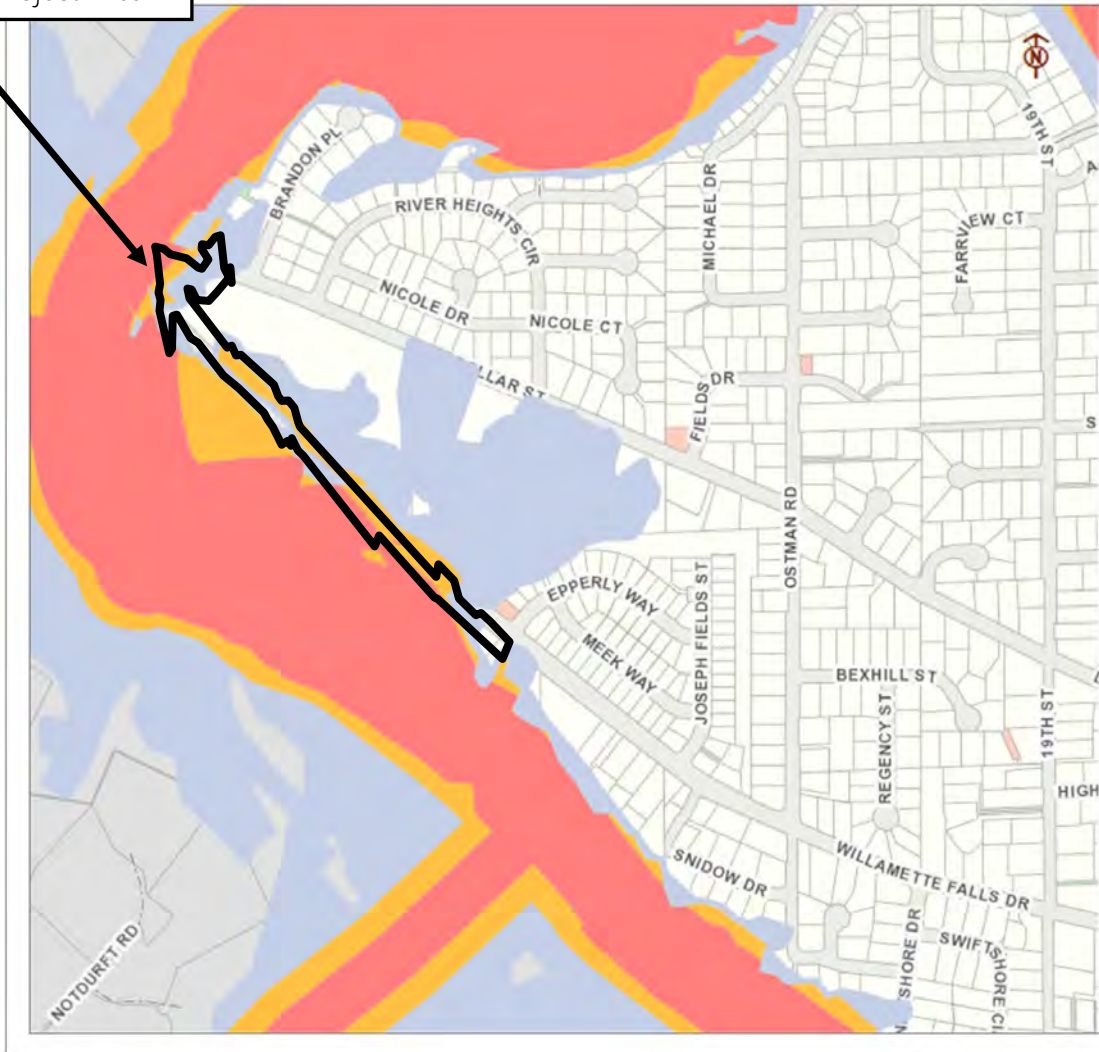
Pacific Habitat Services, Inc.  
 9450 SW Commerce Circle, Suite 180  
 Wilsonville, OR 97070







Approximate Project Area



**Legend**

**Metro Habitat Conservation**

- High
- Moderate
- Low
- Not Designated as HCA

- City Limit
- Parks and Open Space
- City Owned Property



**Notes**

This map was automatically generated using Geocortex Essentials.

Project #6960  
3/3/21

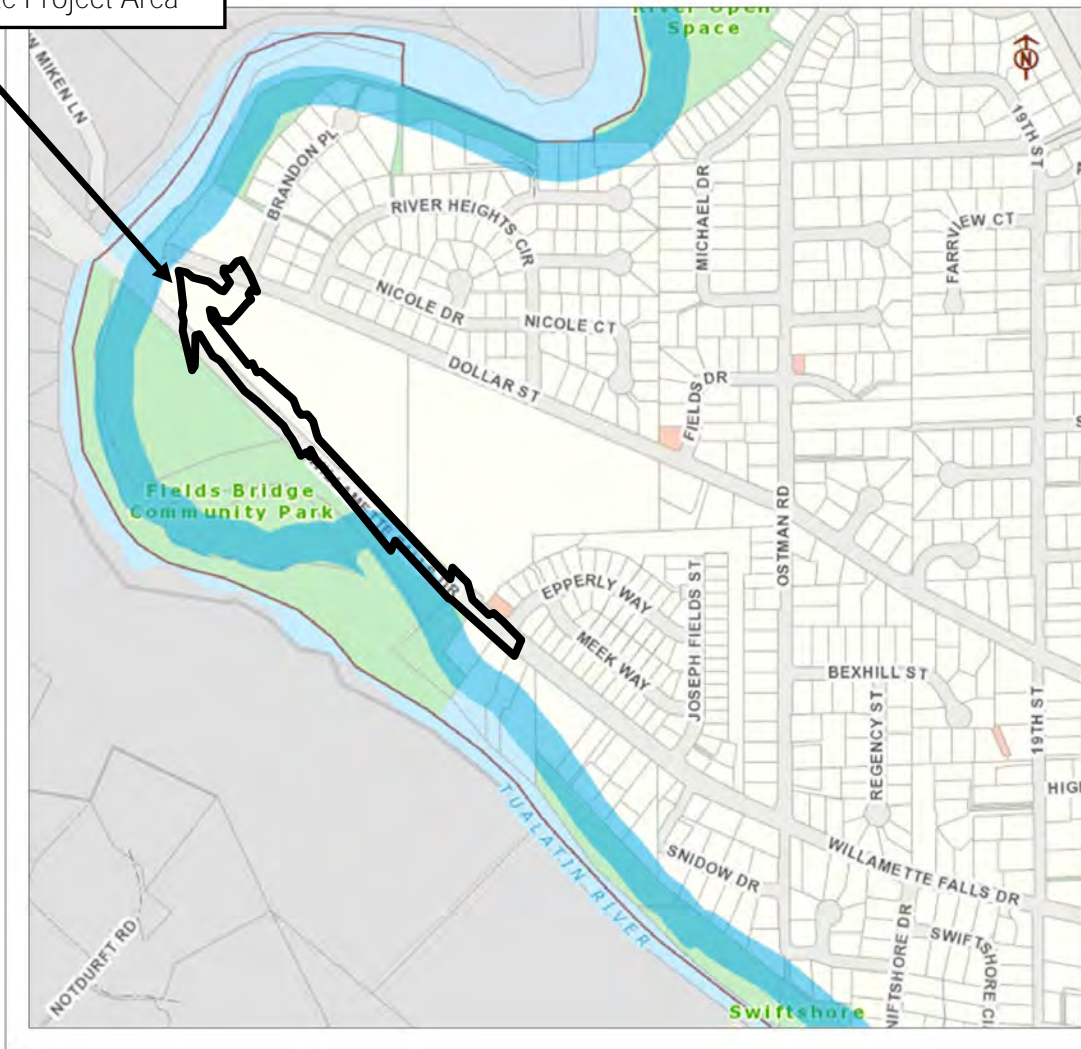


Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Habitat Conservation Area Map  
Athey Creek Middle School Improvements - West Linn, Oregon  
GoogleEarth, 2020

FIGURE  
3

Approximate Project Area



**Legend**

- Tualatin River Protection Area
- City Limit
- Parks and Open Space
- City Owned Property



**Notes**

This map was automatically generated using Geocortex Essentials.

Project #6960  
3/3/2021



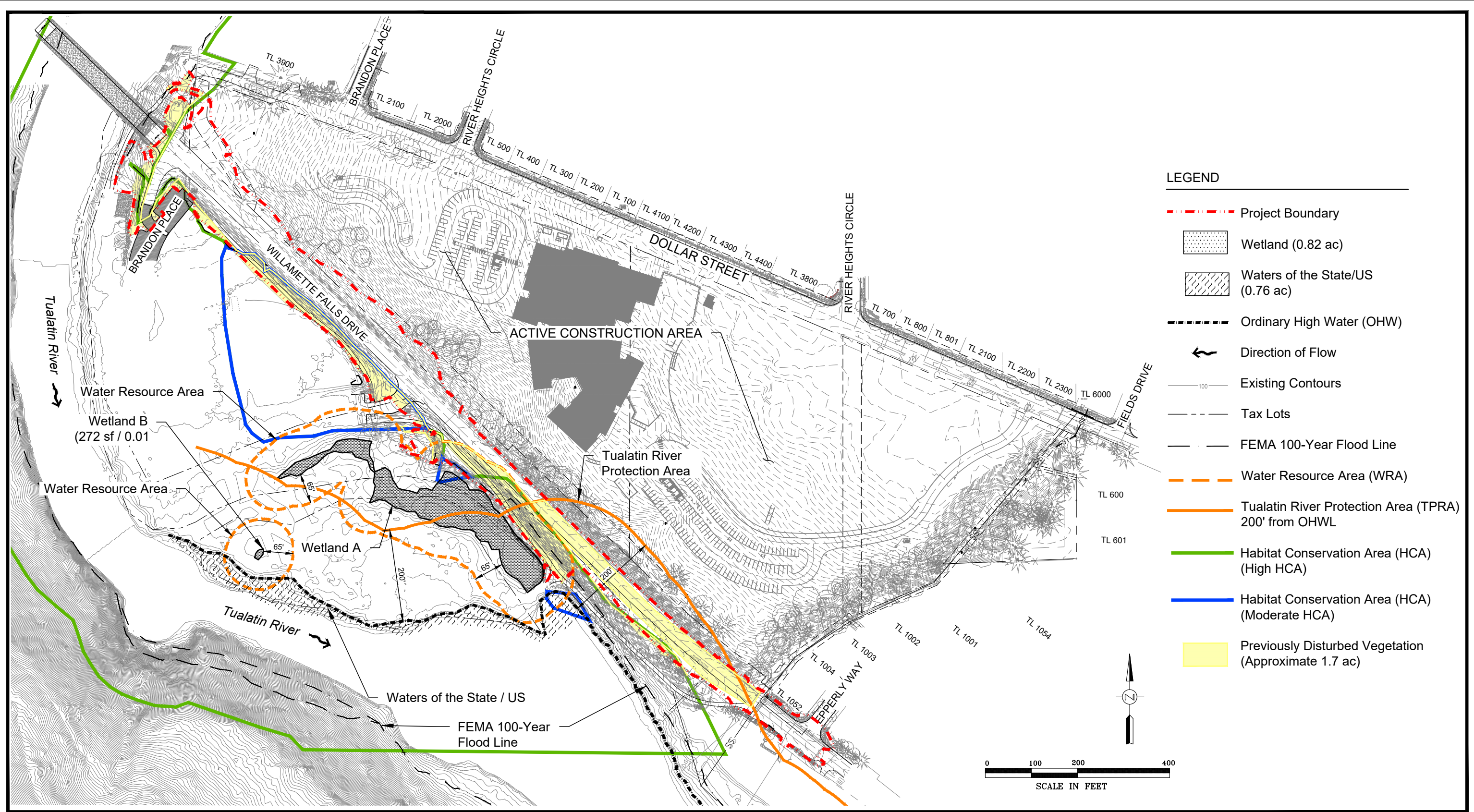
Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Tualatin River Protection Area Map  
Athey Creek Middle School Improvements - West Linn, Oregon

FIGURE

4





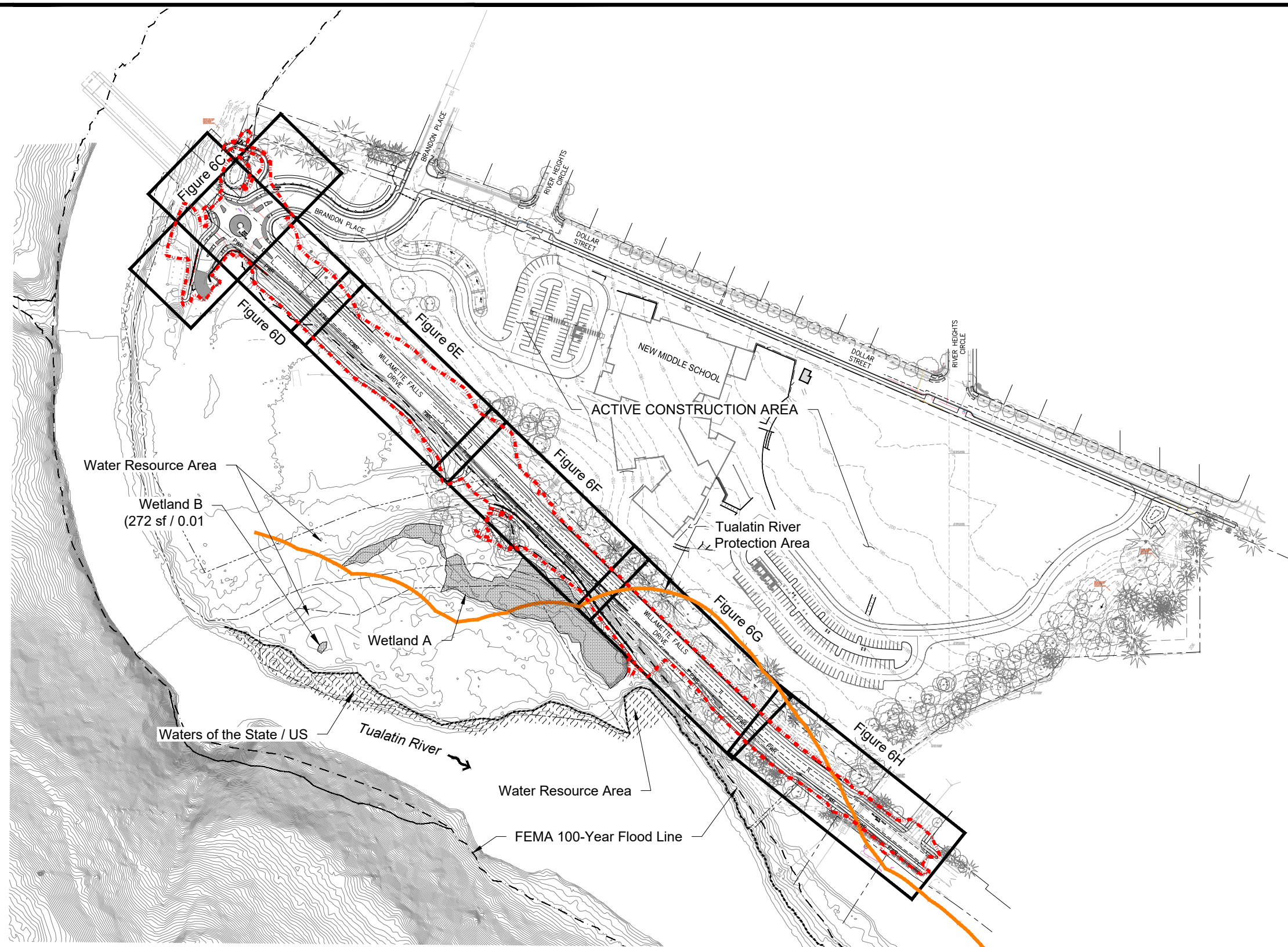
Survey includes study area boundary, wetland boundary, contours and utilities provided by Compass Land Surveying. Survey and Sample point accuracy is sub-centimeter. Culverts were placed graphically and have an accuracy of sub-meter

Existing Conditions with Habitat Conservation, Water Resources, and Tualatin River Protection Areas  
 Willamette Falls Drive Public Improvements - West Linn, Oregon

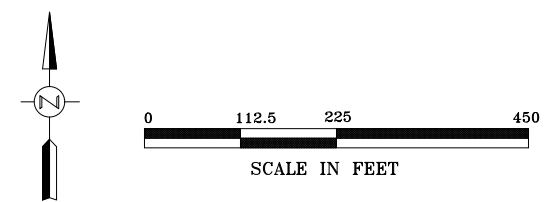
FIGURE  
**5**

12-212022





- LEGEND**
- - - - - Project Area Boundary (5.00 ac)
  - Wetland (0.82 ac)
  - Waters of the State/US (0.76 ac)
  - Ordinary High Water (OHW)
  - Direction of Flow
  - Contours
  - Tax Lots
  - FEMA 100-Year Flood Line
  - Tualatin River Protection Area 200' from OHWL



Plans Provided by KPFF

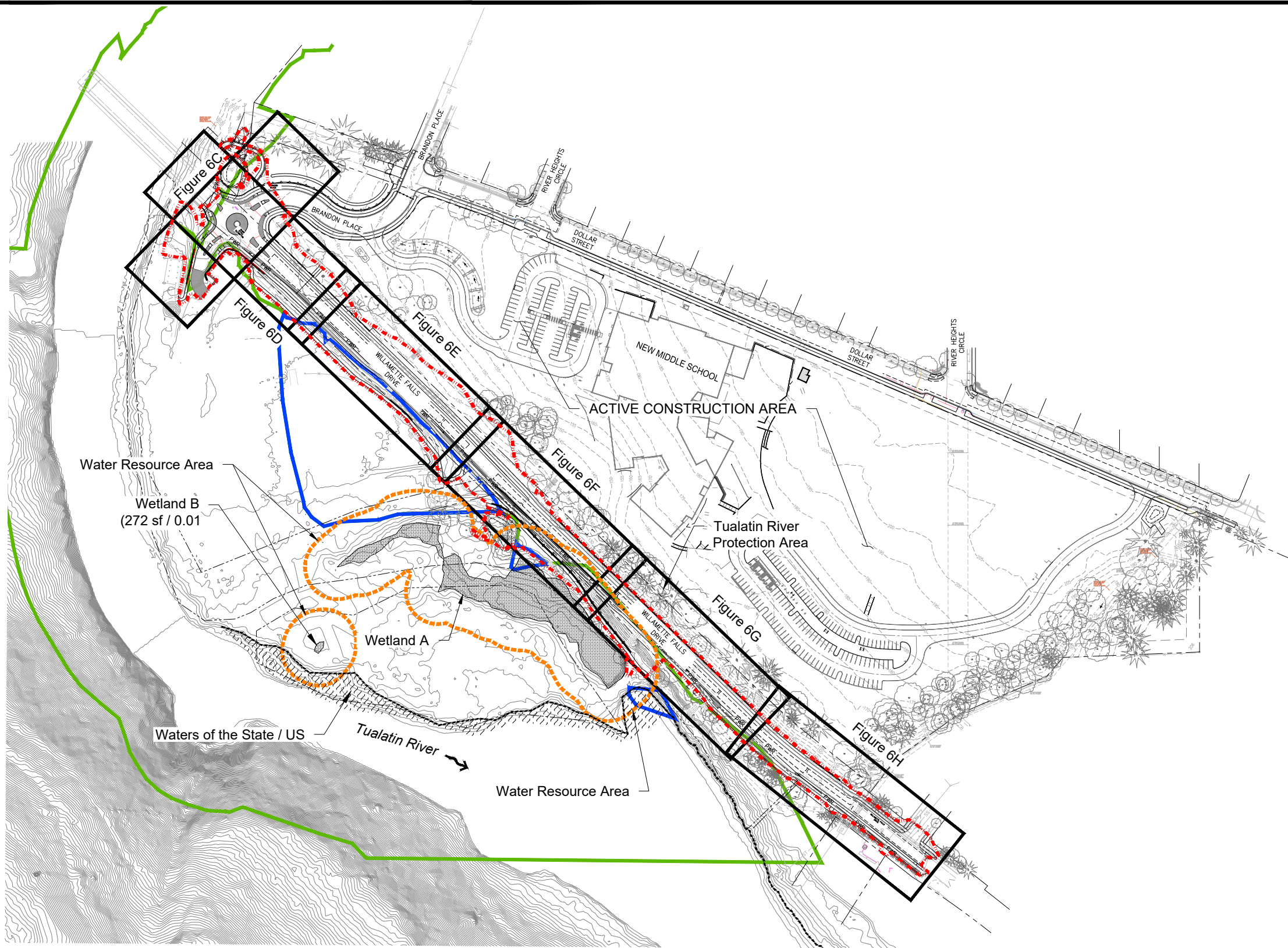
Pacific Habitat Services, Inc.  
 9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070  
 Phone: (503) 570-0800 Fax: (503) 570-0855

Site Plan Overview (Tualatin River Protection Area)  
 Willamette Falls Drive Public Improvements - West Linn, Oregon

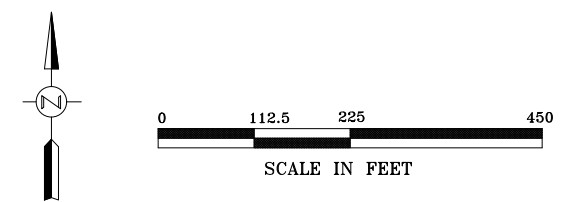
**FIGURE 6A**

12-21-2022





- LEGEND**
- - - - - Project Area Boundary (5.00 ac)
  - Wetland (0.82 ac)
  - Waters of the State/US (0.76 ac)
  - Ordinary High Water (OHW)
  - ← Direction of Flow
  - Contours
  - Tax Lots
  - - - - - Water Resource Area (WRA)
  - Habitat Conservation Area (HCA) (High HCA)
  - Habitat Conservation Area(HCA) (Moderate HCA)



Plans Provided by KPFF

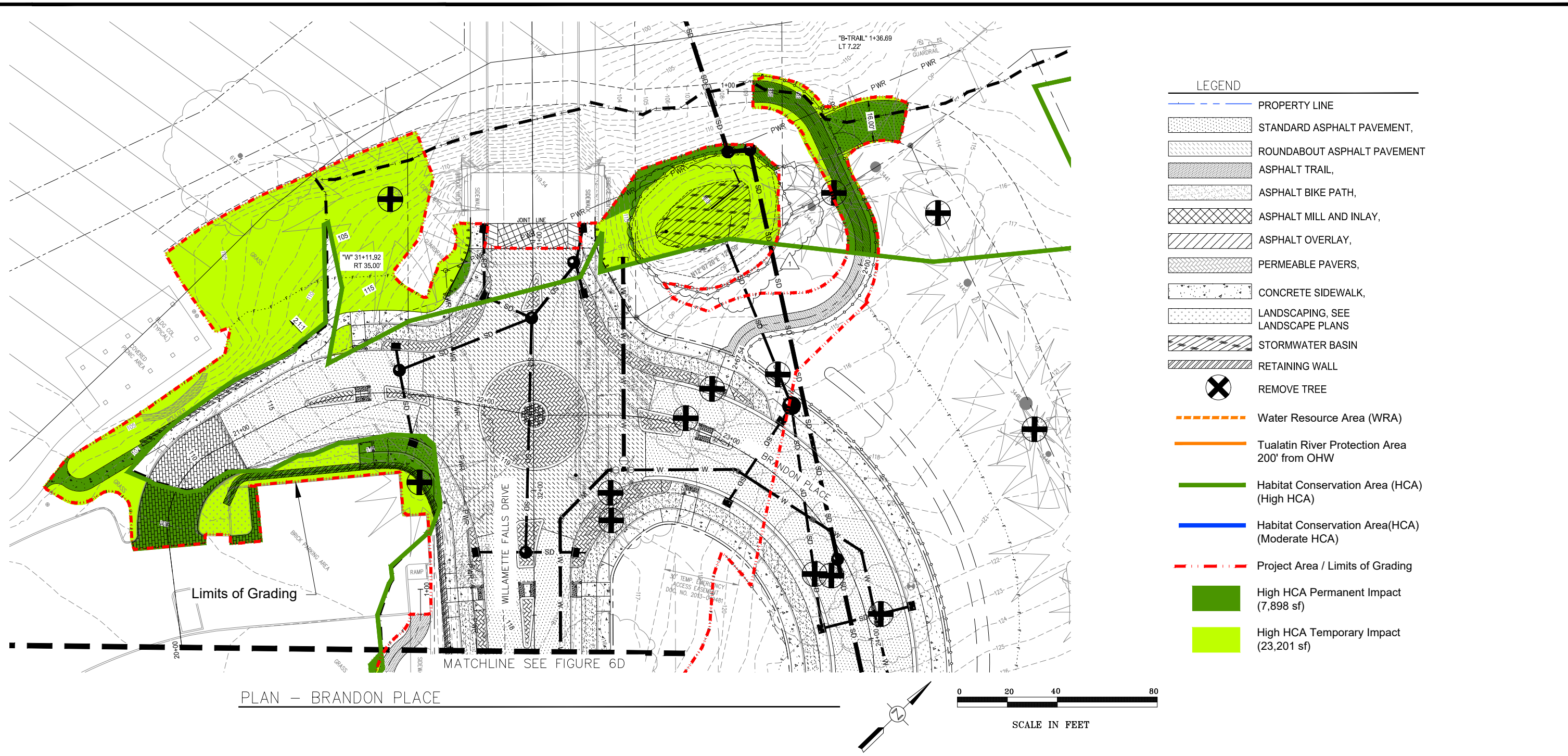
Pacific Habitat Services, Inc.  
 9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070  
 Phone: (503) 570-0800 Fax (503) 570-0855

Site Plan Overview (Habitat Conservation Areas and Water Resource Areas)  
 Willamette Falls Drive Public Improvements - West Linn, Oregon

**FIGURE 6B**

12-21-2022





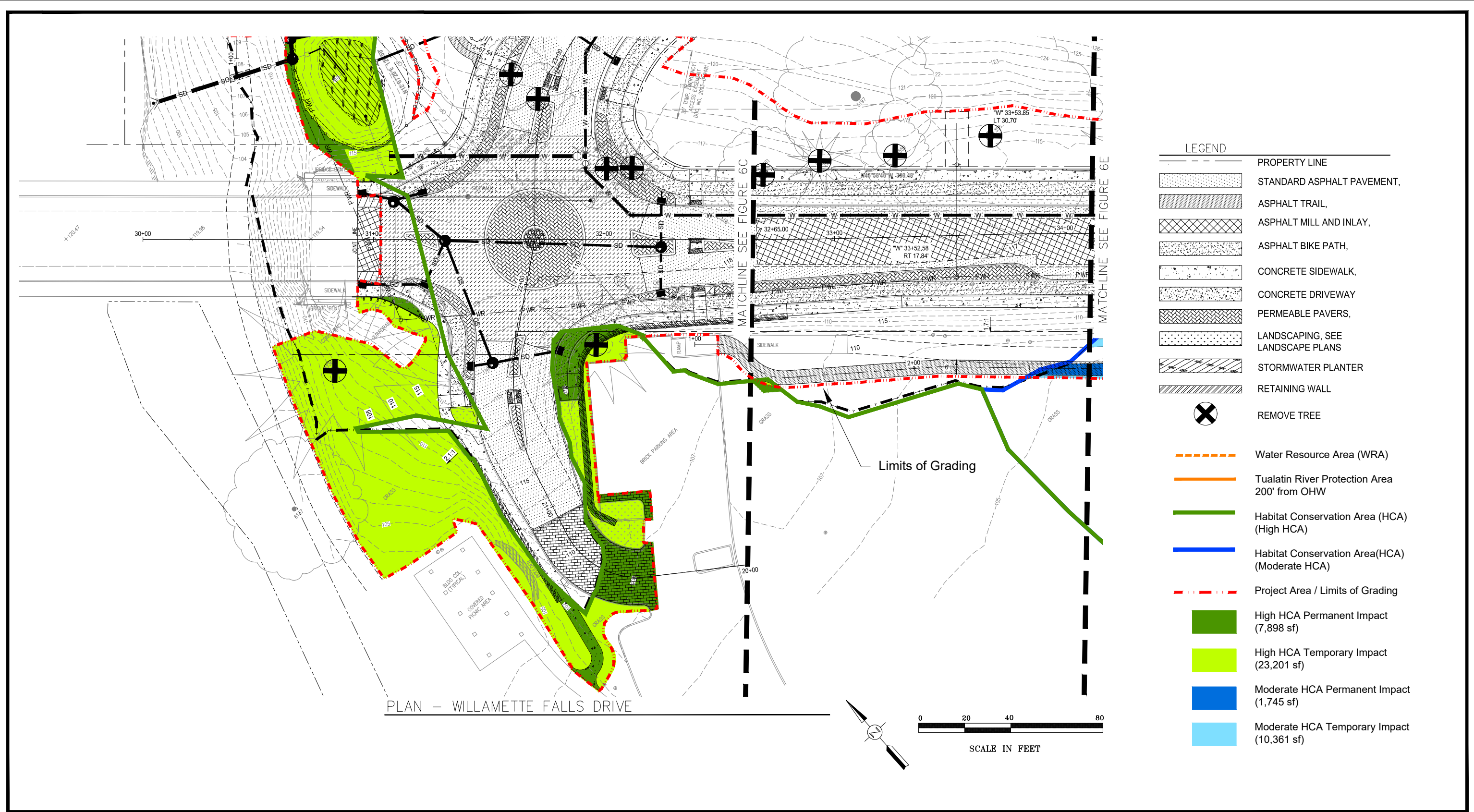
Plans Provided by KPFF

Site Plan  
 Willamette Falls Drive Public Improvements - West Linn, Oregon

FIGURE  
**6C**

12-21-2022

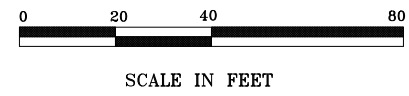




- LEGEND**
- PROPERTY LINE
  - STANDARD ASPHALT PAVEMENT,
  - ASPHALT TRAIL,
  - ASPHALT MILL AND INLAY,
  - ASPHALT BIKE PATH,
  - CONCRETE SIDEWALK,
  - CONCRETE DRIVEWAY
  - PERMEABLE PAVERS,
  - LANDSCAPING, SEE LANDSCAPE PLANS
  - STORMWATER PLANTER
  - RETAINING WALL
  - REMOVE TREE
  - Water Resource Area (WRA)
  - Tualatin River Protection Area 200' from OHW
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  - Habitat Conservation Area(HCA) (Moderate HCA)
  - Project Area / Limits of Grading
  - High HCA Permanent Impact (7,898 sf)
  - High HCA Temporary Impact (23,201 sf)
  - Moderate HCA Permanent Impact (1,745 sf)
  - Moderate HCA Temporary Impact (10,361 sf)

PLAN - WILLAMETTE FALLS DRIVE

Limits of Grading

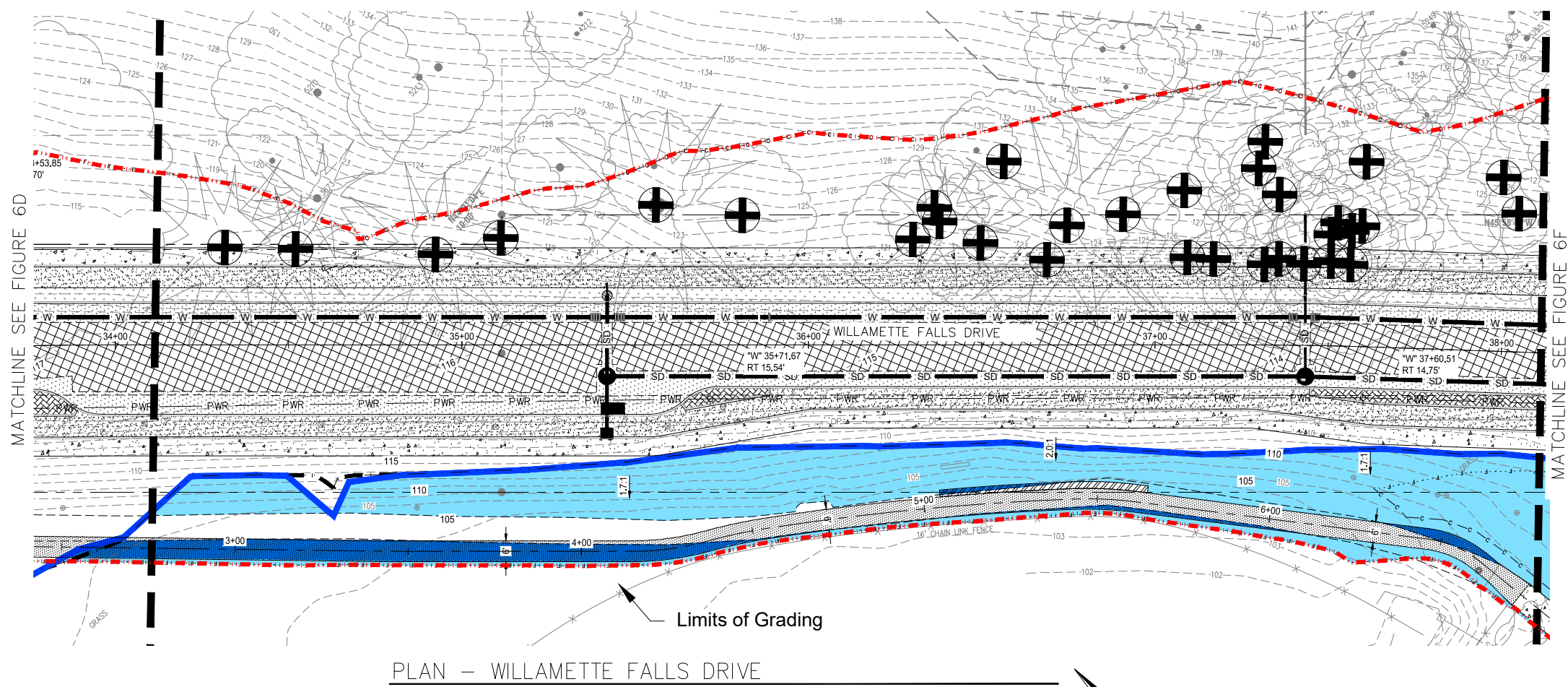


Plans Provided by KPFF

Site Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

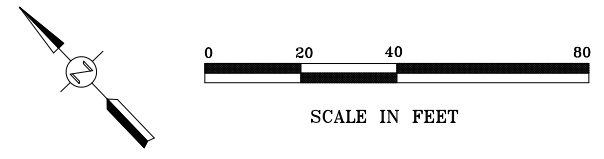
FIGURE  
**6D**

12-21-2022



PLAN – WILLAMETTE FALLS DRIVE

- LEGEND**
- PROPERTY LINE
  - STANDARD ASPHALT PAVEMENT,
  - ASPHALT TRAIL,
  - ASPHALT MILL AND INLAY,
  - ASPHALT BIKE PATH,
  - CONCRETE SIDEWALK,
  - CONCRETE DRIVEWAY
  - PERMEABLE PAVERS,
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  - Moderate HCA Permanent Impact (1,745 sf)
  - Moderate HCA Temporary Impact (10,361 sf)



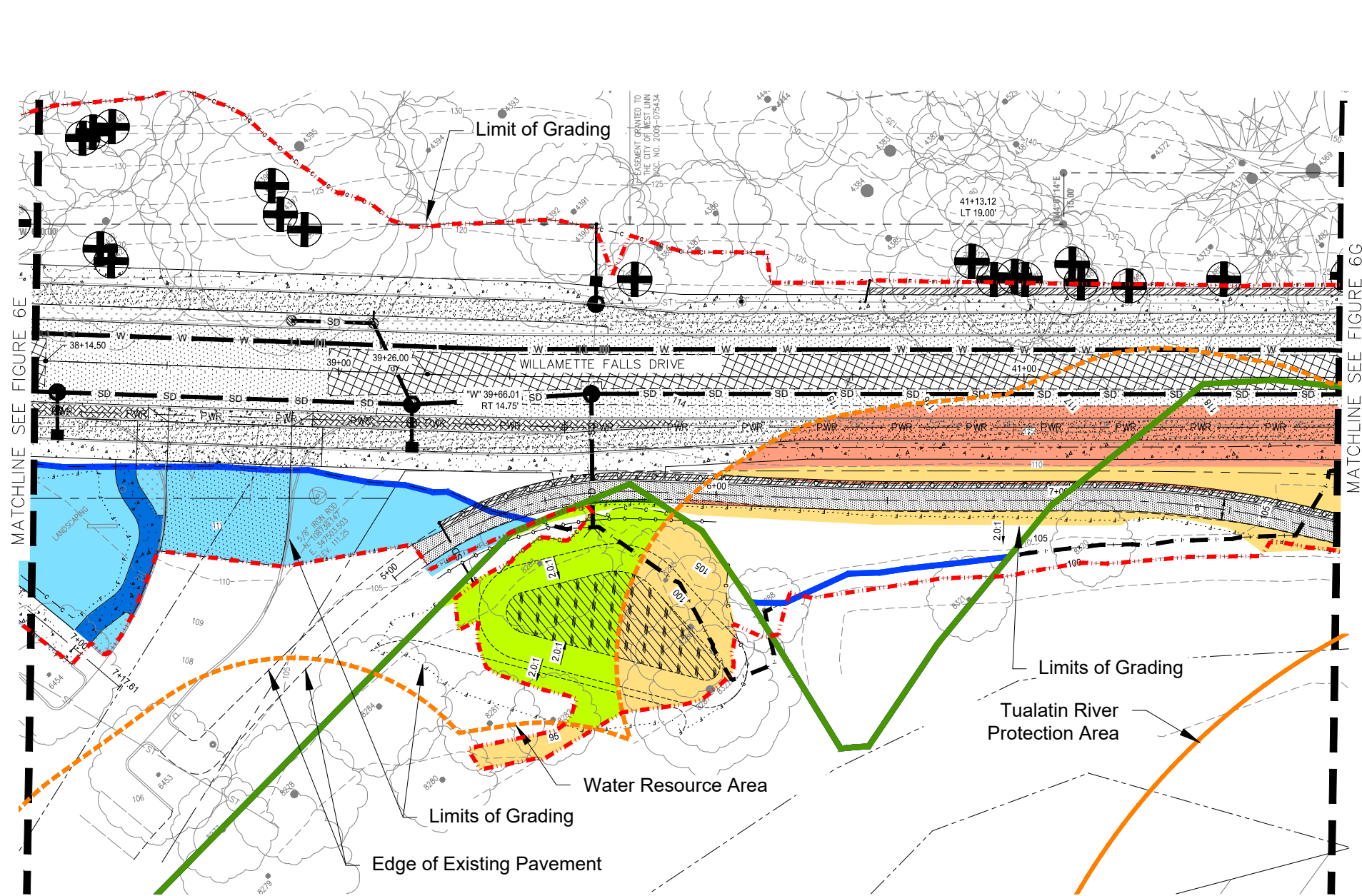
Plans Provided by KPFF

Site Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

FIGURE  
**6E**

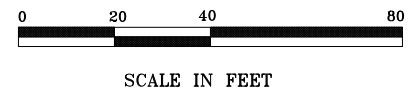
12-21-2022





PLAN - WILLAMETTE FALLS DRIVE  
SCALE: 1" = 40'

LEGEND	
	PROPERTY LINE
	STANDARD ASPHALT PAVEMENT,
	ASPHALT TRAIL,
	ASPHALT MILL AND INLAY,
	ASPHALT BIKE PATH,
	CONCRETE SIDEWALK,
	CONCRETE DRIVEWAY
	PERMEABLE PAVERS,
	LANDSCAPING, SEE LANDSCAPE PLANS
	STORMWATER PLANTER
	RETAINING WALL
	REMOVE TREE
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	Moderate HCA Permanent Impact (1,745 sf)
	Moderate HCA Temporary Impact (10,361 sf)
	Tualatin River Protection Area Permanent Impact (18,326 sf)
	Tualatin River Protection Area Temporary Impact (9,591 sf)
	WRA Permanent Impact (5,587 sf)
	WRA Temporary Impact (10,360 sf)



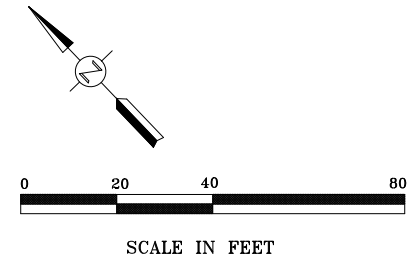
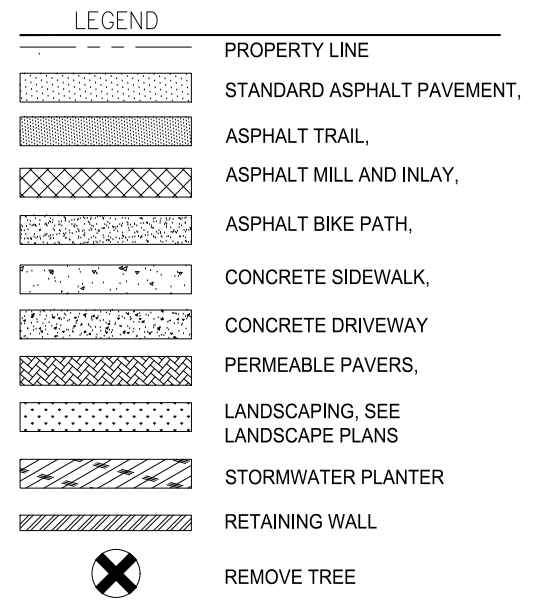
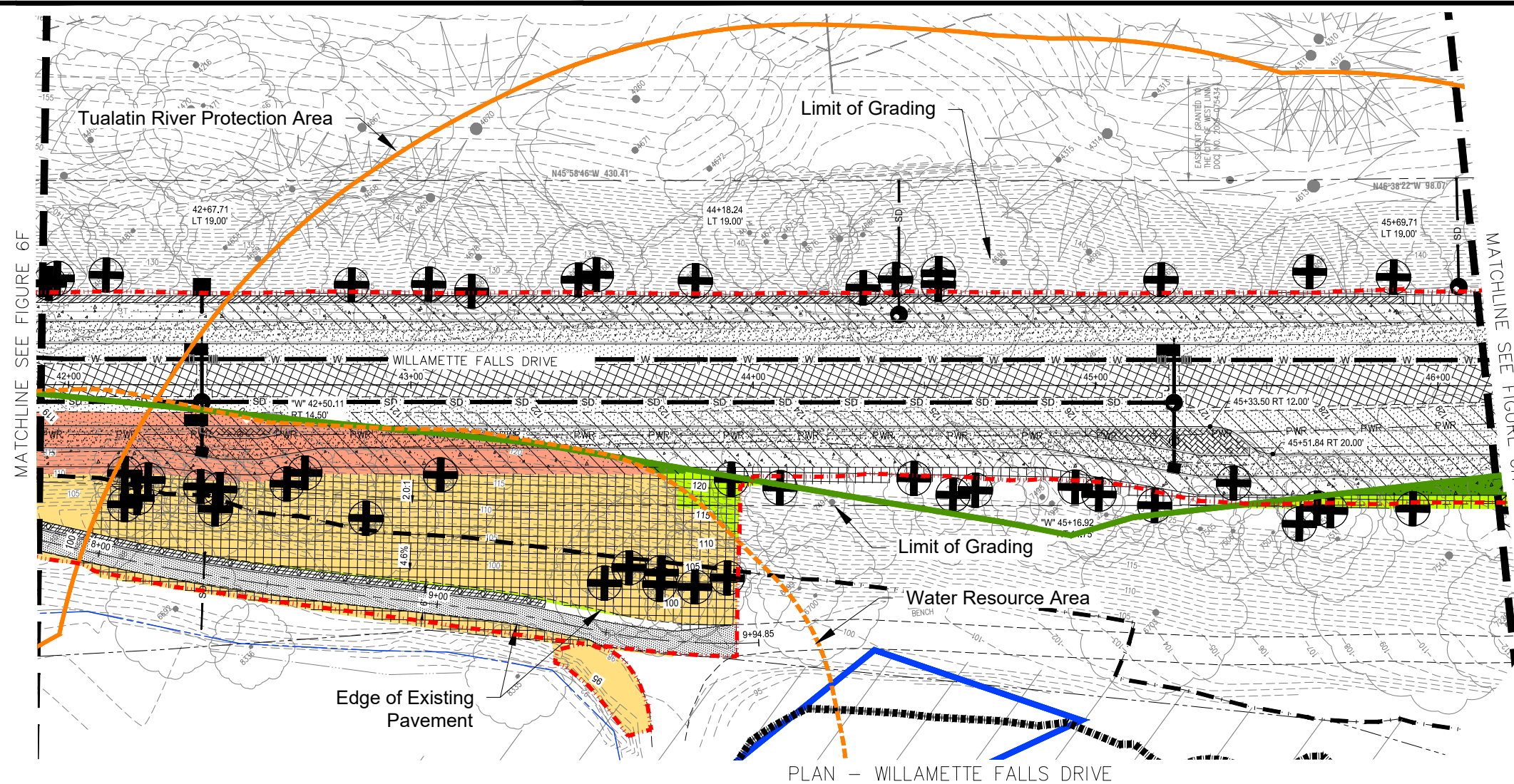
Plans Provided by KPFF

Site Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

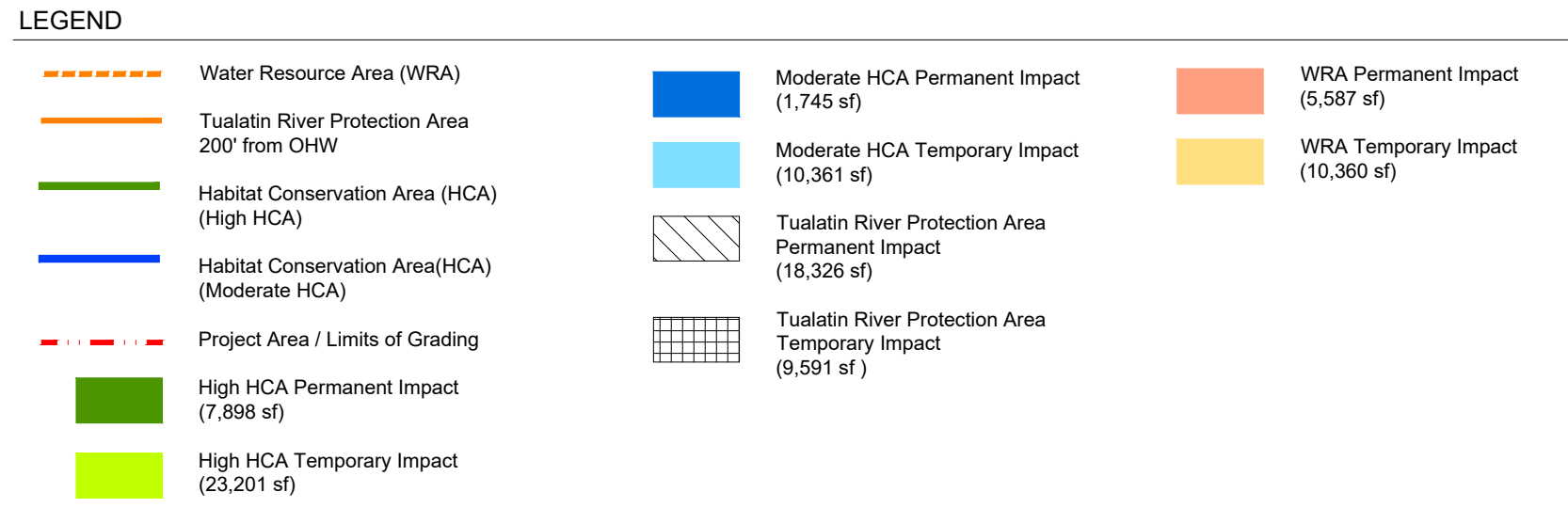
FIGURE  
**6F**

12-21-2022





PLAN - WILLAMETTE FALLS DRIVE



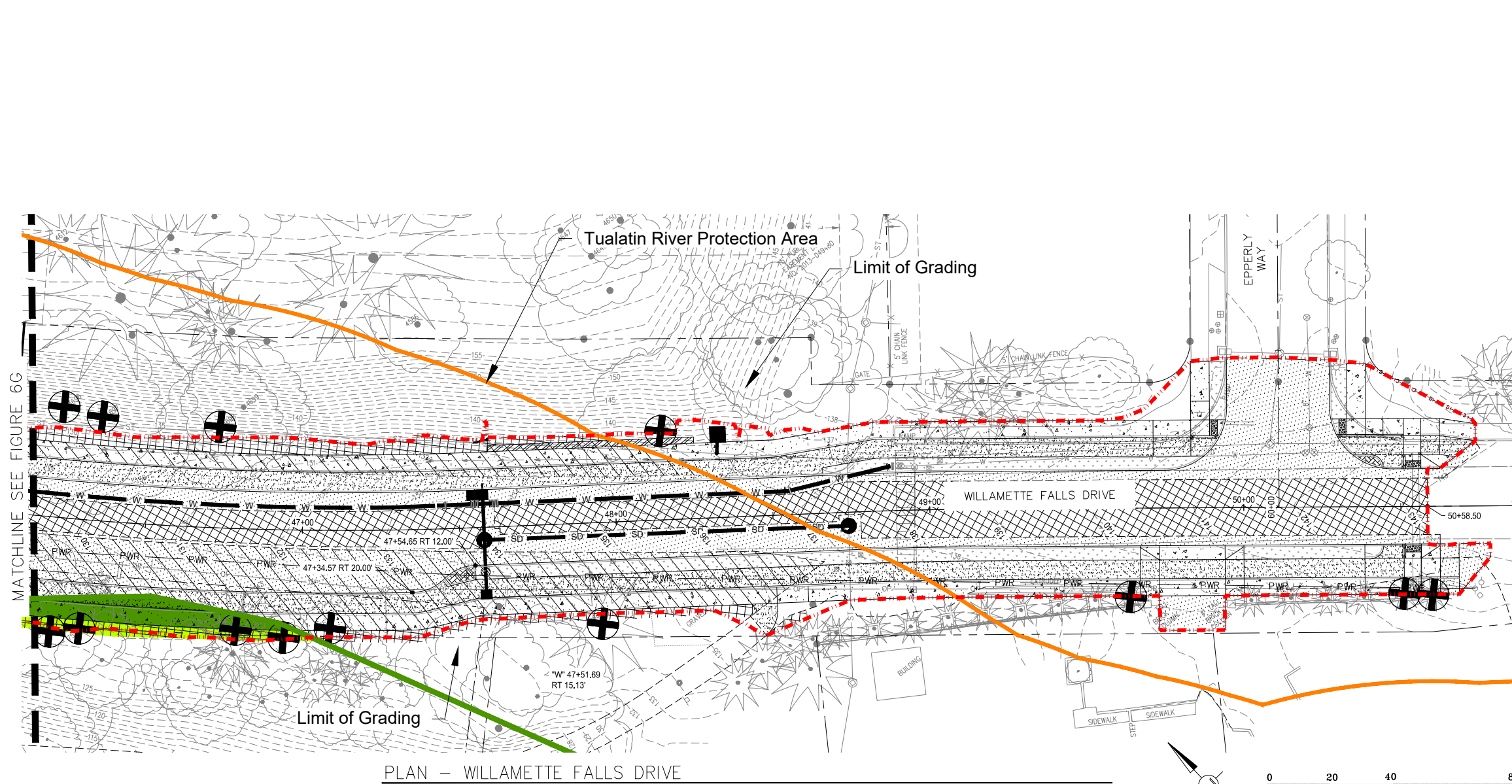
Plans Provided by KPFF

Site Plan  
 Willamette Falls Drive Public Improvements - West Linn, Oregon

FIGURE  
**6G**

12-21-2022





LEGEND	
	PROPERTY LINE
	STANDARD ASPHALT PAVEMENT,
	ASPHALT TRAIL,
	ASPHALT MILL AND INLAY,
	ASPHALT BIKE PATH,
	CONCRETE SIDEWALK,
	CONCRETE DRIVEWAY
	PERMEABLE PAVERS,
	LANDSCAPING, SEE LANDSCAPE PLANS
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	Tualatin River Protection Area Temporary Impact (9,591 sf)

PLAN - WILLAMETTE FALLS DRIVE

SCALE IN FEET

0 20 40 80



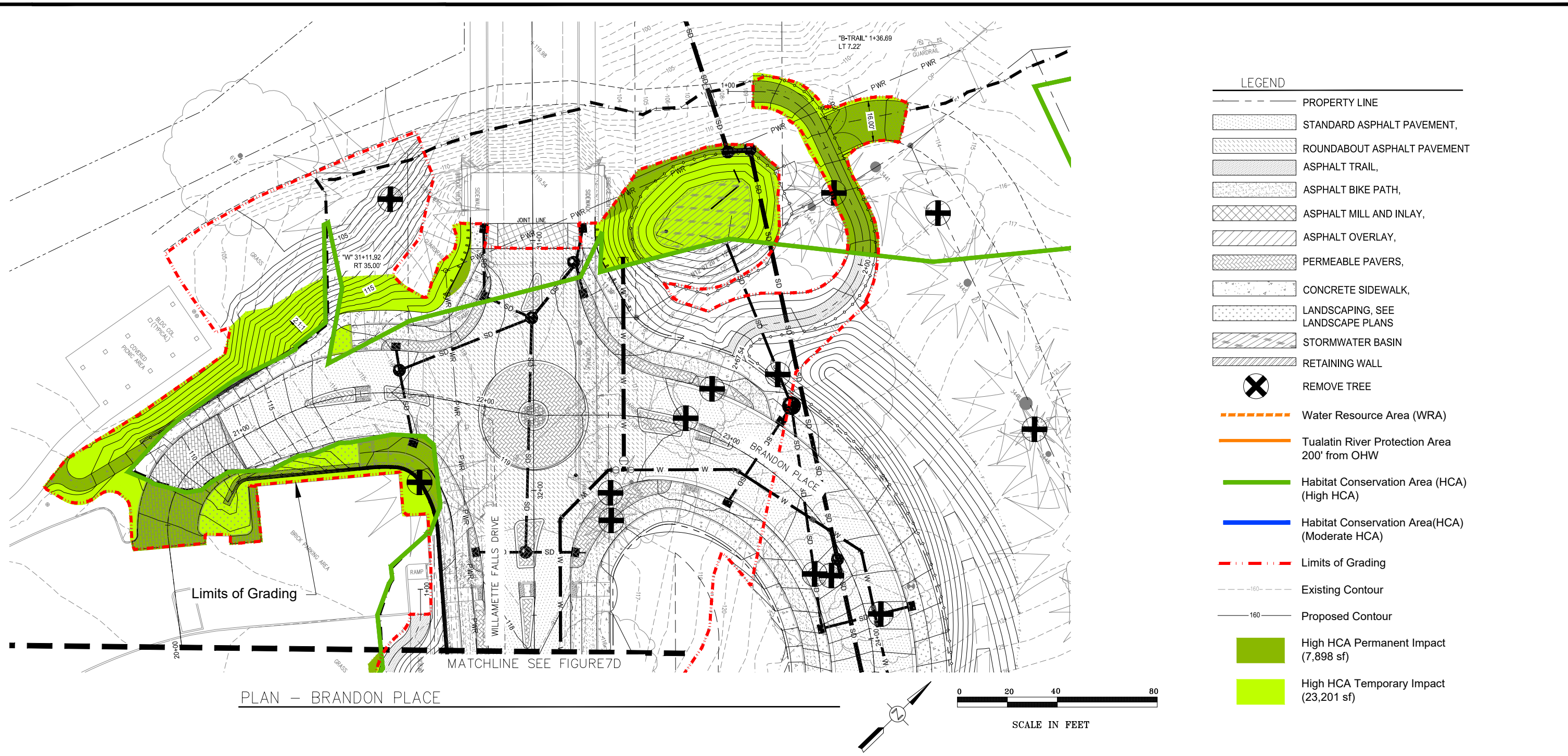
Plans Provided by KPFF

Site Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

FIGURE  
**6H**

12-21-2022





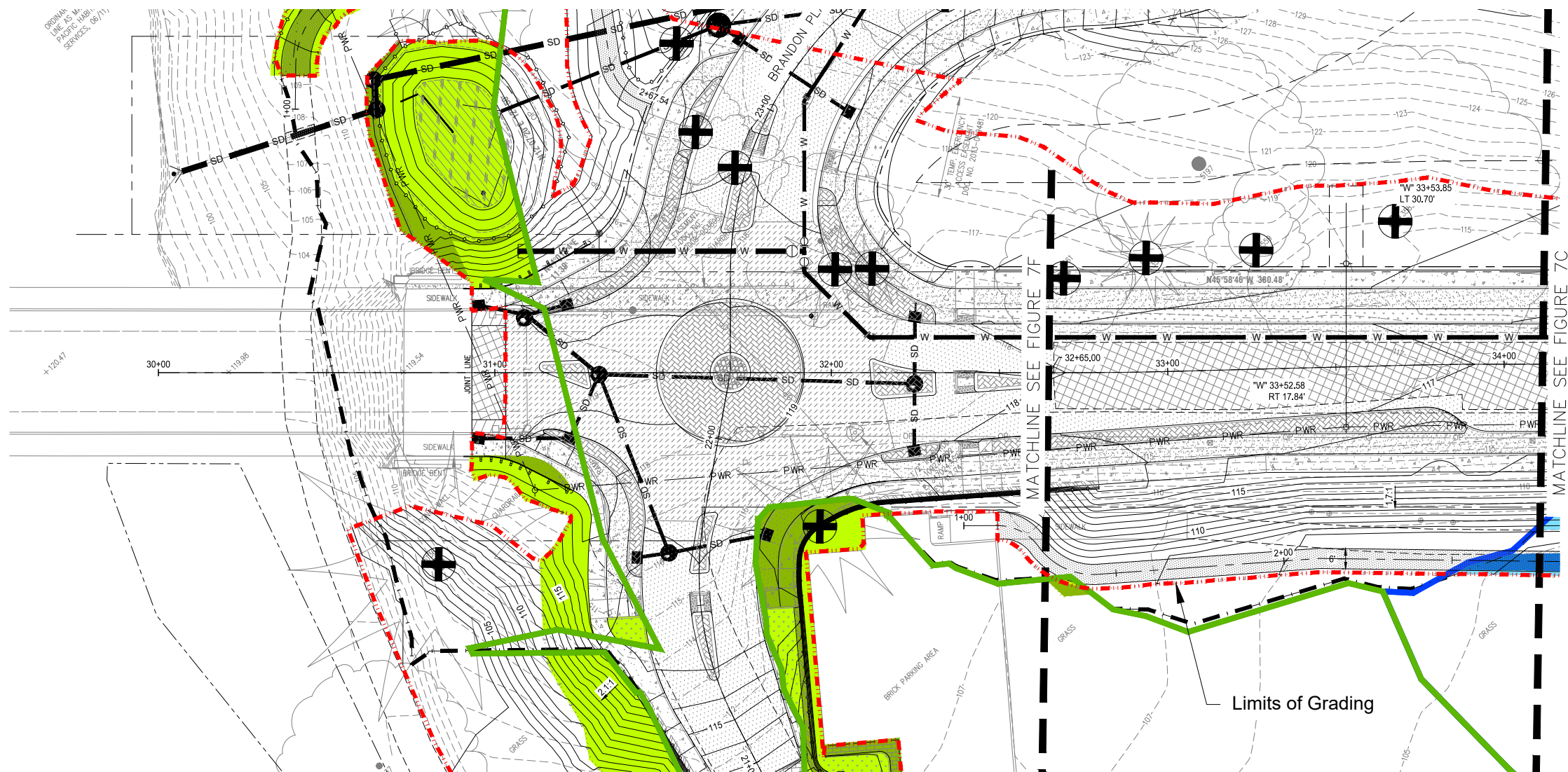
Plans Provided by KPFF

Grading Plan  
 Willamette Falls Drive Public Improvements - West Linn, Oregon

FIGURE  
**7A**

12-21-2022





PLAN - WILLAMETTE FALLS DRIVE

- LEGEND CONTINUED
- PROPERTY LINE
  - STANDARD ASPHALT PAVEMENT,
  - ASPHALT TRAIL,
  - ASPHALT MILL AND INLAY,
  - ASPHALT BIKE PATH,
  - CONCRETE SIDEWALK,
  - CONCRETE DRIVEWAY
  - PERMEABLE PAVERS,
  - LANDSCAPING, SEE LANDSCAPE PLANS
  - STORMWATER PLANTER
  - RETAINING WALL
  - REMOVE TREE
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  - PROPOSED CONTOUR
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  - High HCA Temporary Impact (23,201 sf)
  - Moderate HCA Permanent Impact (1,745 sf)
  - Moderate HCA Temporary Impact (10,361 sf)

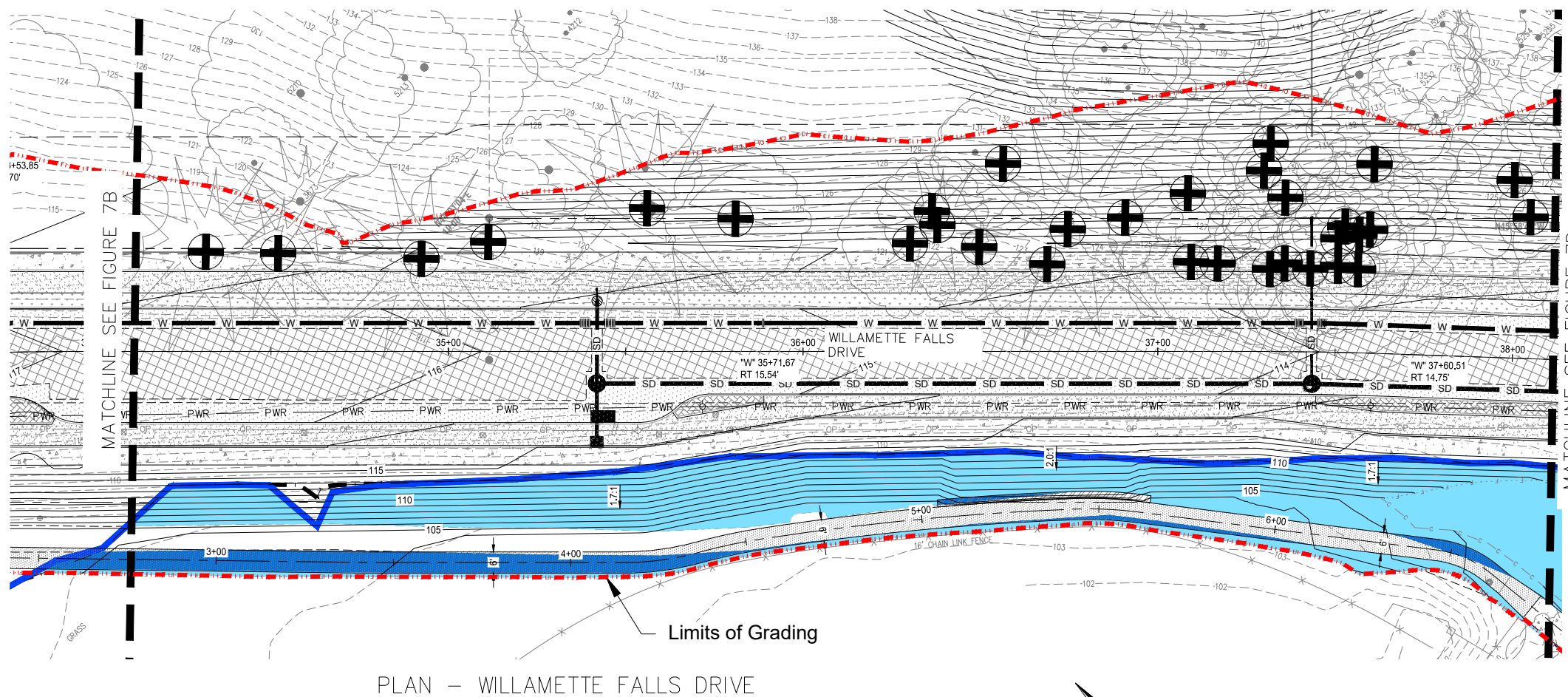


Plans Provided by KPFF

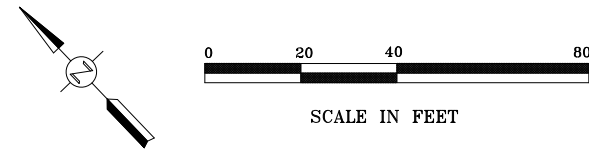
Grading Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

FIGURE  
**7B**

12-21-2022



PLAN – WILLAMETTE FALLS DRIVE



- LEGEND CONTINUED
- PROPERTY LINE
  - STANDARD ASPHALT PAVEMENT,
  - ASPHALT TRAIL,
  - ASPHALT MILL AND INLAY,
  - ASPHALT BIKE PATH,
  - CONCRETE SIDEWALK,
  - CONCRETE DRIVEWAY
  - PERMEABLE PAVERS,
  - LANDSCAPING, SEE LANDSCAPE PLANS
  - STORMWATER PLANTER
  - RETAINING WALL
  - REMOVE TREE
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  - PROPOSED CONTOUR
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  - Limits of Grading
  - Moderate HCA Permanent Impact (1,745 sf)
  - Moderate HCA Temporary Impact (10,361 sf)



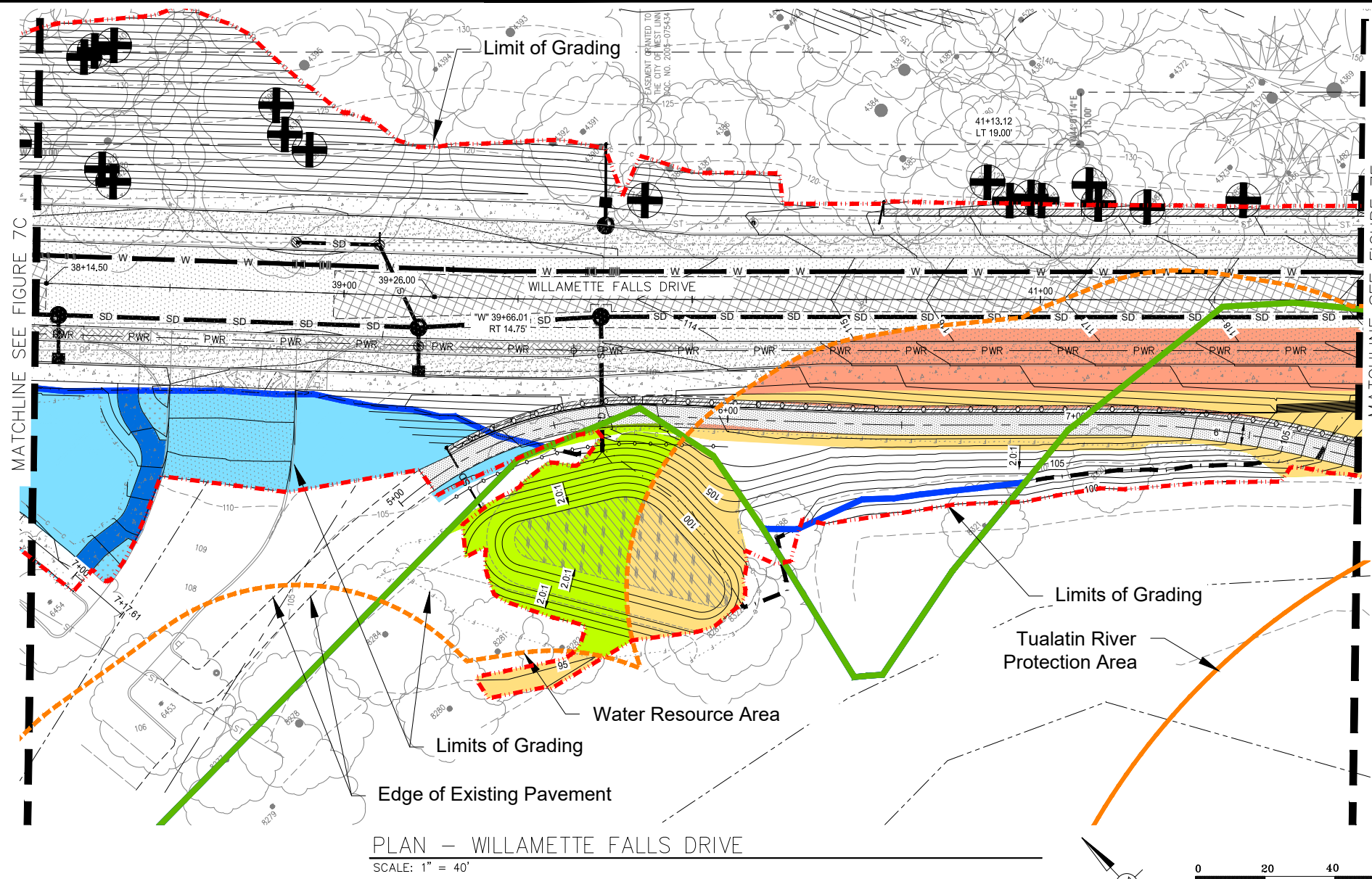
Plans Provided by KPFF

Grading Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

FIGURE  
**7C**

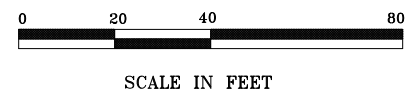
12-21-2022





PLAN - WILLAMETTE FALLS DRIVE  
SCALE: 1" = 40'

LEGEND	
	PROPERTY LINE
	STANDARD ASPHALT PAVEMENT,
	ASPHALT TRAIL,
	ASPHALT MILL AND INLAY,
	ASPHALT BIKE PATH,
	CONCRETE SIDEWALK,
	CONCRETE DRIVEWAY
	PERMEABLE PAVERS,
	LANDSCAPING, SEE LANDSCAPE PLANS
	STORMWATER PLANTER
	RETAINING WALL
	REMOVE TREE
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	Water Resource Area (WRA)
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	WRA Permanent Impact (5,587 sf)
	WRA Temporary Impact (10,360 sf)



Plans Provided by KPFF

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


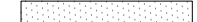



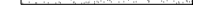
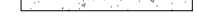






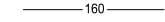











Grading Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

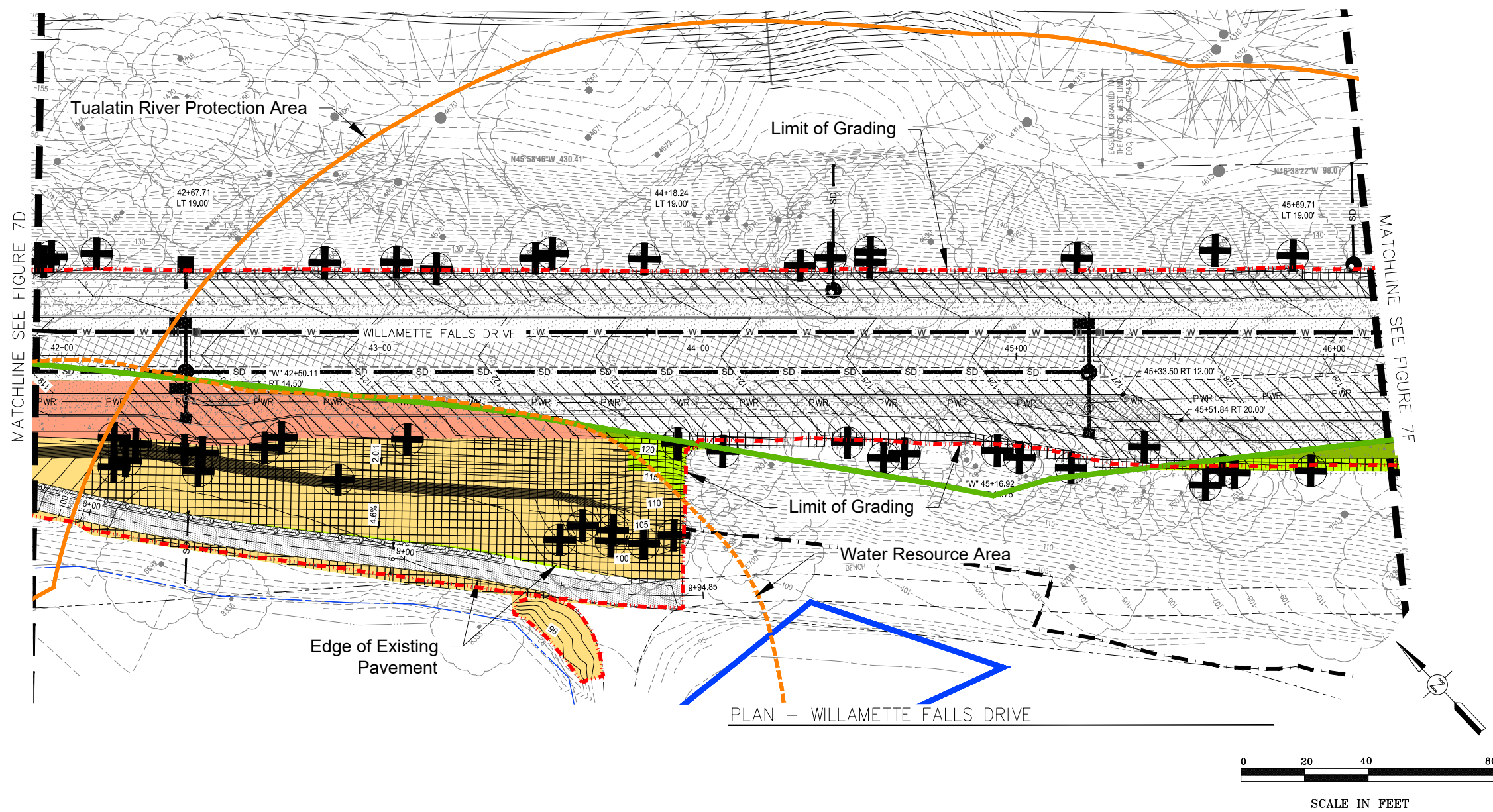
FIGURE  
**7D**

12-21-2022



**LEGEND**

-  PROPERTY LINE
-  STANDARD ASPHALT PAVEMENT,
-  ASPHALT TRAIL,
-  ASPHALT MILL AND INLAY,
-  ASPHALT BIKE PATH,
-  CONCRETE SIDEWALK,
-  CONCRETE DRIVEWAY
-  PERMEABLE PAVERS,
-  LANDSCAPING, SEE LANDSCAPE PLANS
-  STORMWATER PLANTER
-  RETAINING WALL
-  REMOVE TREE
-  EXISTING CONTOUR
-  PROPOSED CONTOUR
-  Water Resource Area (WRA)
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-  Tualatin River Protection Area Temporary Impact (9,591 sf)
-  WRA Permanent Impact (5,587 sf)
-  WRA Temporary Impact (10,360 sf)



Plans Provided by KPFF

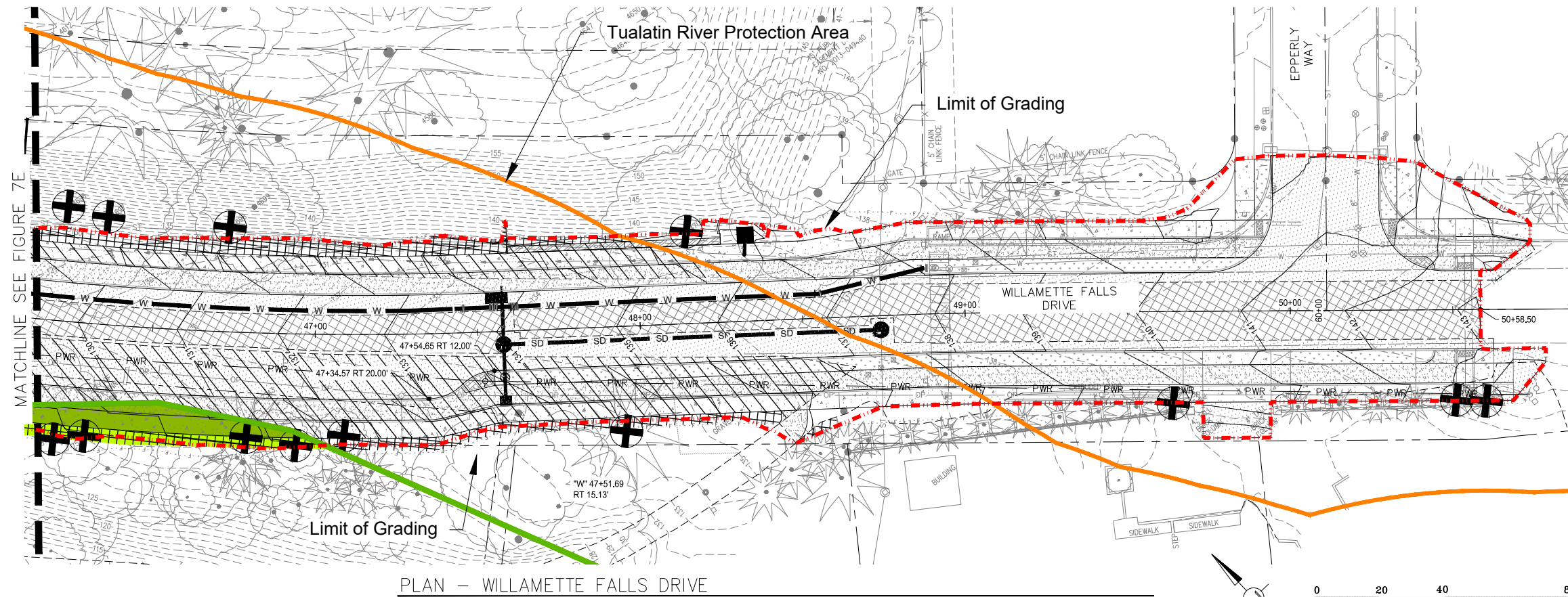
Grading Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

**FIGURE  
7E**

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

12-21-2022

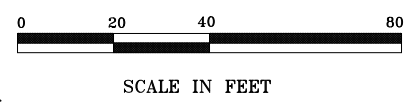




PLAN - WILLAMETTE FALLS DRIVE

**LEGEND**

- PROPERTY LINE
- STANDARD ASPHALT PAVEMENT,
- ASPHALT TRAIL,
- ASPHALT MILL AND INLAY,
- ASPHALT BIKE PATH,
- CONCRETE SIDEWALK,
- CONCRETE DRIVEWAY
- PERMEABLE PAVERS,
- LANDSCAPING, SEE LANDSCAPE PLANS
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- Tualatin River Protection Area Temporary Impact (9,591 sf)



MATCHLINE SEE FIGURE 7E

Tualatin River Protection Area

Limit of Grading

WILLAMETTE FALLS DRIVE

EPPERLY WAY

Limit of Grading

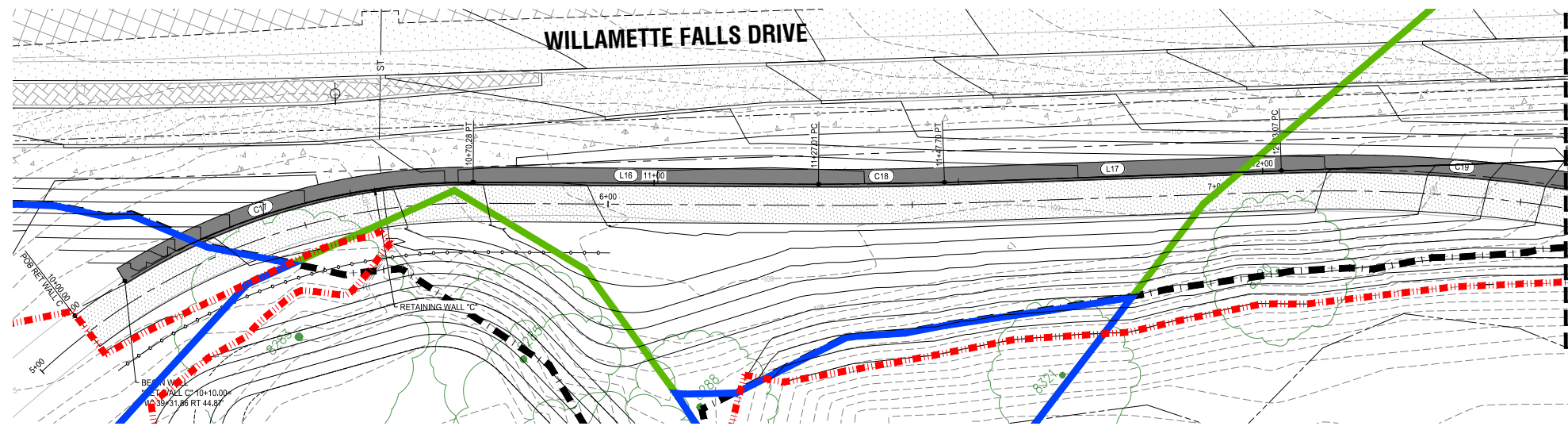


Plans Provided by KPFF

Grading Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

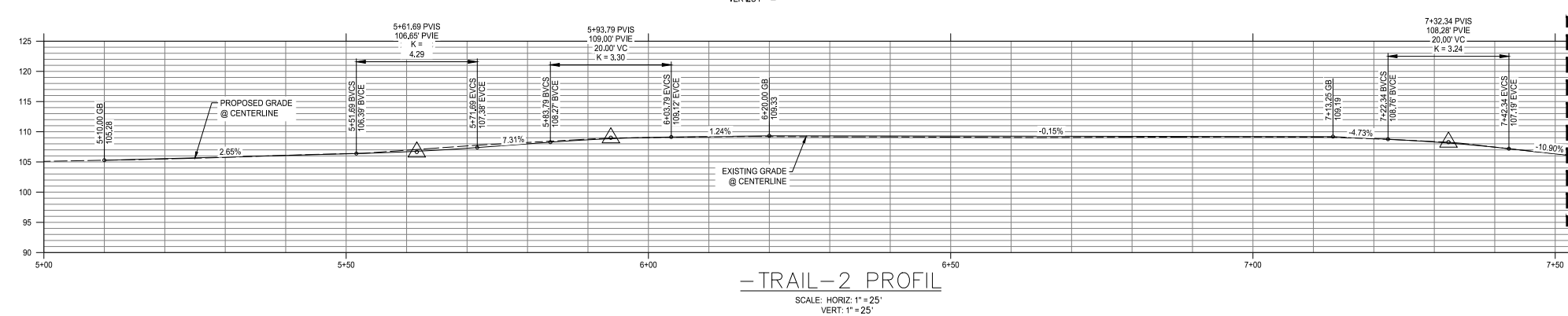
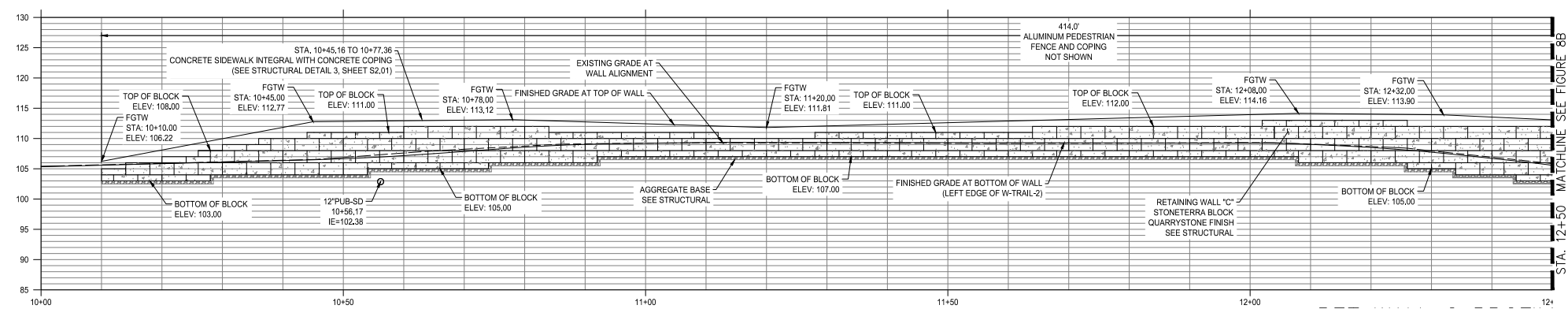
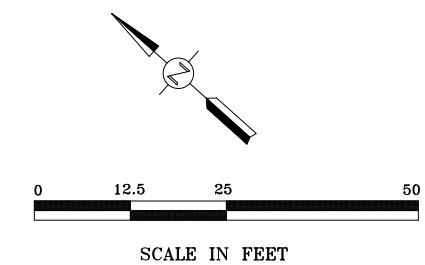
FIGURE  
**7F**

12-21-2022



**SHEET NOTES**

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4. REFER TO STRUCTURAL SHEET S2.01 FOR STRUCTURAL RETAINING WALL DETAILS.
5. REFER TO STORM PLAN FOR WALL DRAINAGE DETAILS AND LOCATIONS.



**LEGEND**

- Water Resource Area (WRA)
- Tualatin River Protection Area 200' from OHW
- Habitat Conservation Area (HCA) (High HCA)
- Habitat Conservation Area(HCA) (Moderate HCA)
- - - - - Limits of Grading



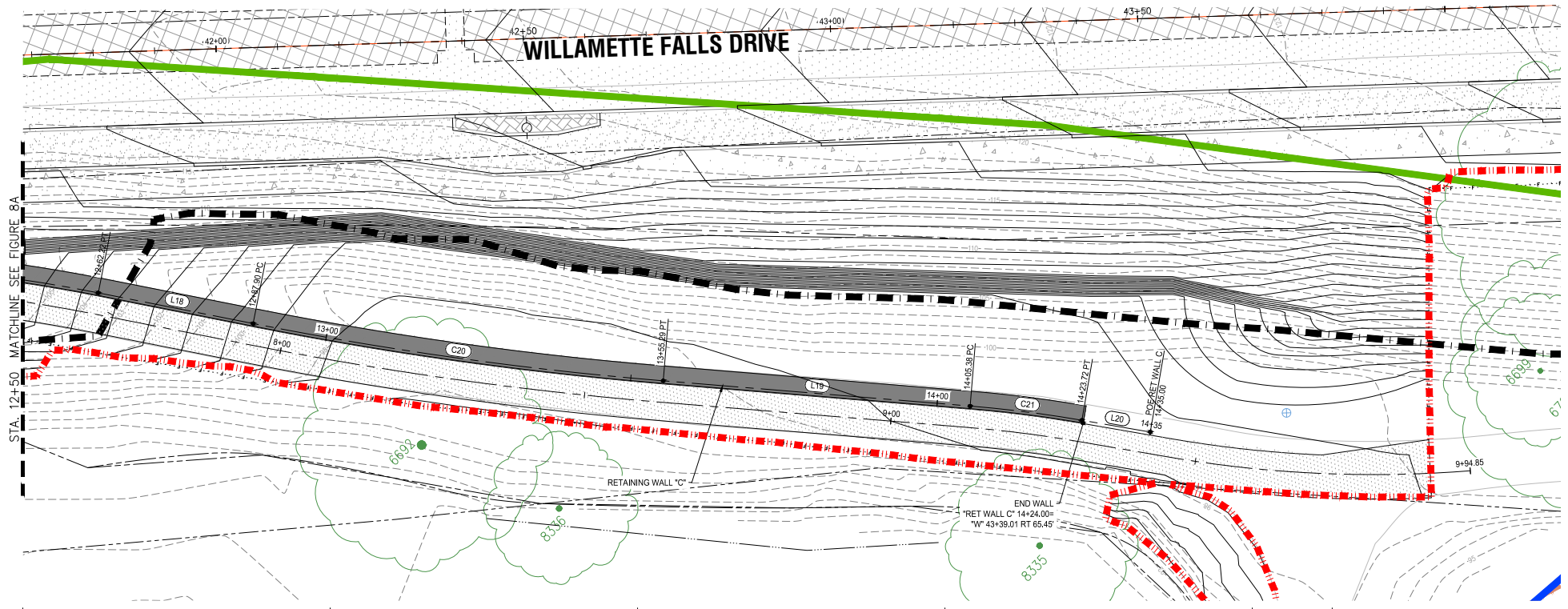
Plans Provided by KPFF

Retaining Wall Details  
Willamette Falls Drive Public Improvements - West Linn, Oregon

**FIGURE 8A**

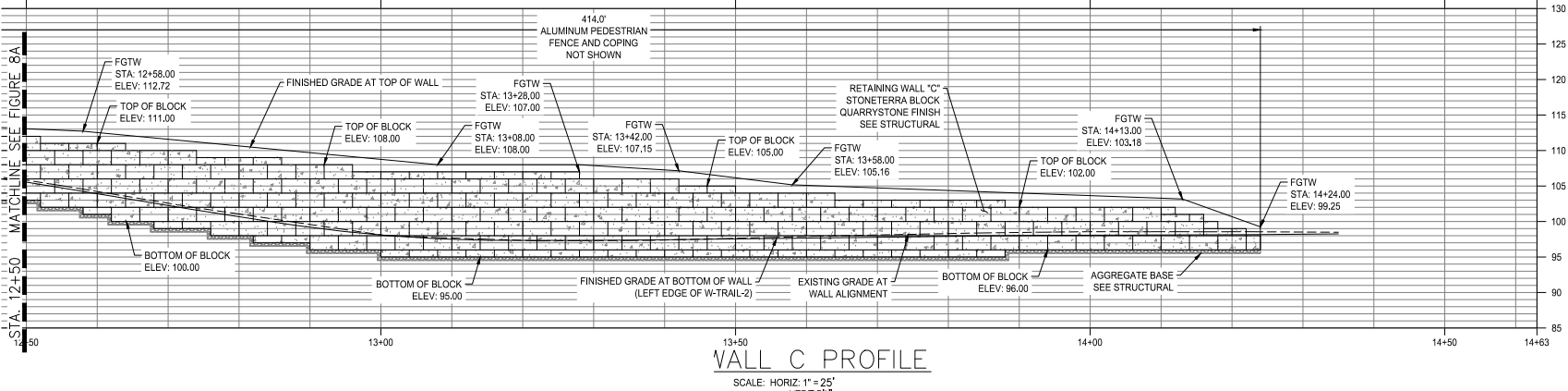
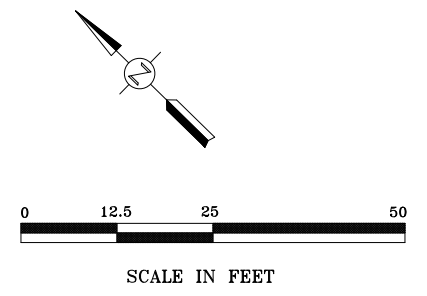
12-21-2022



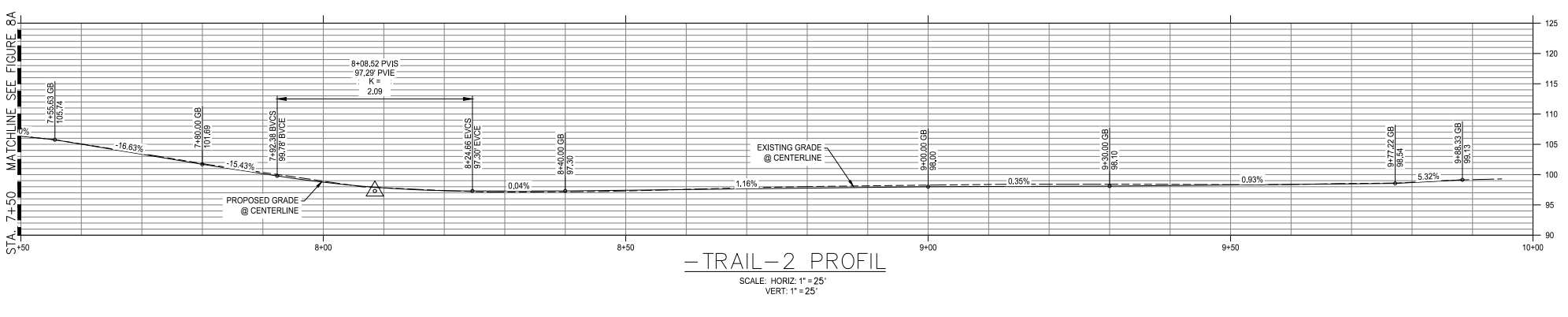


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Ret Wall C										
Number	START STATION	END STATION	Length	Line/Chord Direction	PI NORTHING	PI EASTING	Radius	Δ	M	T
C17	10+00.00	10+70.28	70.283	S62° 37' 02.24"E	108703.499	347549.267	106.500	037° 48' 40"	5.75	36.475
L16	10+70.28	11+27.01	56.726	S43° 42' 42.09"E						
C18	11+27.01	11+47.70	20.690	S44° 53' 36.99"E	108628.652	347620.822	501.500	002° 21' 50"	0.11	10.347
L17	11+47.70	12+03.07	55.373	S46° 04' 31.89"E						
C19	12+03.07	12+62.22	59.146	S39° 28' 10.59"E	108562.455	347689.552	256.500	013° 12' 43"	1.70	29.705
L18	12+62.22	12+87.90	25.678	S32° 51' 49.29"E						
C20	12+87.90	13+55.29	67.397	S36° 07' 00.81"E	108487.600	347737.910	593.500	006° 30' 23"	0.96	33.735
L19	13+55.29	14+05.38	50.090	S39° 22' 12.33"E						
C21	14+05.38	14+23.72	18.334	S36° 49' 35.56"E	108415.706	347796.901	206.500	005° 05' 14"	0.20	9.173
L20	14+23.72	14+35.00	11.285	S34° 16' 58.80"E						



**LEGEND**

- Habitat Conservation Area (HCA) (High HCA)
- Habitat Conservation Area(HCA) (Moderate HCA)
- - - - - Limits of Grading
- - - - - Existing Contour
- Proposed Contour

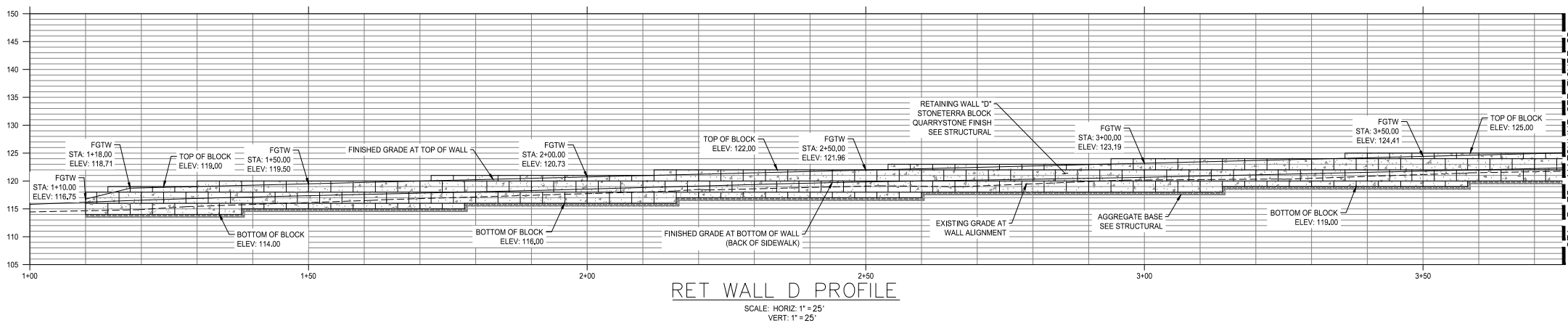
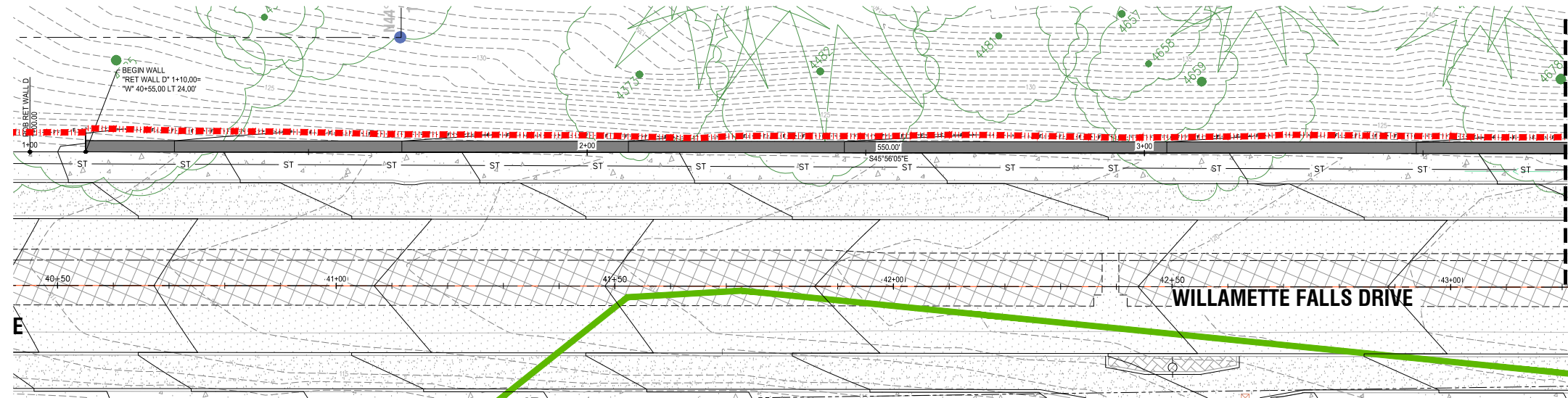


Plans Provided by KPFF

Retaining Wall Details  
Willamette Falls Drive Public Improvements - West Linn, Oregon

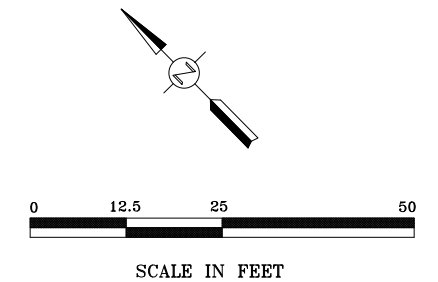
**FIGURE 8B**

12-21-2022



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Plans Provided by KPFF

Retaining Wall Details  
Willamette Falls Drive Public Improvements - West Linn, Oregon

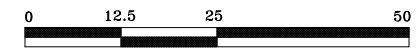
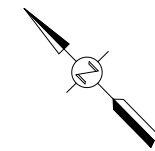
FIGURE  
**8C**

12-21-2022



SHEET NOTES

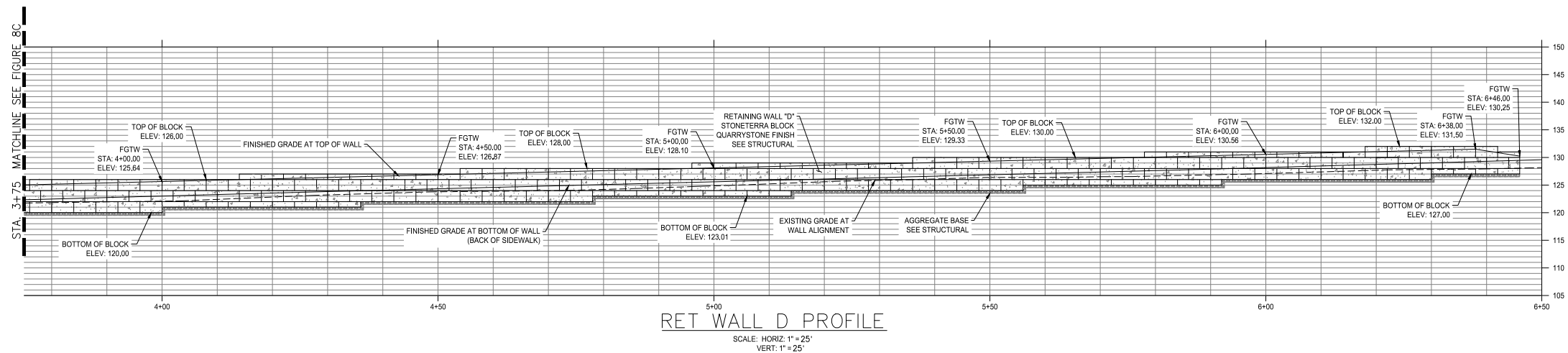
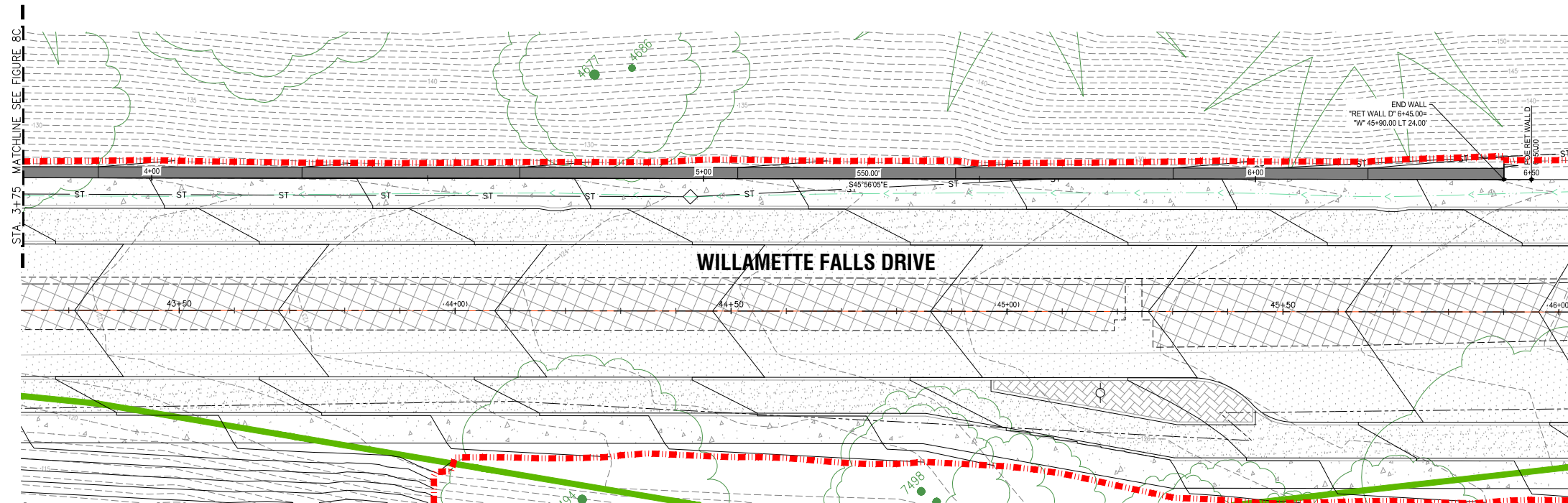
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SCALE IN FEET

LEGEND

- Water Resource Area (WRA)
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- Limits of Grading
- Existing Contour
- Proposed Contour



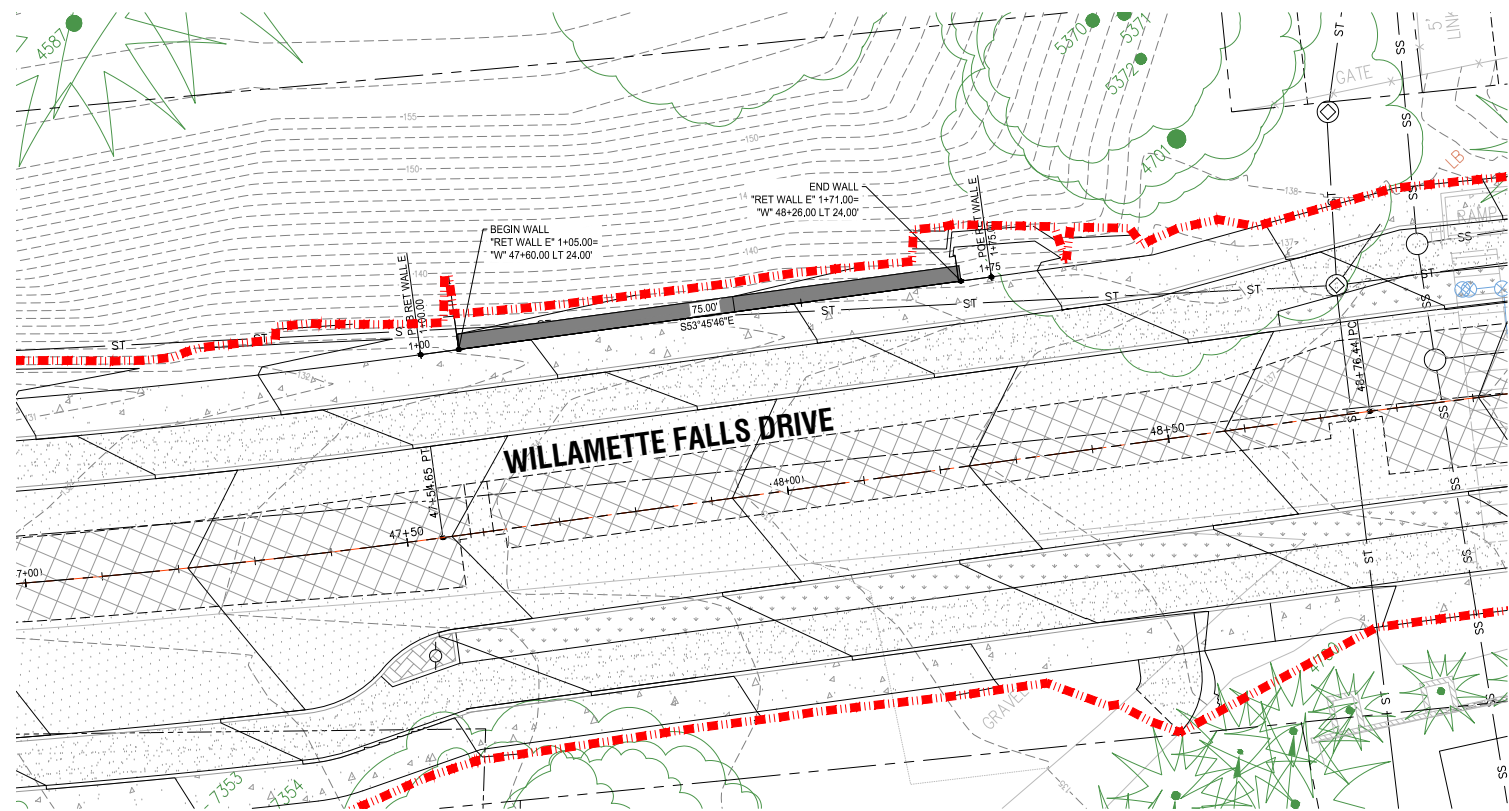
Plans Provided by KPFF

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

Retaining Wall Details  
 Willamette Falls Drive Public Improvements - West Linn, Oregon

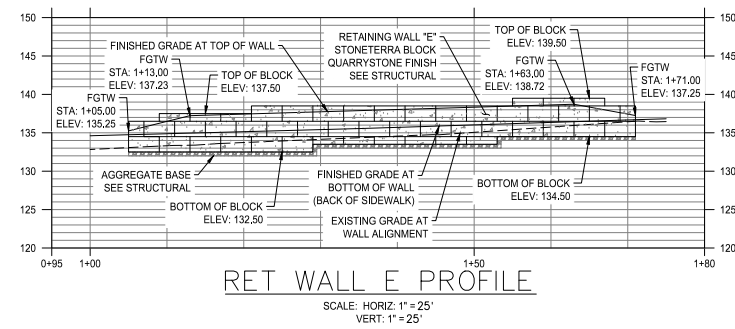
FIGURE  
**8D**

12-21-2022



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Plans Provided by KPFF

Retaining Wall Details  
 Willamette Falls Drive Public Improvements - West Linn, Oregon

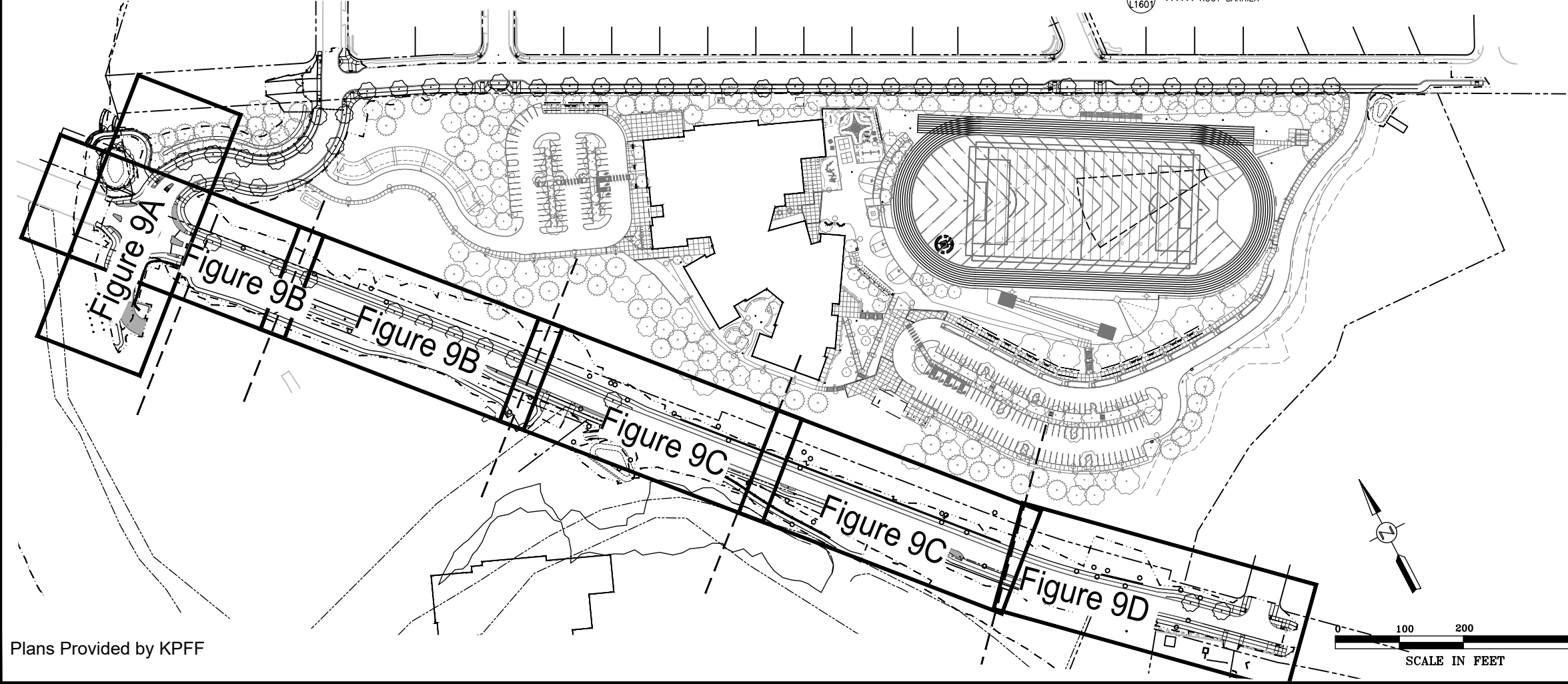
**FIGURE 8E**

12-21-2022



TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING/MATURE WIDTH	QTY	REMARKS
	ACE CIR	ACER CIRCINATUM	VINE MAPLE	1.5" CAL.	AS SHOWN	2	
	ACE AUT	ACER RUBRUM 'AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	2.5" CAL.	AS SHOWN	52	
SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
	CLE SIX	CLETHRA ALNIFOLIA 'SIXTEEN CANDLES'	SIXTEEN CANDLES SUMMERSWEET	#1		36" O.C.	36
	COR SER	CORNUS SERICEA	RED TWIG DOGWOOD	#2	48" O.C.	104	
	JUN PAT	JUNCUS PATENS	CALIFORNIA GRAY RUSH	#1	12" O.C.	1,814	
	LON PIL	LONICERA PILEATA	PRIVET HONEYSUCKLE	#1	18" O.C.	83	1 REVROOT
	MAH AQ3	MAHONIA AQUIFOLIUM 'COMPACTA'	COMPACT OREGON GRAPE	#2	48" O.C.	83	
	MAH RE2	MAHONIA REPENS	CREEPING MAHONIA	#1	36" O.C.	90	1 REVROOT
	POMU	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	#1	36" O.C.	675	1 REVROOT
	SPI TOR	SPIRAEA BETULIFOLIA 'TOR'	TOR BIRCHLEAF SPIREA	#1	36" O.C.	97	
	WESP	SPIRAEA DOUGLASII	WESTERN SPIREA	#1	36" O.C.	53	

SHRUB AREAS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	QTY	REMARKS	
		WOODLAND MIX / EROSION CONTROL MIX		4,053 SF			
GROUND COVERS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
		EROSION CONTROL MIX		25,101 SF		25,101 SF	
	FES HTN	NO MOW TYPE 1 FESTUCA OVINA 'QUATRO'	QUATRO SHEEP FESCUE	SEED		15,870 SF	2 LBS PER 1000 SF.
	FES CHN	FESTUCA RUBRA 'CHANTILLY'	CHANTILLY RED FESCUE	SEED			
	FES SHL	FESTUCA RUBRA 'SHORELINE'	SHORELINE RED FESCUE	SEED			
	FES COM	FESTUCA RUBRA COMMUTATA	CHEWINGS FESCUE	SEED			
	FES TR2	FESTUCA TRACHYPHYLLA	HARD FESCUE	SEED			
	TRI REP	TRIFOLIUM REPENS	WHITE CLOVER	SEED			
	CHR MAX	NO MOW TYPE 2 - FLOWERING MIX CHRYSANTHEMUM MAXIMUM	MAX CHRYSANTHEMUM	SEED		18,578 SF	2 LBS PER 1000 SF.
	CLA AMO	CLARKIA AMOENA	FAREWELL TO SPRING	SEED			
	ESC CAL	ESCHSCHOLZIA CALIFORNICA	CALIFORNIA POPPY	SEED			
	FES HT2	FESTUCA OVINA 'QUATRO'	QUATRO SHEEP FESCUE	SEED			
	FES TRA	FESTUCA TRACHYPHYLLA	HARD FESCUE	SEED			
	LOB MAR	LOBULARIA MARITIMA	SWEET ALYSSUM	SEED			
	LOL PE2	LOLIUM PERENNE	PERENNIAL RYEGRASS	SEED			
	LUP PER	LUPINUS PERENNIS	WILD LUPINE	SEED			
	TRI WFT	TRIFOLIUM FRAGIFERUM	STRAWBERRY CLOVER	SEED			
	TRI RE2	TRIFOLIUM REPENS	WHITE CLOVER	SEED			
	RUB PEN	RUBUS PENTALOBUS 'EMERALD CARPET'	BRAMBLE	BULB/4" POT	18" O.C.	648 SF	
	MULCH	307 CY.					
	2	ROOT BARRIER					



- ### PLANTING NOTES
- CONTRACTOR TO VERIFY LOCATION OF EXISTING TREES INDICATED TO REMAIN PRIOR TO SOIL PREPARATION. PROTECT ALL TREES AND SHRUBS INDICATED TO REMAIN. COORDINATE WITH THE OWNER'S REPRESENTATIVE.
  - PLANTING AREAS TO BE SUFFICIENTLY CLEANED OF ALL CONSTRUCTION MATERIALS, INCLUDING IMPORTED ROCK, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE BEFORE BEGINNING ANY LANDSCAPE WORK.
  - IDENTIFY ALL PLANTING AREAS IN FIELD WITH WHITE FIELD-MARKING CHALK OR APPROVED EQUAL. PLANTING BEDS TO BE ADJUSTED AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANT LOCATION.
  - FOR PLANTING OCCURRING IN MASSES OF SAME SPECIES PLANT, LABELING REFERS TO ALL ADJACENT IDENTICAL SYMBOLS. REFER TO DETAILS AND LEGEND FOR SPACING INFORMATION.
  - THE OWNER'S REPRESENTATIVE WILL APPROVE INDIVIDUAL PLANT MATERIAL AND LOCATION OF PLANT MATERIAL PRIOR TO INSTALLATION. REFER TO SPECIFICATIONS FOR PROCEDURE.
  - SHRUBS AND GROUND COVER TO BE PLANTED A MINIMUM OF ONE HALF THEIR ON CENTER SPACING AWAY FROM PAVEMENT EDGES; UNLESS OTHERWISE NOTED.
  - PROVIDE ROOT BARRIER AROUND ALL TREES WITHIN 5' OF PAVING, CURBS, WALLS, BUILDINGS, UTILITY DUCTS AND OTHER APPURTENANCES.
  - PLANT QUANTITIES INDICATED ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANTS IN QUANTITIES AND LOCATIONS SHOWN ON DRAWINGS.
  - PROVIDE JUTE NETTING ON ALL SLOPES WITH GRADIENT OF 3:1 OR GREATER AS DIRECTED IN THE FIELD BY THE OWNER'S REPRESENTATIVE. STAPLE FABRIC TO GROUND WITH METAL STAKES AT 4' O.C.

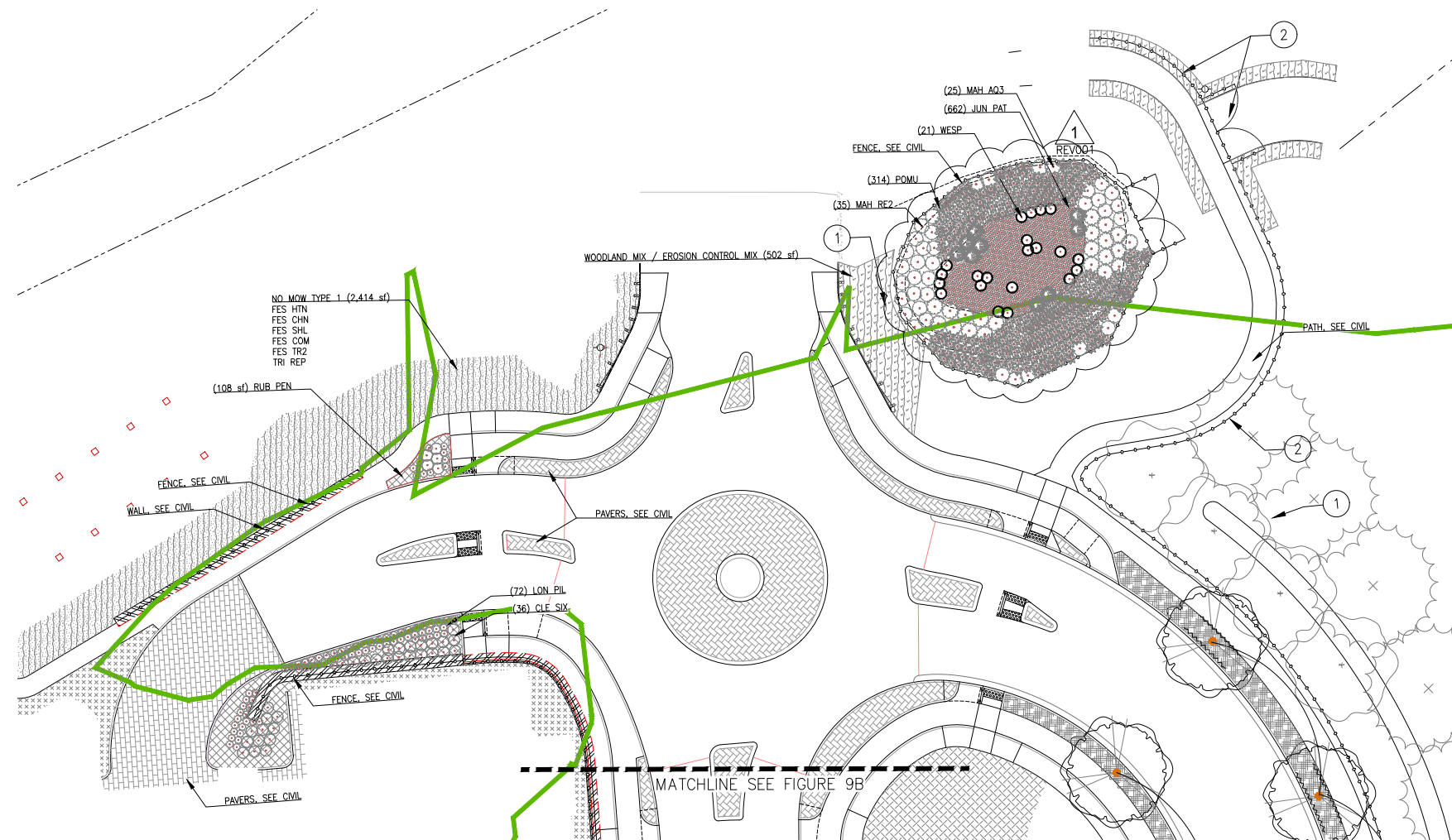
Plans Provided by KPFF



## Planting Plan Overview Sheet Index and Planting Schedule Willamette Falls Drive Public Improvements - West Linn, Oregon

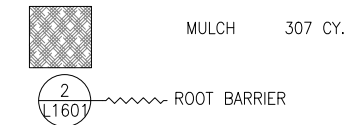
FIGURE  
**9**

12-21-2022

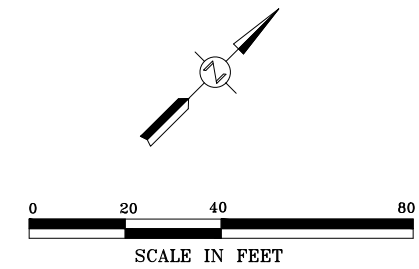


KEY NOTES

- ① SEE NEW ATHEY CREEK MIDDLE SCHOOL PLANTING PLANS FOR OTHER RESTORATION AND PLANTING WORK.
- ② SEE NEW ATHEY CREEK MIDDLE SCHOOL MATERIALS AND DETAILS FOR FENCE AND GATES.



Habitat Conservation Area (HCA) (High HCA)



① PLAN - BRANDON PLACE PLAN

Plans Provided by Walker Macy

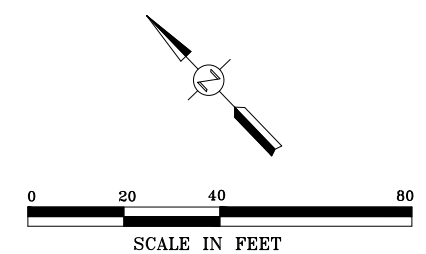
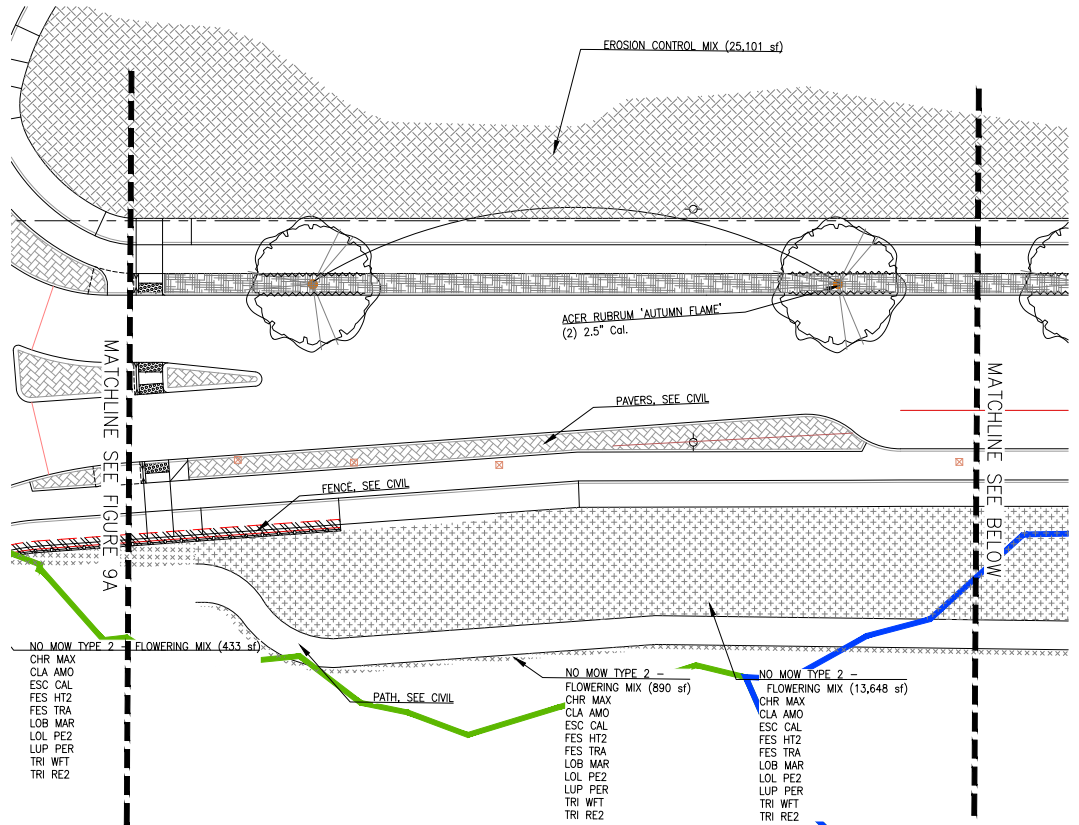


Landscape Plan  
 Willamette Falls Drive Public Improvements - West Linn, Oregon

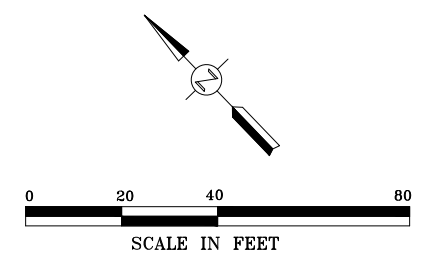
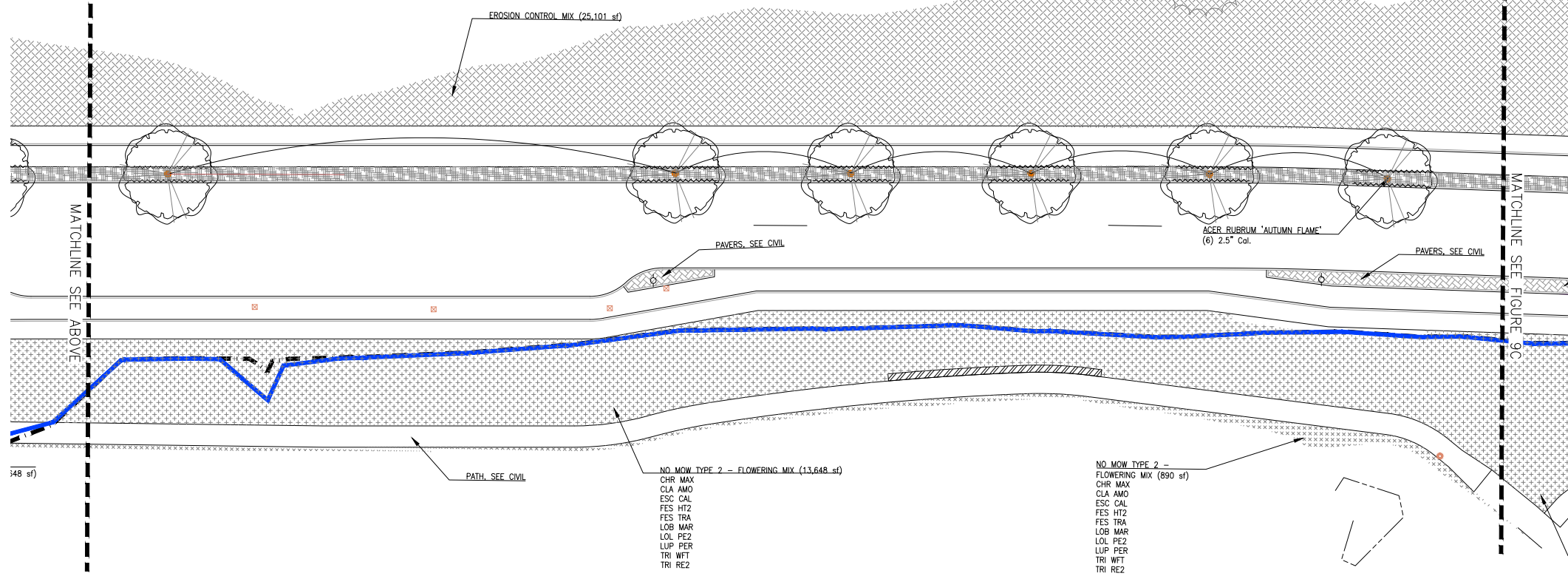
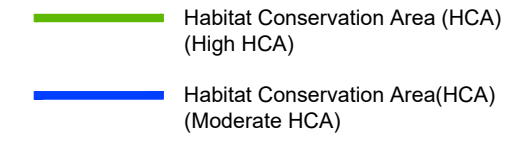
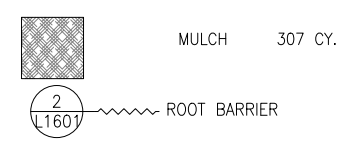
FIGURE  
**9A**

12-21-2022





2 PLAN - WILLAMETTE DRIVE PLAN



3 PLAN - WILLAMETTE DRIVE PLAN

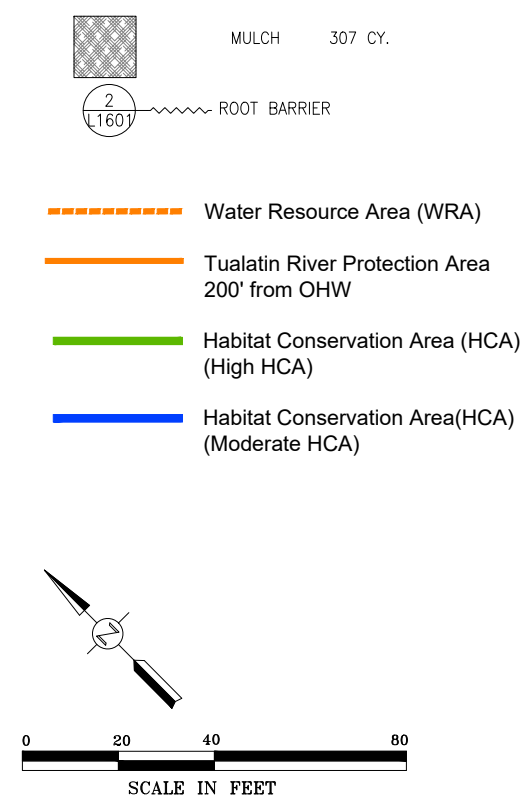
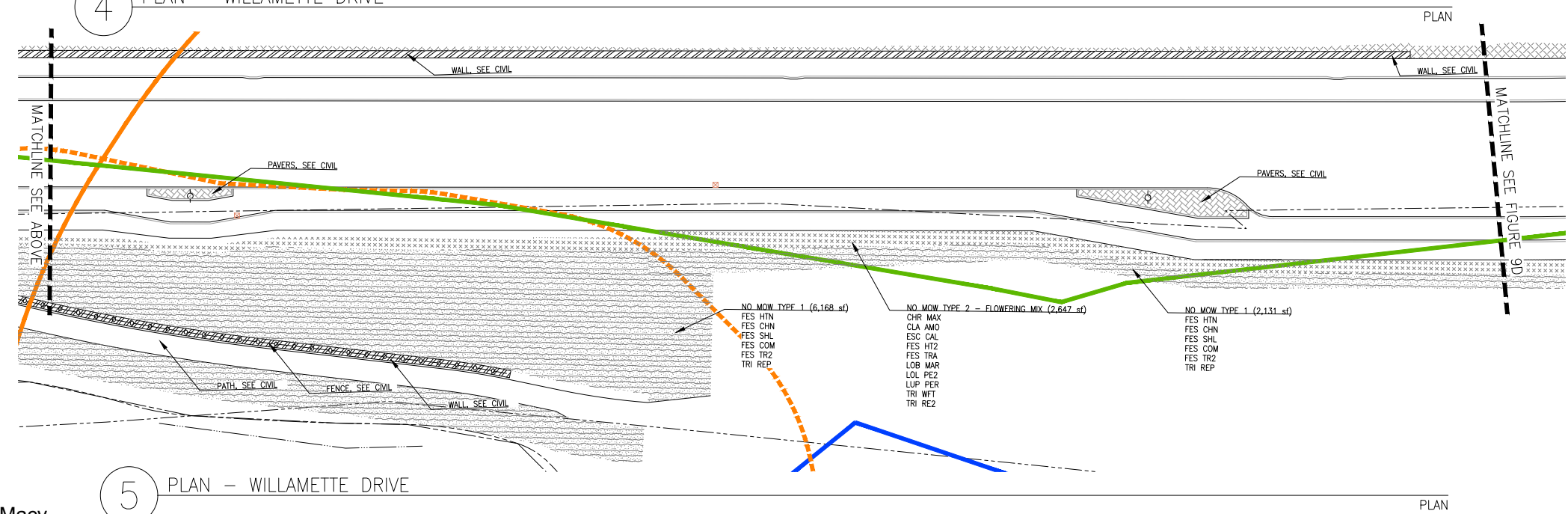
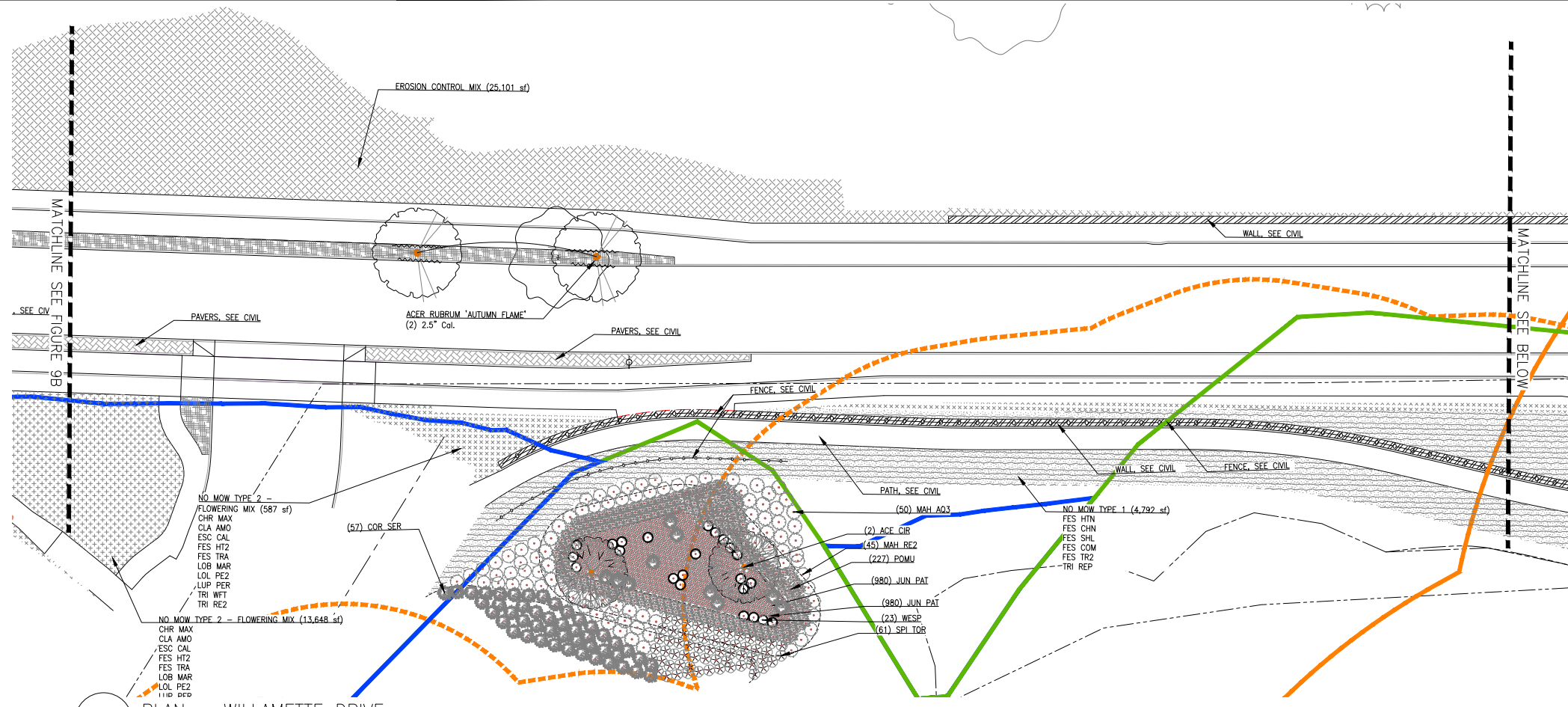
Plans Provided by Walker Macy



Landscape Plan  
Willamette Falls Drive Public Improvements- West Linn, Oregon

FIGURE  
9B

12-21-2022



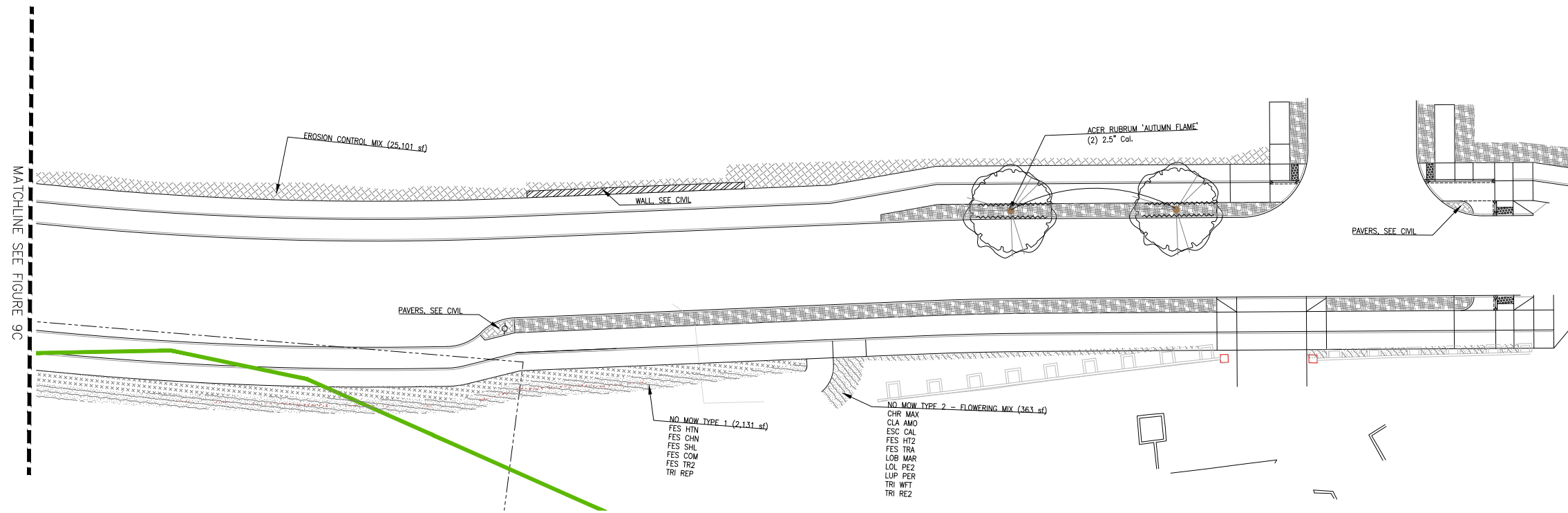
Plans Provided by Walker Macy






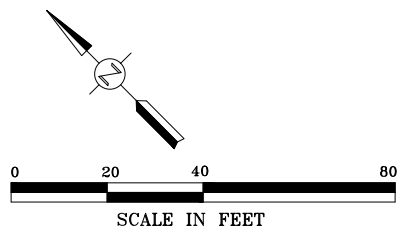
Planting Plan Overview Sheet Index and Planting Schedule  
Willamette Falls Drive Public Improvements - West Linn, Oregon

FIGURE  
**9C**

12-21-2022



-  MULCH 307 CY.
-  ROOT BARRIER
-  Habitat Conservation Area (HCA) (High HCA)



6 PLAN - WILLAMETTE DRIVE

Plans Provided by Walker Macy

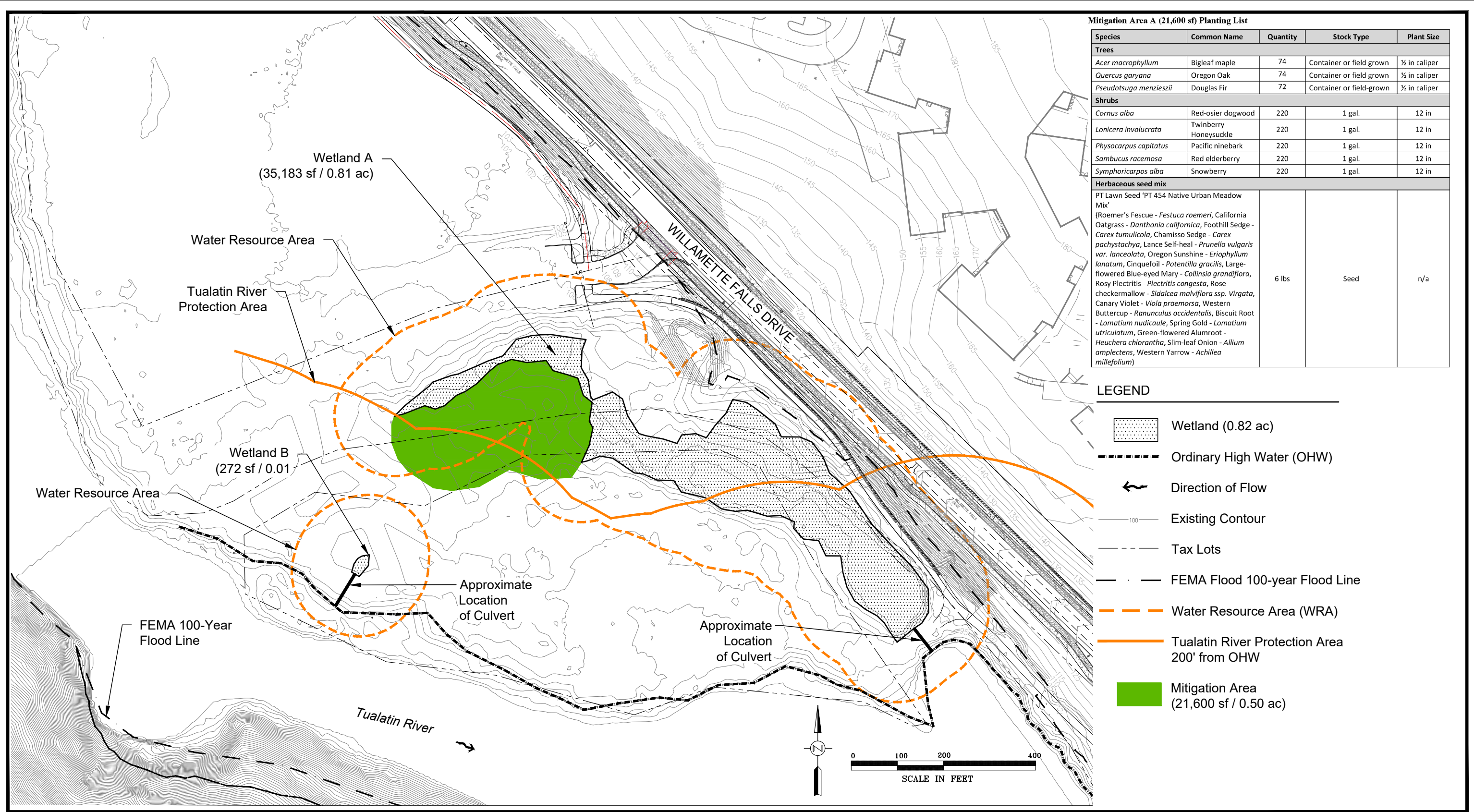


Landscape Plan  
Willamette Falls Drive Public Improvements - West Linn, Oregon

FIGURE  
9D

12-21-2022

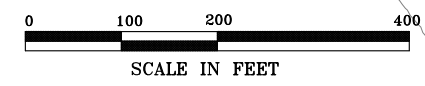




**Mitigation Area A (21,600 sf) Planting List**

Species	Common Name	Quantity	Stock Type	Plant Size
<b>Trees</b>				
<i>Acer macrophyllum</i>	Bigleaf maple	74	Container or field grown	½ in caliper
<i>Quercus garyana</i>	Oregon Oak	74	Container or field grown	½ in caliper
<i>Pseudotsuga menziesii</i>	Douglas Fir	72	Container or field-grown	½ in caliper
<b>Shrubs</b>				
<i>Cornus alba</i>	Red-osier dogwood	220	1 gal.	12 in
<i>Lonicera involucrata</i>	Twinberry Honeysuckle	220	1 gal.	12 in
<i>Physocarpus capitatus</i>	Pacific ninebark	220	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	220	1 gal.	12 in
<i>Symphoricarpos alba</i>	Snowberry	220	1 gal.	12 in
<b>Herbaceous seed mix</b>				
PT Lawn Seed 'PT 454 Native Urban Meadow Mix' (Roemer's Fescue - <i>Festuca roemerii</i> , California Oatgrass - <i>Danthonia californica</i> , Foothill Sedge - <i>Carex tumulicola</i> , Chamisso Sedge - <i>Carex pachystachya</i> , Lance Self-heal - <i>Prunella vulgaris</i> var. <i>lanceolata</i> , Oregon Sunshine - <i>Eriophyllum lanatum</i> , Cinquefoil - <i>Potentilla gracilis</i> , Large-flowered Blue-eyed Mary - <i>Collinsia grandiflora</i> , Rosy Plecritis - <i>Plectritis congesta</i> , Rose checkermallow - <i>Sidalcea malviflora</i> ssp. <i>virgata</i> , Canary Violet - <i>Viola praemorsa</i> , Western Buttercup - <i>Ranunculus occidentalis</i> , Biscuit Root - <i>Lomatium nudicaule</i> , Spring Gold - <i>Lomatium utriculatum</i> , Green-flowered Alumroot - <i>Heuchera chlorantha</i> , Slim-leaf Onion - <i>Allium amplexens</i> , Western Yarrow - <i>Achillea millefolium</i> )		6 lbs	Seed	n/a

- LEGEND**
- Wetland (0.82 ac)
  - Ordinary High Water (OHW)
  - Direction of Flow
  - Existing Contour
  - Tax Lots
  - FEMA Flood 100-year Flood Line
  - Water Resource Area (WRA)
  - Tualatin River Protection Area 200' from OHW
  - Mitigation Area (21,600 sf / 0.50 ac)



Survey includes study area boundary, wetland boundary, contours and utilities provided by Compass Land Surveying. Survey and Sample point accuracy is sub-centimeter. Culverts were placed graphically and have an accuracy of sub-meter

Mitigation Plan  
Willamette Falls Drive Public Improvement - West Linn, Oregon

FIGURE  
**10**

12-21-2022



# Attachment B

Drainage Plan Prepared By KPFF



# West Linn-Wilsonville School District

# New Athey Creek Middle School

and

City of West Linn  
Willamette Falls Drive Public Improvements

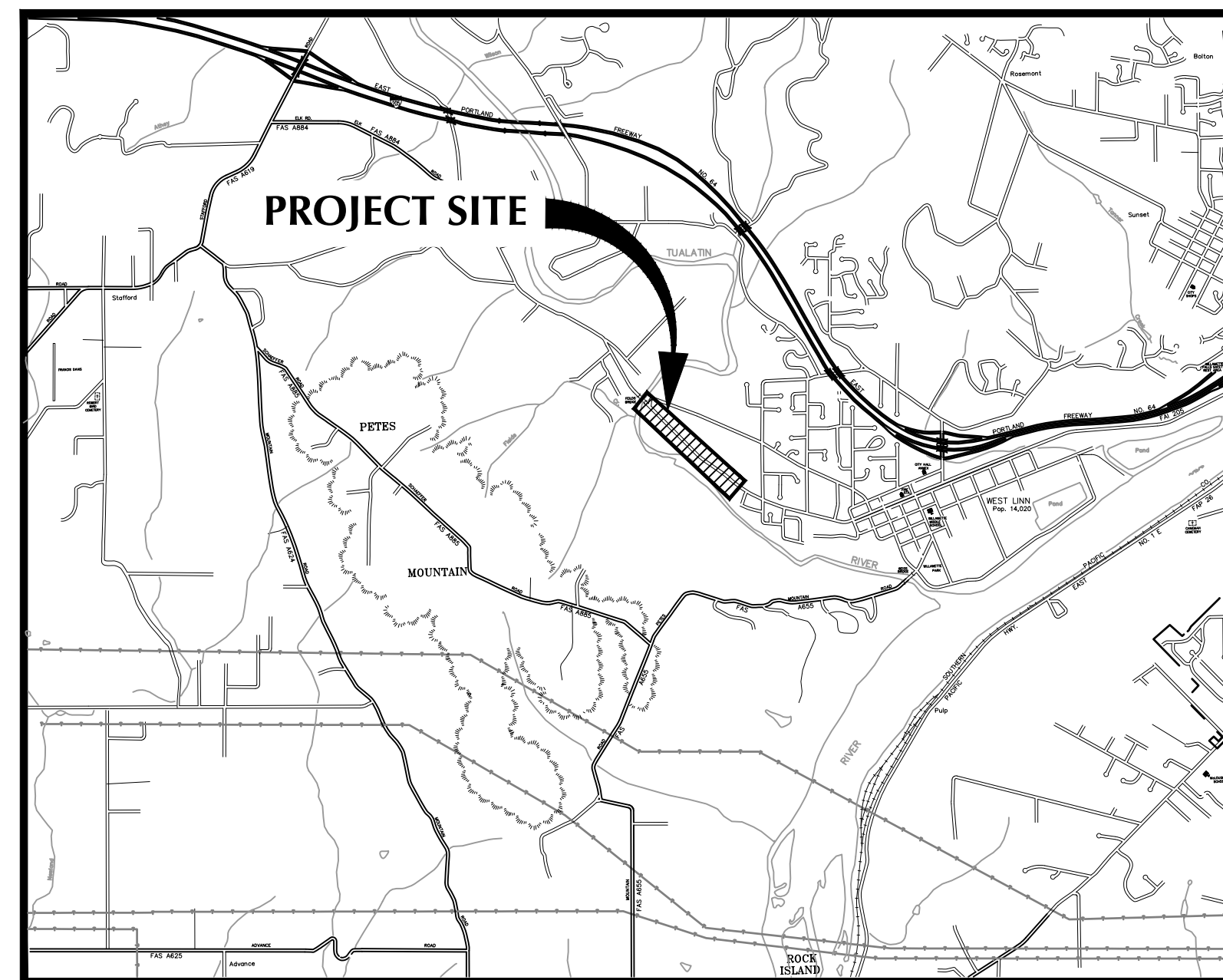
## LAND USE

PROJECT DESCRIPTION:

ROADWAY IMPROVEMENTS WITHIN CITY OF WEST LINN RIGHT OF WAY ALONG THE EXISTING WILLAMETTE FALLS DRIVE AND WITHIN FIELDS BRIDGE PARK. IMPROVEMENTS INCLUDE PEDESTRIAN TRAILS THROUGH FIELDS BRIDGE PARK, AND LANDSCAPING, GRADING, AND WALLS WITHIN THE RIGHT OF WAY AND FIELDS BRIDGE PARK.

### SHEET INDEX

CIVIL		
1	LU0.1	COVER SHEET
2	LU1.1	WILLAMETTE FALLS DRIVE GRADING PLAN
3	LU1.2	WILLAMETTE FALLS DRIVE GRADING PLAN
4	LU1.3	WILLAMETTE FALLS DRIVE GRADING PLAN
5	LU1.4	WILLAMETTE FALLS DRIVE GRADING PLAN
6	LU1.5	WILLAMETTE FALLS DRIVE GRADING PLAN
7	LU2.0	WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING - OVERALL PLAN
8	LU2.1	WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING PLAN
9	LU2.2	WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING PLAN
10	LU2.3	WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING PLAN
11	LU2.4	WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING PLAN
12	LU2.5	WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING PLAN
LANDSCAPE		
13	LU3.00	PLANTING OVERALL & SCHEDULE
14	LU3.01	PLANTING PLAN
15	LU3.02	PLANTING PLAN
16	LU3.03	PLANTING PLAN
17	LU4.01	PLANTING DETAILS



VICINITY MAP  
SCALE: NTS

### PROJECT CONTACTS

**CITY:**  
CITY OF WEST LINN  
22500 SALAMO ROAD  
WEST LINN, OREGON 97068  
TEL: 503-722-3434  
CONTACT: ERICH LAIS

**SCHOOL DISTRICT:**  
WEST LINN-WILSONVILLE SCHOOL DISTRICT  
22210 SW STAFFORD ROAD  
TUALATIN, OREGON 97062  
TEL: 503-673-7988  
CONTACT: REMO DOUGLAS

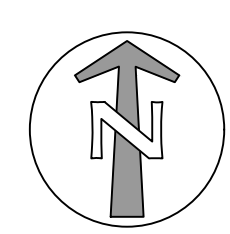
**CIVIL ENGINEER/PROJECT MANAGER:**  
KPFF CONSULTING ENGINEERS  
111 SW FIFTH AVENUE, SUITE 2600  
PORTLAND, OREGON 97204  
TEL: 503-542-3834  
CONTACT: DANIELLE PRUETT

**TRAFFIC ENGINEER:**  
DKS ASSOCIATES  
720 SW WASHINGTON STREET, SUITE 500  
PORTLAND, OREGON 97205  
TEL: 503-243-3500  
CONTACT: SCOTT MANSUR

**LANDSCAPE ARCHITECT:**  
WALKER MACY  
111 SW OAK STREET, SUITE 200  
PORTLAND, OREGON 97204  
TEL: 503-228-3122  
CONTACT: IAN HOLZWORTH

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Plotted: 12/14/22 at 10:28am By: Tketchum  
22x34

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CHECKED BY:	DP/CV
PLOT DATE:	12/14/22 10:29am
PLOTTED BY:	Tketchum
DWG NAME:	2000067-LU0.01-COVR.dwg
TAB NAME:	LU0.1

West Linn, OR 97068  
  
COVER SHEET

SHEET NO.	
LU0.1	
SHEET	1 OF 17
RECORD NO.	2000067-1

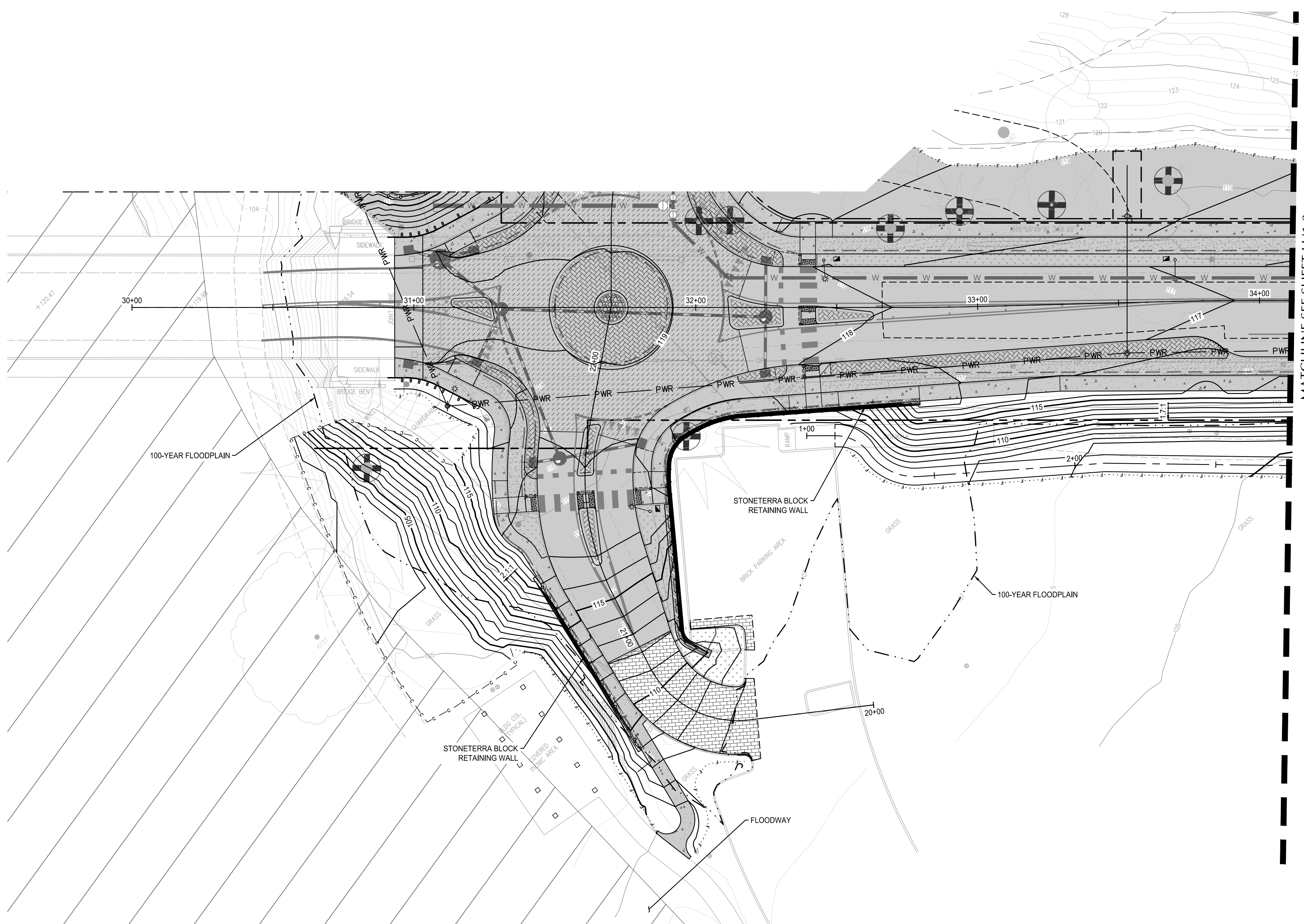


**SHEET NOTES**

1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU2.X SHEETS FOR GRADING VOLUMES WITHIN FLOODPLAIN.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

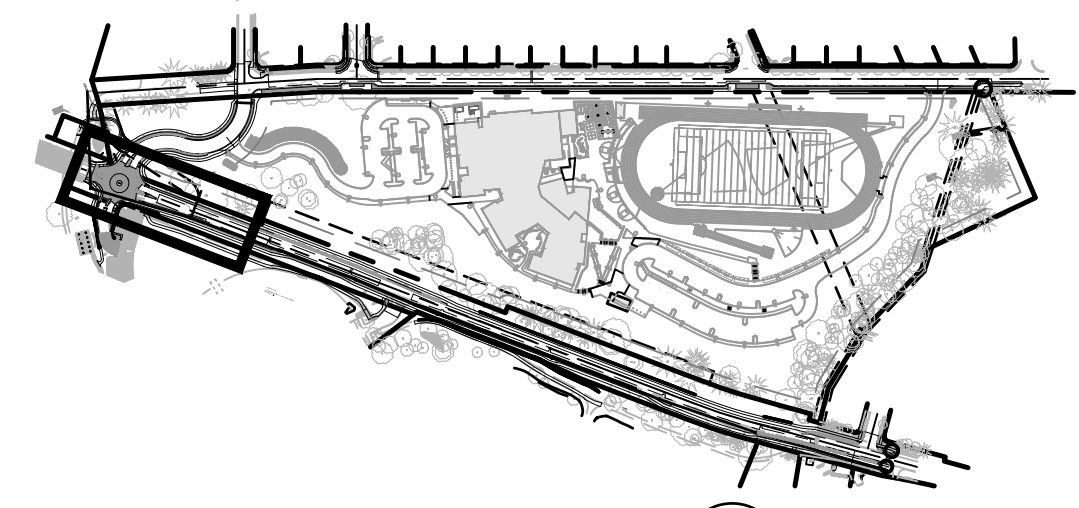
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	PROPERTY LINE SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
	ASPHALT TRAIL, SEE TYPICAL SECTION
	ASPHALT BIKE PATH, SEE TYPICAL SECTION
	CONCRETE SIDEWALK, SEE TYPICAL SECTION
	CONCRETE DRIVEWAY
	PERMEABLE PAVERS, SEE TYPICAL SECTION
	LANDSCAPING, SEE LANDSCAPE PLANS
	STORMWATER PLANTER
	RETAINING WALL
	REMOVE TREE



**PLAN - WILLAMETTE FALLS DRIVE**

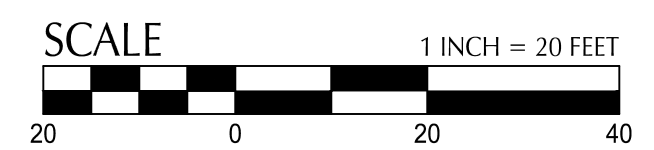
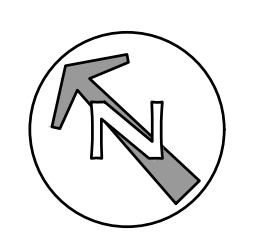
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KEY MAP

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PLOTTED BY:	Tketchum
DWG NAME:	2000067-LU1.0-GRADING.dwg
TAB NAME:	LU1.1

West Linn, OR 97068

**WILLAMETTE FALLS DRIVE GRADING PLAN**

SHEET NO.

LU1.1

SHEET 2 OF 17

RECORD NO.  
2000067-65

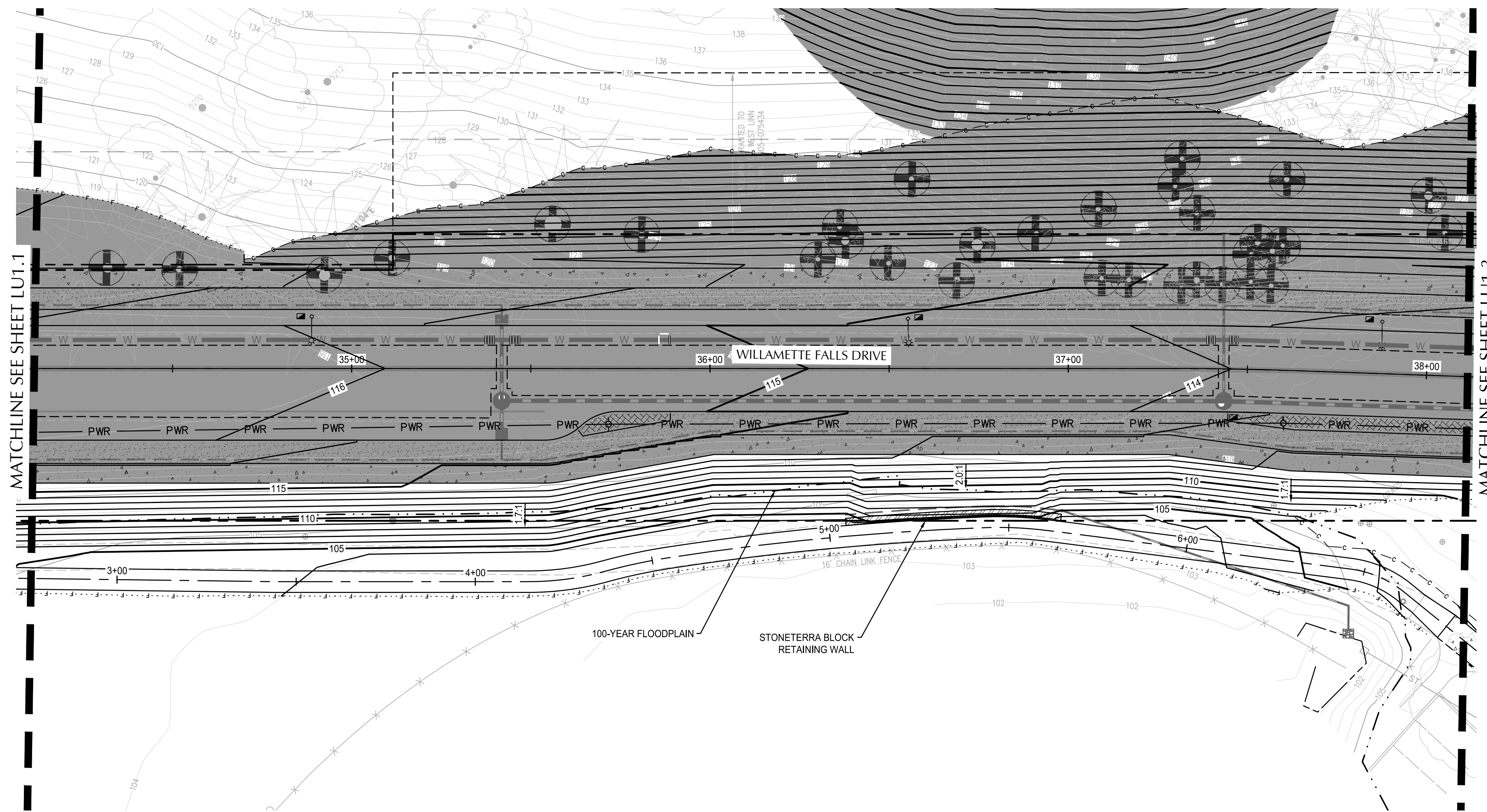


**SHEET NOTES**

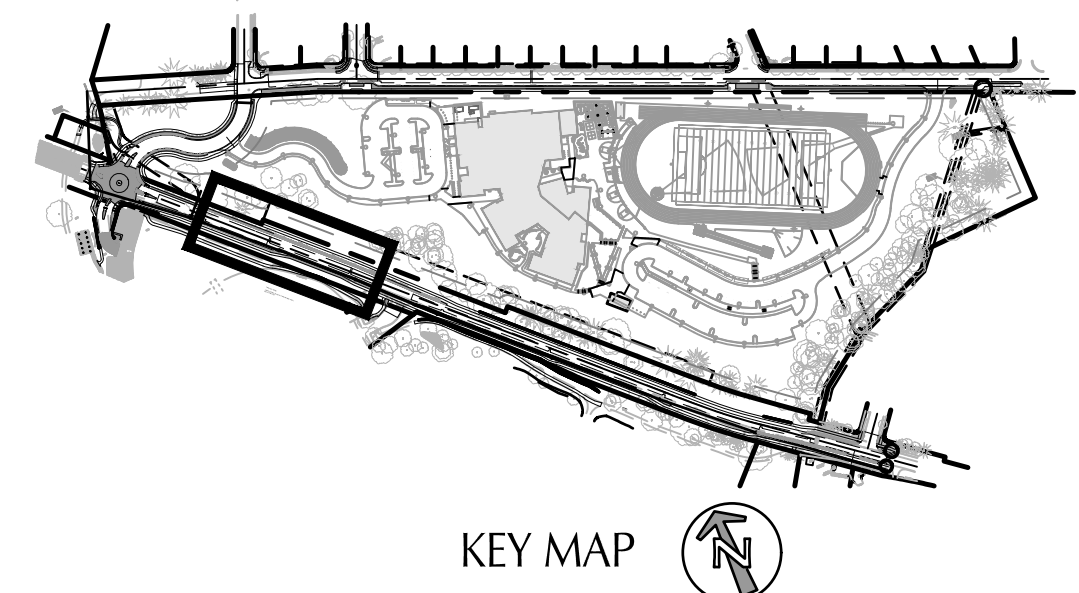
1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU2.X SHEETS FOR GRADING VOLUMES WITHIN FLOODPLAIN.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

**SHEET LEGEND**

	PROPERTY LINE
	SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
	ASPHALT TRAIL, SEE TYPICAL SECTION
	ASPHALT BIKE PATH, SEE TYPICAL SECTION
	CONCRETE SIDEWALK, SEE TYPICAL SECTION
	CONCRETE DRIVEWAY
	PERMEABLE PAVERS, SEE TYPICAL SECTION
	LANDSCAPING, SEE LANDSCAPE PLANS
	STORMWATER PLANTER
	RETAINING WALL
	REMOVE TREE

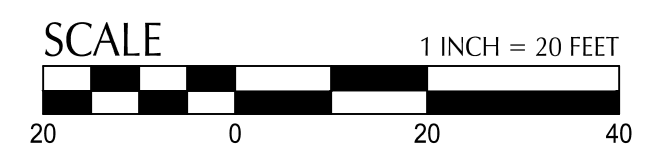
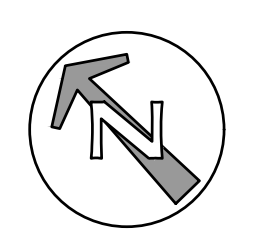


**PLAN - WILLAMETTE FALLS DRIVE**  
SCALE: 1" = 20'



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PLOTTED BY:	Tketchum
DWG NAME:	2000067-LU1.0-GRADING.dwg
TAB NAME:	LU1.2

West Linn, OR 97068

WILLAMETTE FALLS DRIVE GRADING PLAN

LU1.2





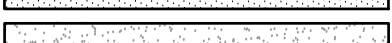
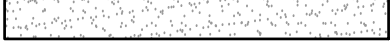
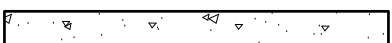
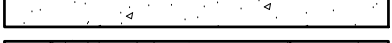


SHEET 3 OF 17  
RECORD NO. 2000067-66

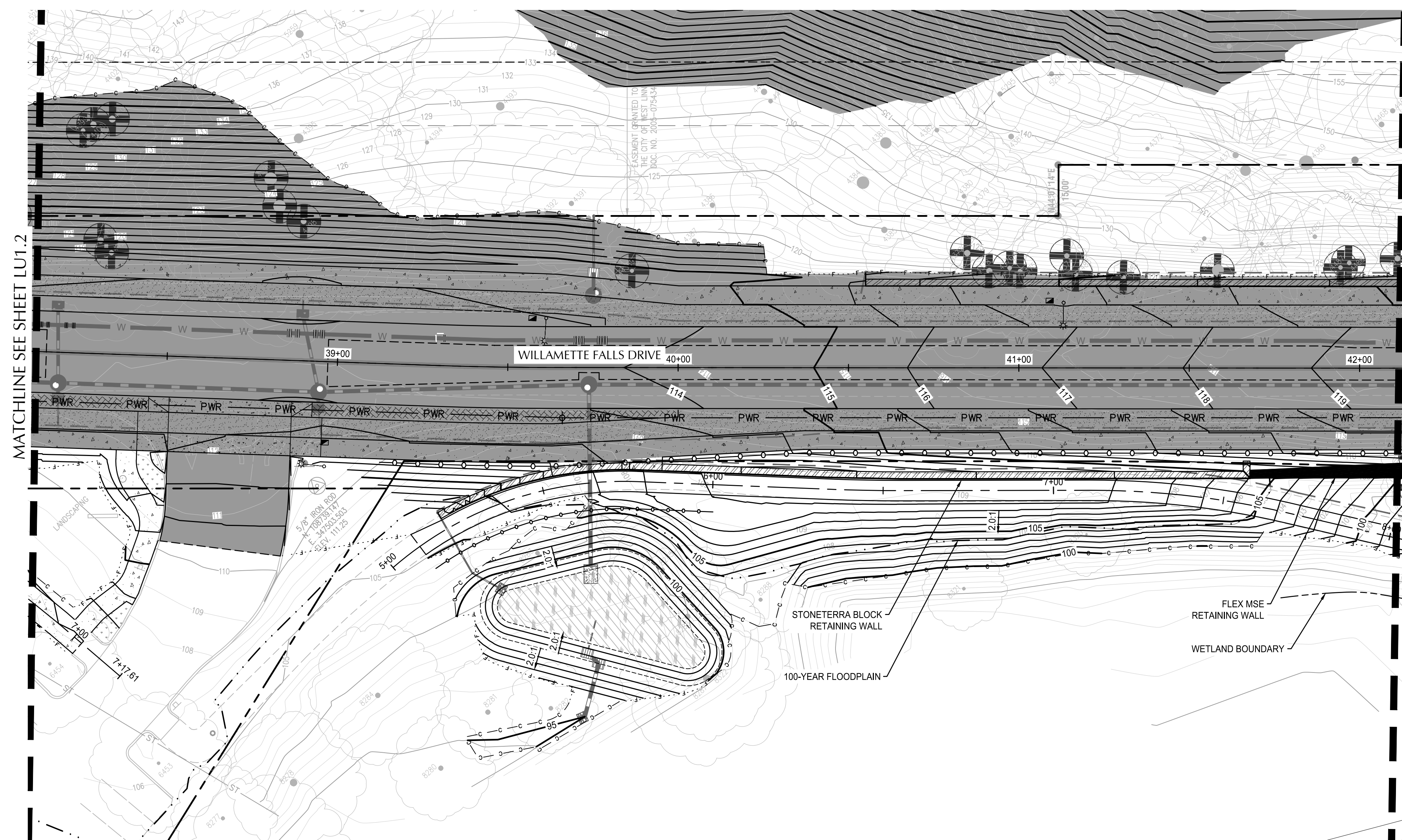


**SHEET NOTES**

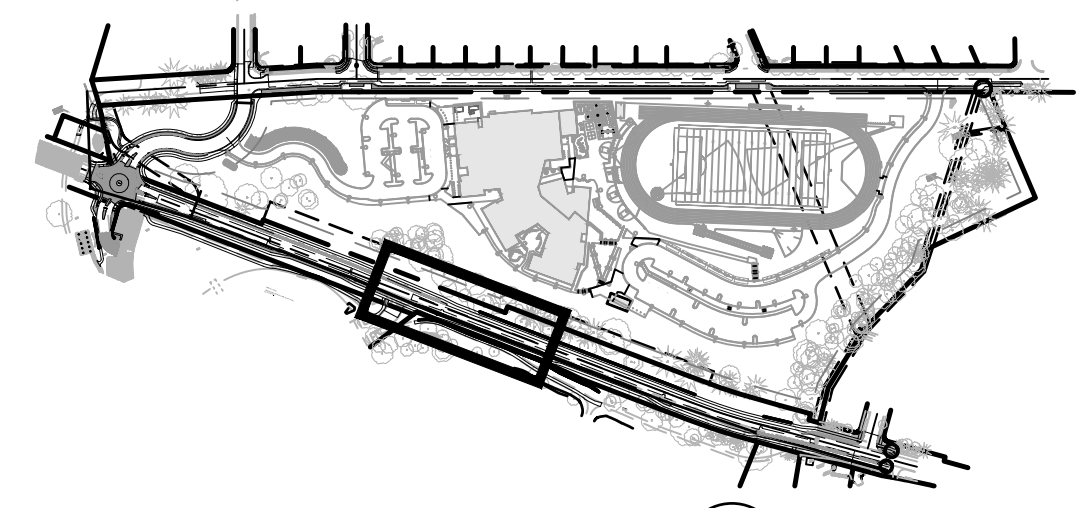
1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU2.X SHEETS FOR GRADING VOLUMES WITHIN FLOODPLAIN.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

**SHEET LEGEND**

-  PROPERTY LINE  
SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
-  ASPHALT TRAIL  
SEE TYPICAL SECTION
-  ASPHALT BIKE PATH  
SEE TYPICAL SECTION
-  CONCRETE SIDEWALK  
SEE TYPICAL SECTION
-  CONCRETE DRIVEWAY  
SEE TYPICAL SECTION
-  PERMEABLE PAVERS, SEE TYPICAL SECTION
-  LANDSCAPING, SEE LANDSCAPE PLANS
-  STORMWATER PLANTER
-  RETAINING WALL
-  REMOVE TREE



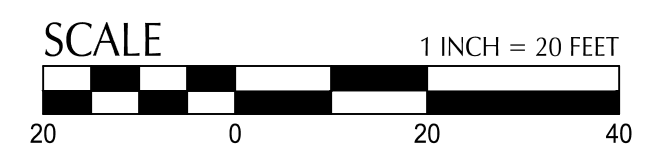
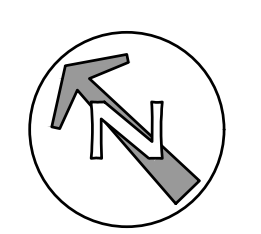
**PLAN - WILLAMETTE FALLS DRIVE**  
SCALE: 1" = 20'



KEY MAP 

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PLOTTED BY:	Tketchum
DWG NAME:	2000067-LU1.0-GRADING.dwg
TAB NAME:	LU1.3

West Linn, OR 97068

WILLAMETTE FALLS DRIVE GRADING PLAN


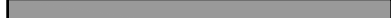





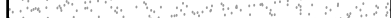



SHEET NO.  
**LU1.3**  
 SHEET 4 OF 17  
 RECORD NO.  
 2000067-67

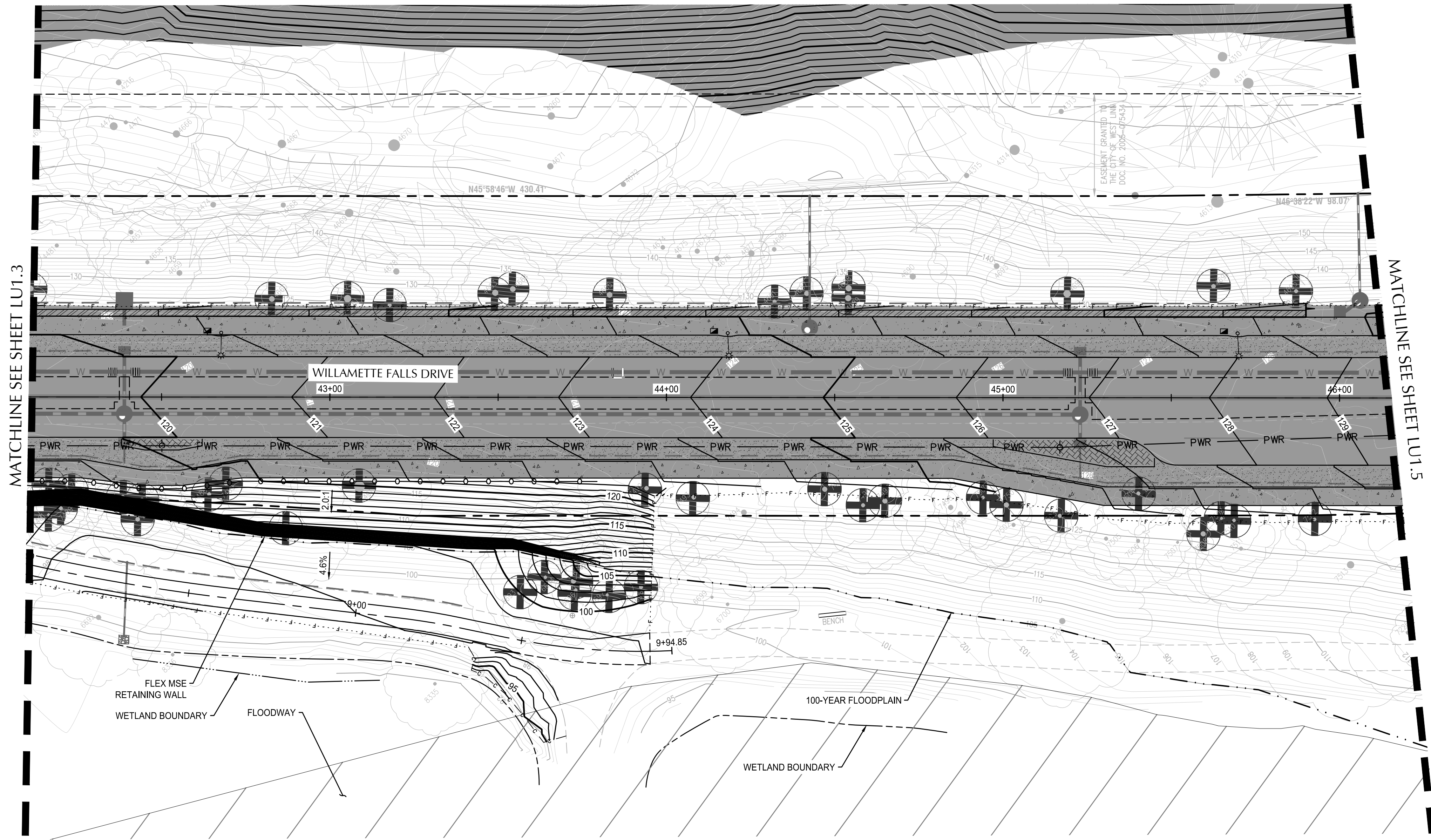


**SHEET NOTES**

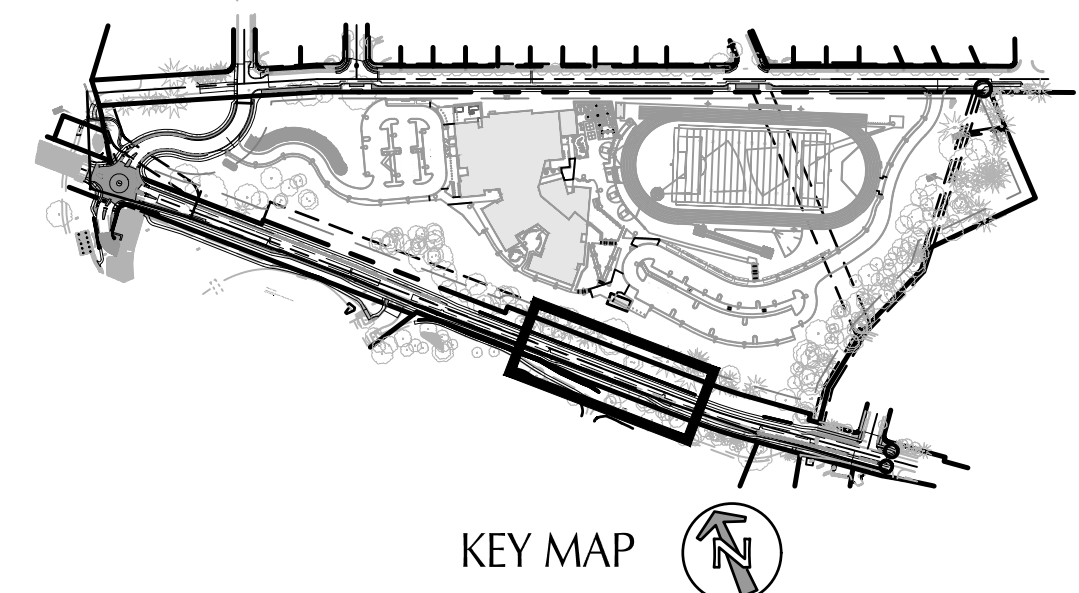
1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU2.X SHEETS FOR GRADING VOLUMES WITHIN FLOODPLAIN.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

**SHEET LEGEND**

-  PROPERTY LINE
-  SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
-  ASPHALT TRAIL, SEE TYPICAL SECTION
-  ASPHALT BIKE PATH, SEE TYPICAL SECTION
-  CONCRETE SIDEWALK, SEE TYPICAL SECTION
-  CONCRETE DRIVEWAY
-  PERMEABLE PAVERS, SEE TYPICAL SECTION
-  LANDSCAPING, SEE LANDSCAPE PLANS
-  STORMWATER PLANTER
-  RETAINING WALL
-  REMOVE TREE

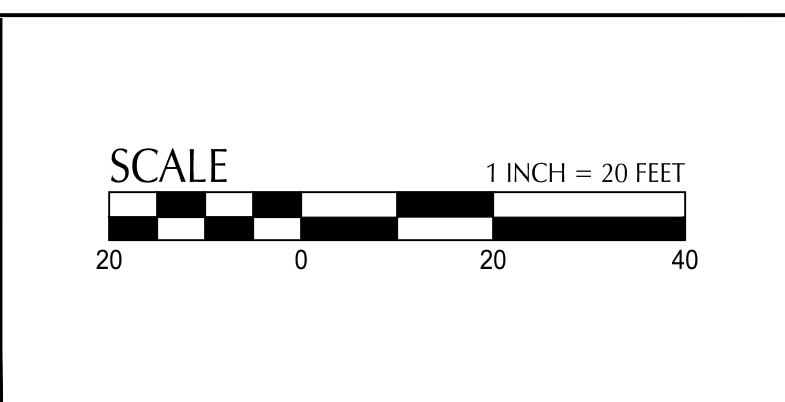
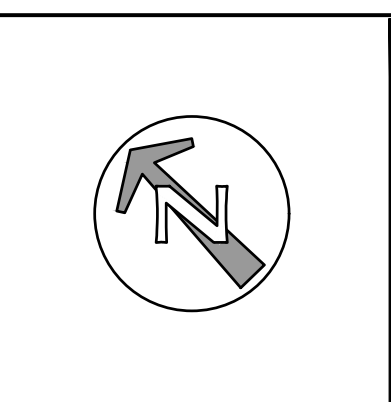


**PLAN - WILLAMETTE FALLS DRIVE**  
SCALE: 1" = 20'



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 Plotted: 11/10/22 at 11:18am By: Tketchum  
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PLOT DATE:	11/10/22 11:18am
PLOTTED BY:	Tketchum
DWG NAME:	2000067-LU1.0-GRADING.dwg
TAB NAME:	LU1.4

West Linn, OR 97068

WILLAMETTE FALLS DRIVE GRADING PLAN

SHEET NO.

LU1.4





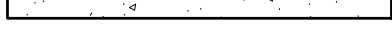
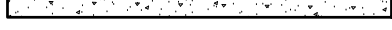


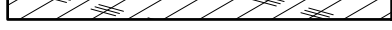

SHEET 5 OF 17  
RECORD NO.  
2000067-68

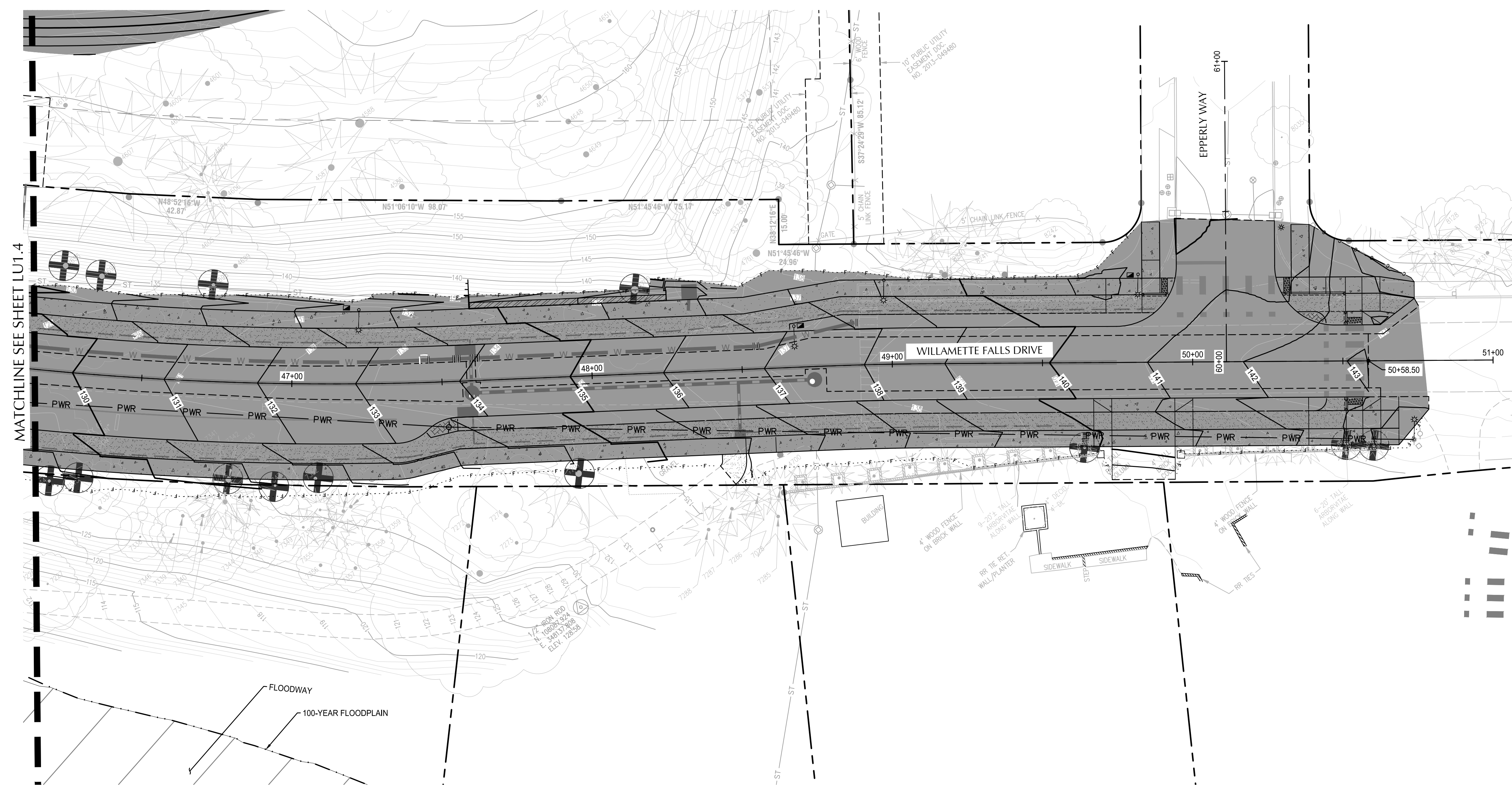


**SHEET NOTES**

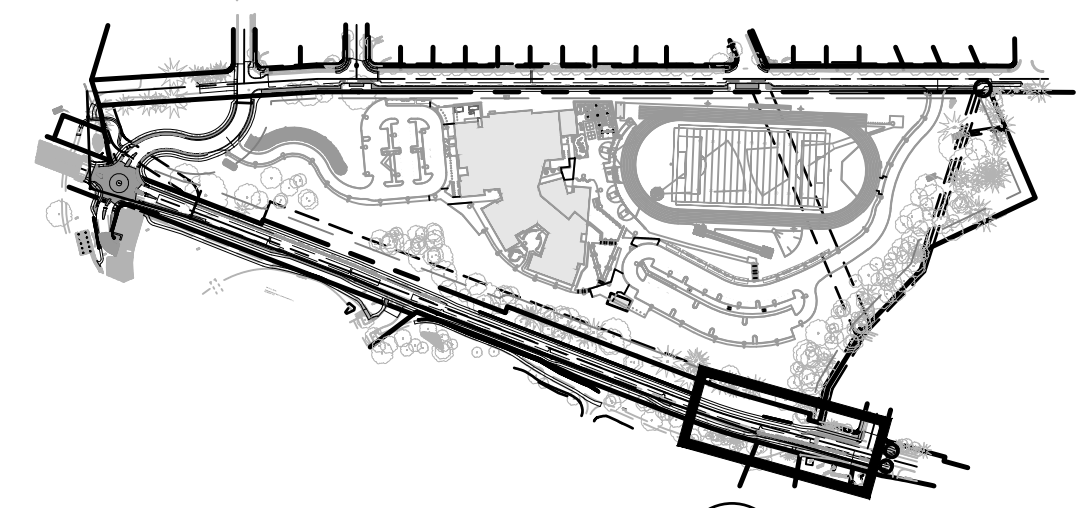
1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU2.X SHEETS FOR GRADING VOLUMES WITHIN FLOODPLAIN.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

**SHEET LEGEND**

-  PROPERTY LINE  
SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
-  ASPHALT TRAIL,  
SEE TYPICAL SECTION
-  ASPHALT BIKE PATH,  
SEE TYPICAL SECTION
-  CONCRETE SIDEWALK,  
SEE TYPICAL SECTION
-  CONCRETE DRIVEWAY
-  PERMEABLE PAVERS, SEE TYPICAL SECTION
-  LANDSCAPING, SEE LANDSCAPE PLANS
-  STORMWATER PLANTER
-  RETAINING WALL
-  REMOVE TREE



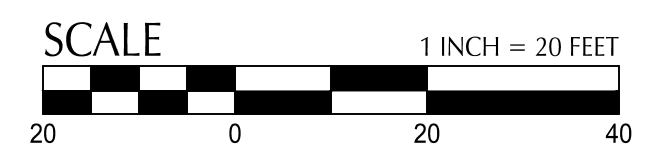
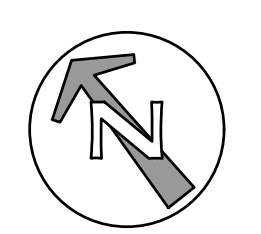
**PLAN - WILLAMETTE FALLS DRIVE**  
SCALE: 1" = 20'



KEY MAP

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DRAWN BY:	SB/RC
CHECKED BY:	DP/CV
PLOT DATE:	11/10/22 11:18am
PLOTTED BY:	Tketchum
DWG NAME:	2000067-LU1.0-GRADING.dwg
TAB NAME:	LU1.5

West Linn, OR 97068

WILLAMETTE FALLS DRIVE GRADING PLAN

SHEET NO.	
LU1.5	
SHEET	6 OF 17
RECORD NO.	2000067-69




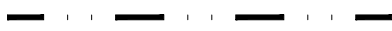




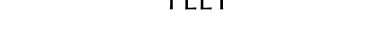
**SHEET NOTES**

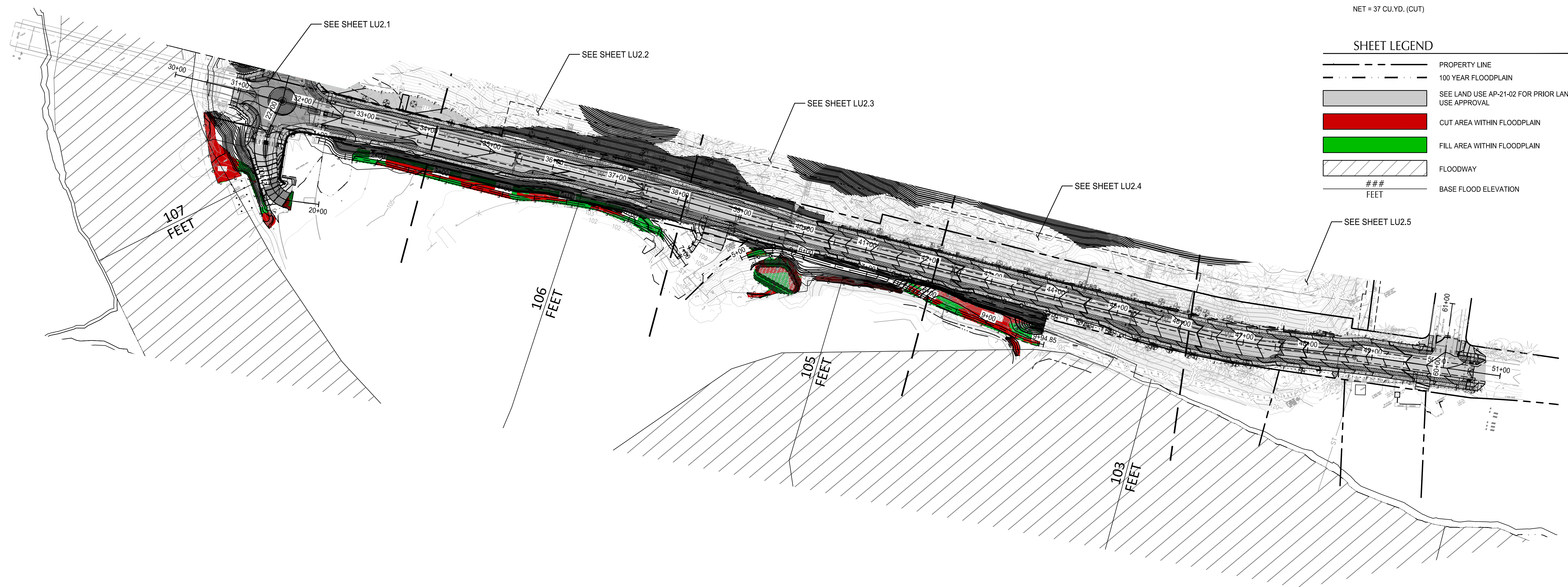
1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU1.X SHEETS FOR GRADING PLANS.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

**PROJECT FLOODPLAIN SUMMARY**

CUT = 497 CU.YD.  
 FILL = 460 CU.YD.  
 NET = 37 CU.YD. (CUT)

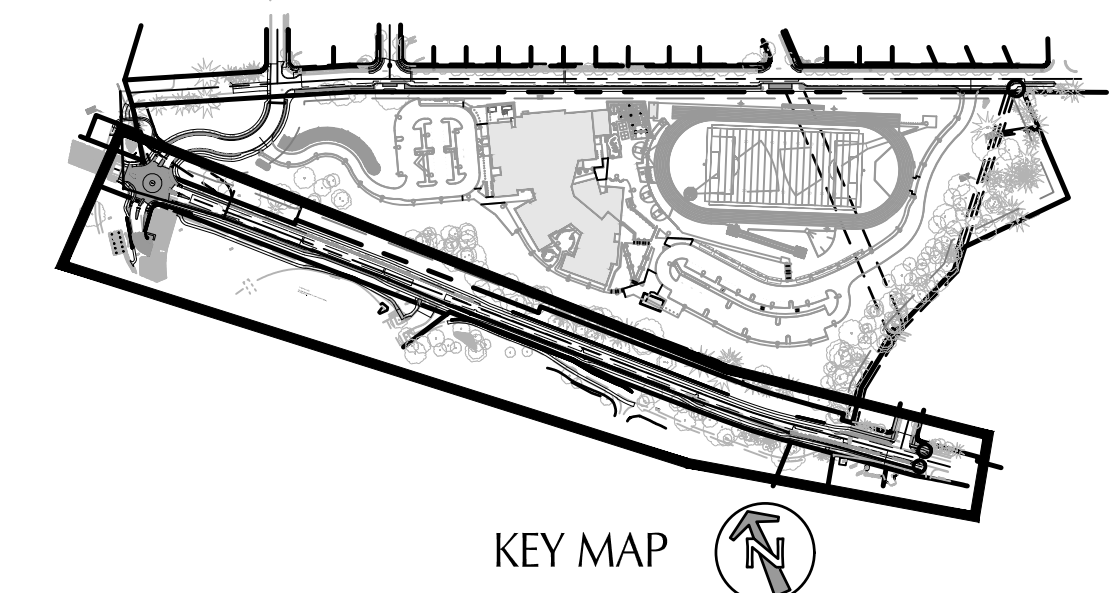
**SHEET LEGEND**

-  PROPERTY LINE
-  100 YEAR FLOODPLAIN
-  SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
-  CUT AREA WITHIN FLOODPLAIN
-  FILL AREA WITHIN FLOODPLAIN
-  FLOODWAY
-  ### FEET BASE FLOOD ELEVATION



**PLAN - WILLAMETTE FALLS DRIVE - OVERALL**

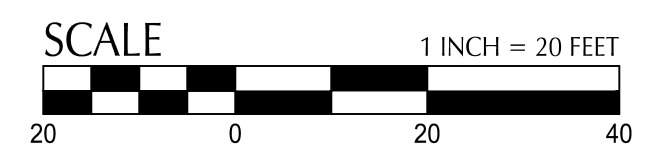
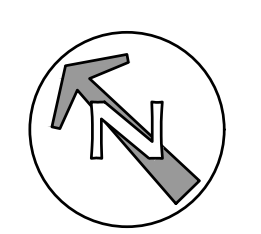
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KEY MAP

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 Plotted: 12/1/22 at 2:42pm By: TKetchum  
 22x34

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DESIGNED BY:	LB/TK/MM/JG/NP
DRAWN BY:	SB/RC
CHECKED BY:	DP/CV
PLOT DATE:	12/1/22 2:42pm
PLOTTED BY:	TKetchum
DWG NAME:	2000067-LU2.0-FLOODPLAIN.dwg
TAB NAME:	LU2.0

West Linn, OR 97068

**WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING - OVERALL PLAN**

SHEET NO.	
<b>LU2.0</b>	
SHEET	7 OF 17
RECORD NO.	2000067-65





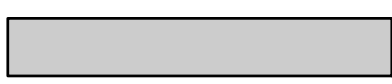




**SHEET NOTES**

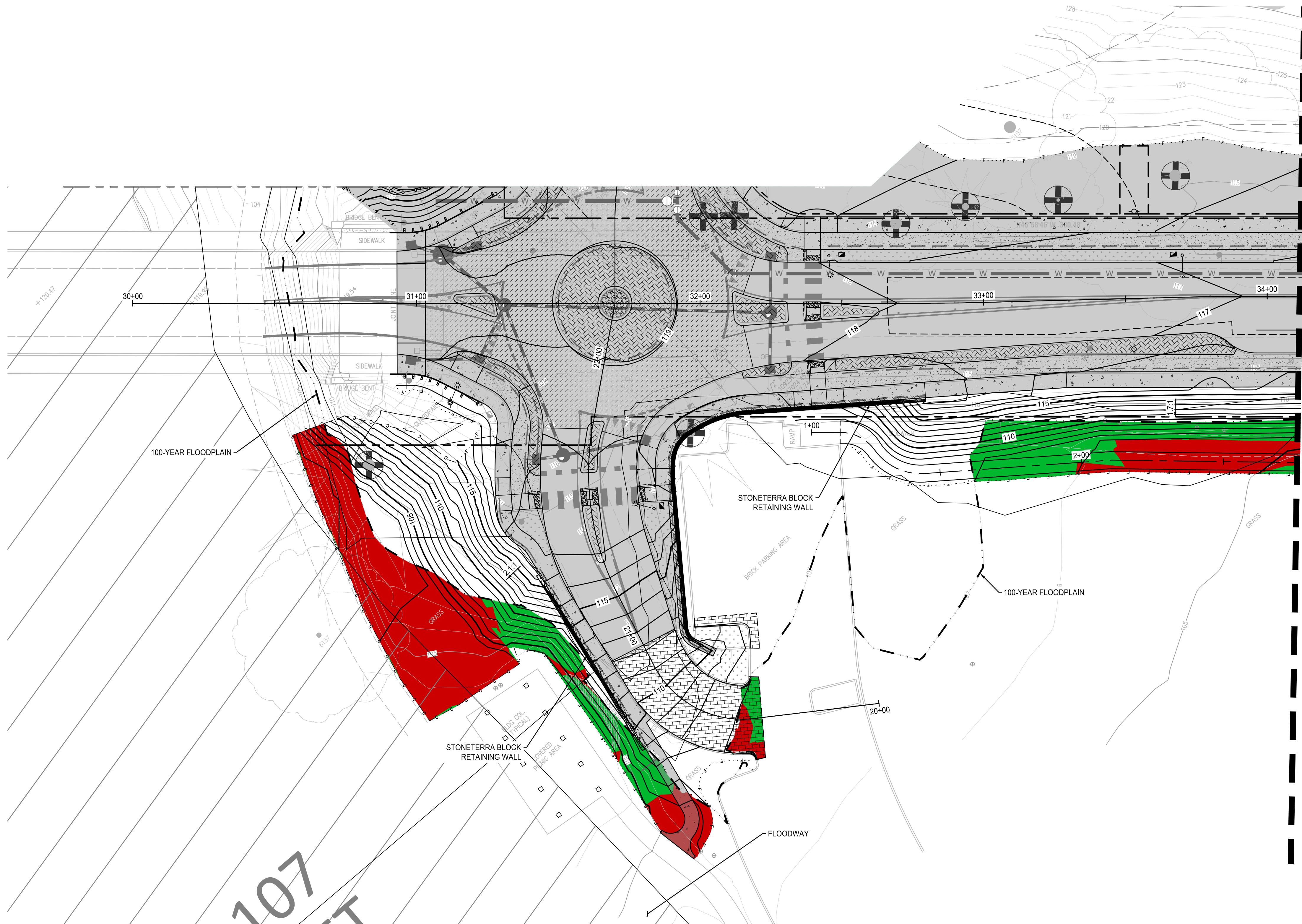
1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU1.X SHEETS FOR GRADING PLANS.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

**PROJECT FLOODPLAIN SUMMARY**

CUT = 497 CU.YD.  
 FILL = 460 CU.YD.  
 NET = 37 CU.YD. (CUT)

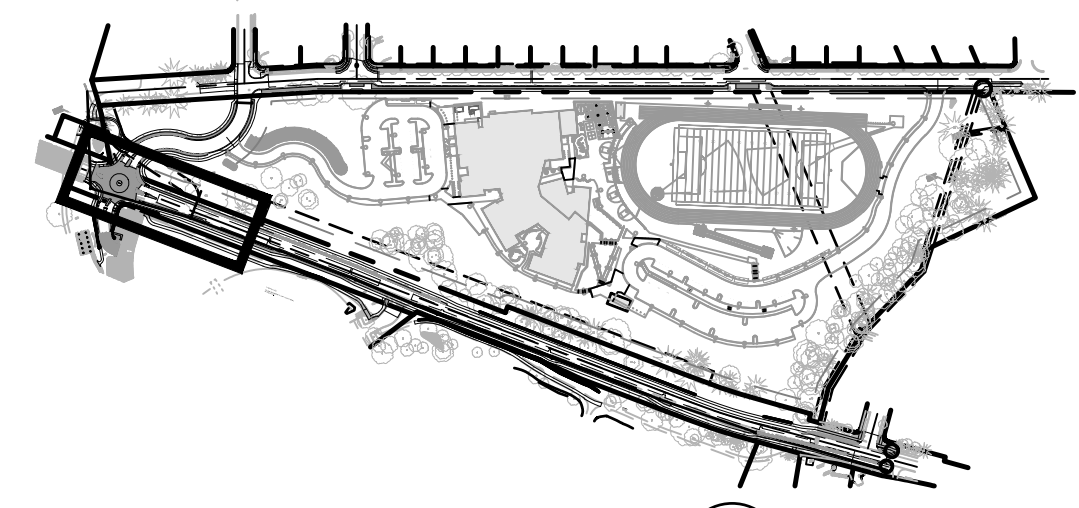
**SHEET LEGEND**

-  PROPERTY LINE
-  100 YEAR FLOODPLAIN
-  SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
-  CUT AREA WITHIN FLOODPLAIN
-  FILL AREA WITHIN FLOODPLAIN
-  FLOODWAY
-  ### FEET BASE FLOOD ELEVATION



MATCHLINE SEE SHEET LU2.2

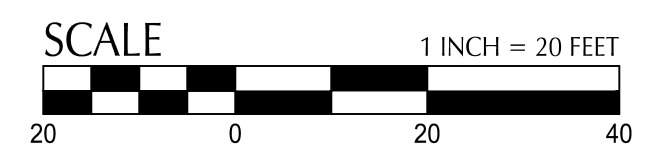
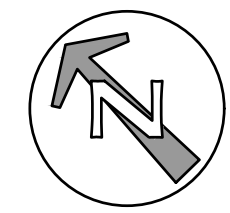
**PLAN - WILLAMETTE FALLS DRIVE**  
 SCALE: 1" = 20'



KEY MAP

File: N:\proj\2020\00067-06\11-Sheet\MSCAD\PL01\LU2-0-FLOODPLAIN.dwg TAB:LU2.1  
 Plotted: 12/1/22 at 2:15pm By: TKetchum

REVISION	DATE	DESCRIPTION



111 SW Fifth Ave., Suite 2600  
 Portland, OR 97204  
 O: 503.542.3860  
 F: 503.224.4681  
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JOB No.:	2000067
DESIGNED BY:	LB/TK/MM/JG/NP
DRAWN BY:	SB/RC
CHECKED BY:	DP/CV
PLOT DATE:	12/1/22 2:15pm
PLOTTED BY:	TKetchum
DWG NAME:	2000067-LU2.0-FLOODPLAIN.dwg
TAB NAME:	LU2.1

West Linn, OR 97068

**WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING**

SHEET NO.  
**LU2.1**  
 SHEET 8 OF 17  
 RECORD NO.  
 2000067-65




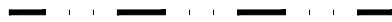





**SHEET NOTES**

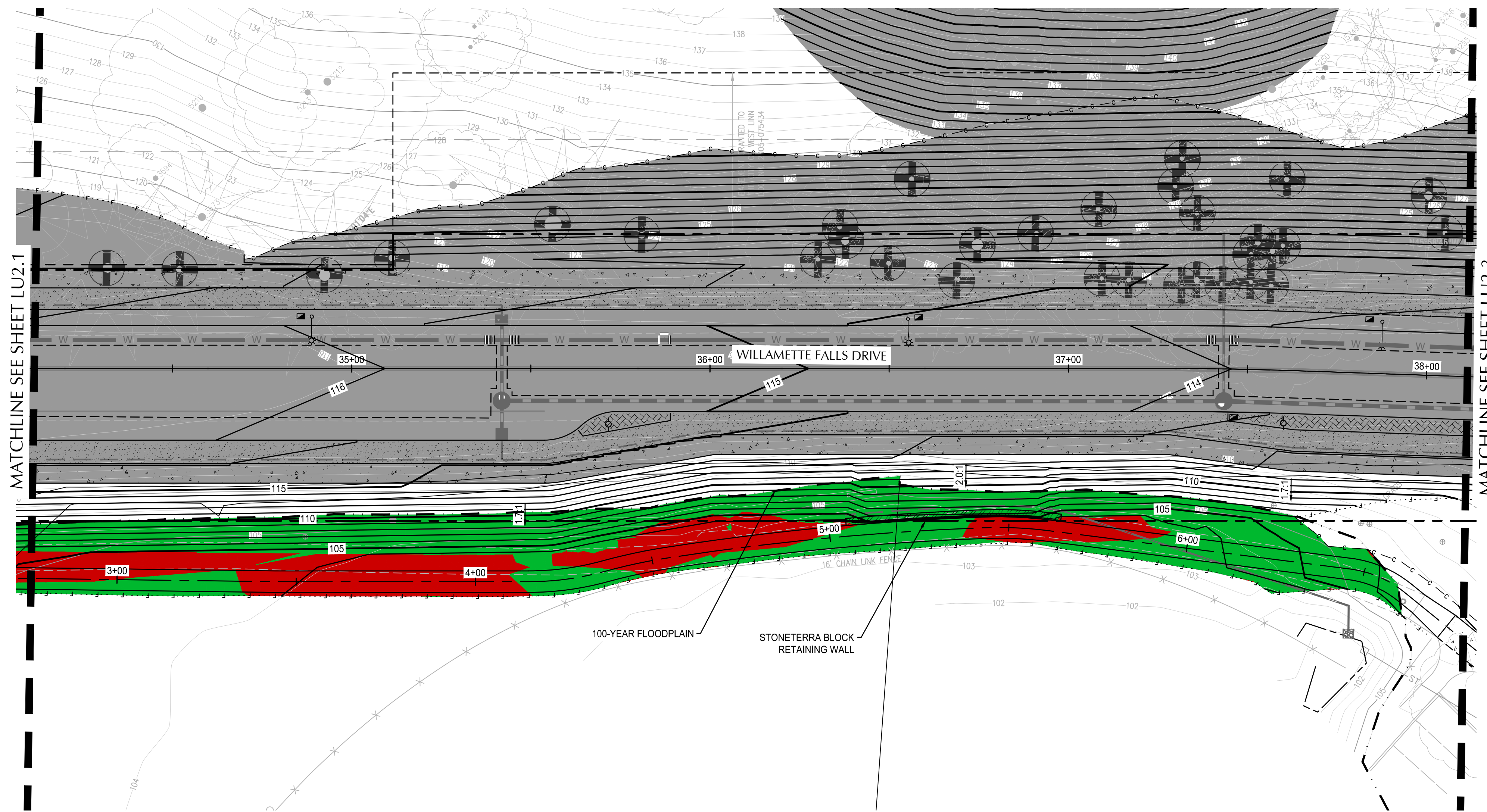
1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU1.X SHEETS FOR GRADING PLANS.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

**PROJECT FLOODPLAIN SUMMARY**

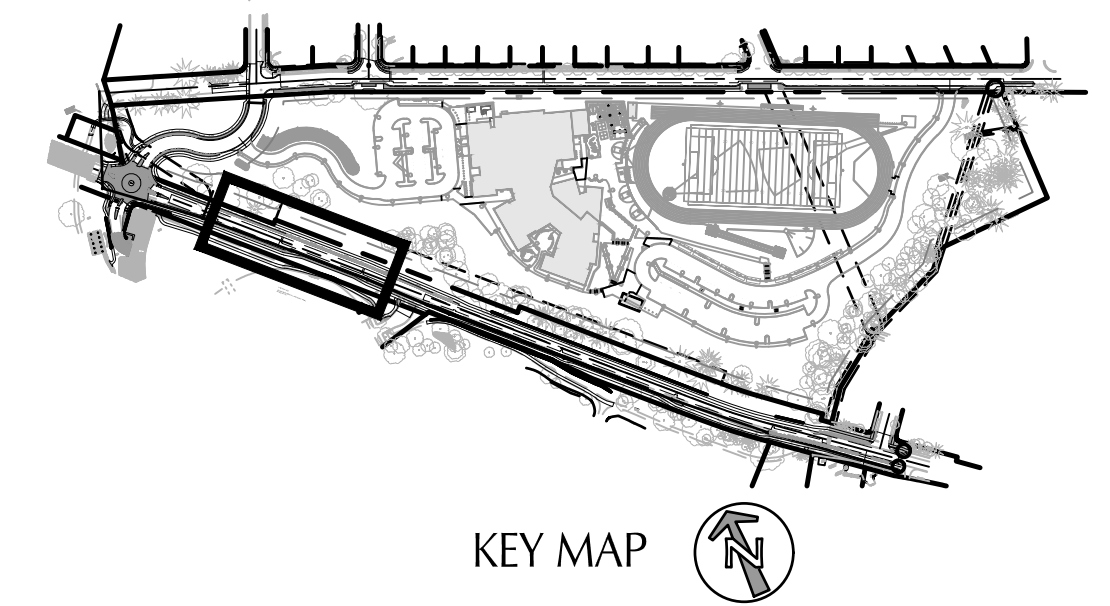
CUT = 497 CU.YD.  
 FILL = 460 CU.YD.  
 NET = 37 CU.YD. (CUT)

**SHEET LEGEND**

-  PROPERTY LINE
-  100 YEAR FLOODPLAIN
-  SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
-  CUT AREA WITHIN FLOODPLAIN
-  FILL AREA WITHIN FLOODPLAIN
-  FLOODWAY
-  ### FEET BASE FLOOD ELEVATION

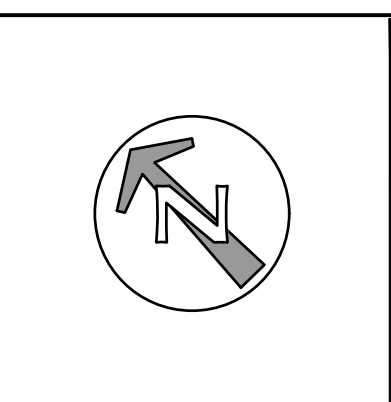


**PLAN - WILLAMETTE FALLS DRIVE**  
 SCALE: 1" = 20'



File: N:\proj\2020\00067-Dollar-Street-MS-CAD\PILOT\LU-WFD\2000067-LU2.0-FLOODPLAIN.dwg TAB:LU2.2  
 Plotted: 12/1/22 at 2:16pm By: TKetchum

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JOB No.: 2000067  
 DESIGNED BY: LB/TK/MM/JG/NP  
 DRAWN BY: SB/RC  
 CHECKED BY: DP/CV  
 PLOT DATE: 12/1/22 2:16pm  
 PLOTTED BY: TKetchum  
 DWG NAME: 2000067-LU2.0-FLOODPLAIN.dwg  
 TAB NAME: LU2.2

West Linn, OR 97068

WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING

SHEET NO.  
**LU2.2**  
 SHEET 9 OF 17  
 RECORD NO.  
 2000067-66




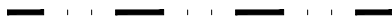





**SHEET NOTES**

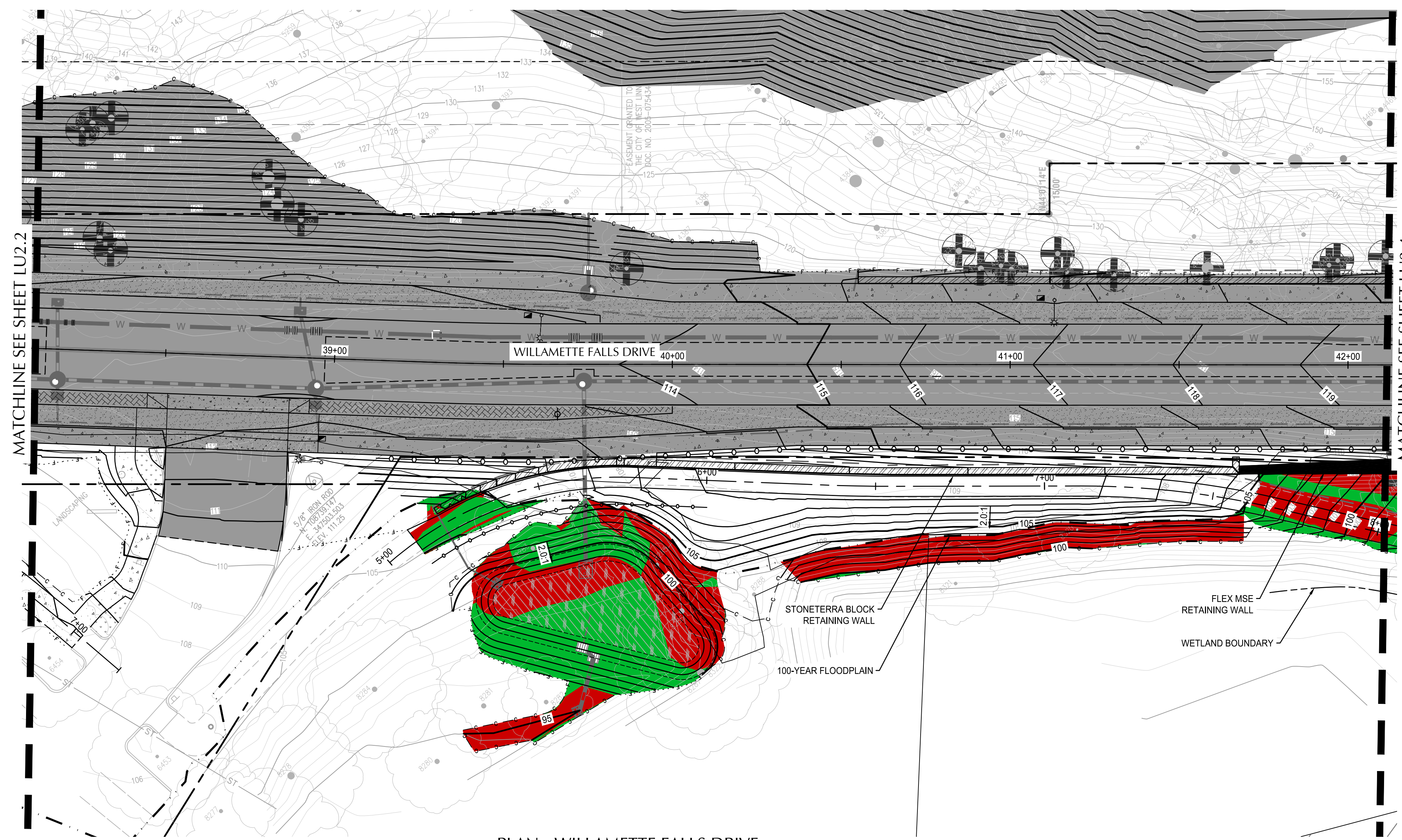
1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU1.X SHEETS FOR GRADING PLANS.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

**PROJECT FLOODPLAIN SUMMARY**

CUT = 497 CU.YD.  
 FILL = 460 CU.YD.  
 NET = 37 CU.YD. (CUT)

**SHEET LEGEND**

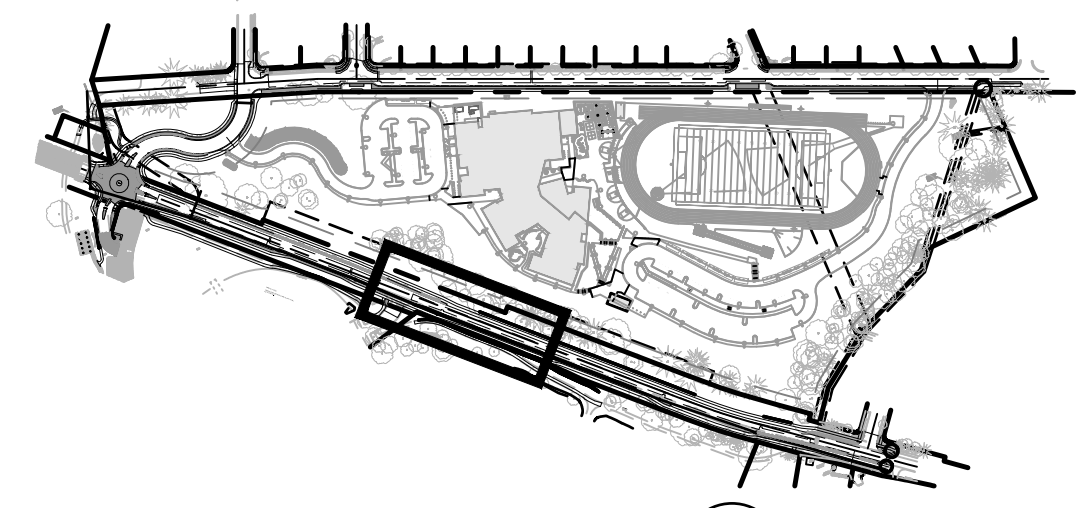
-  PROPERTY LINE
-  100 YEAR FLOODPLAIN
-  SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
-  CUT AREA WITHIN FLOODPLAIN
-  FILL AREA WITHIN FLOODPLAIN
-  FLOODWAY
-  ### FEET BASE FLOOD ELEVATION



**PLAN - WILLAMETTE FALLS DRIVE**  
 SCALE: 1" = 20'

MATCHLINE SEE SHEET LU2.2

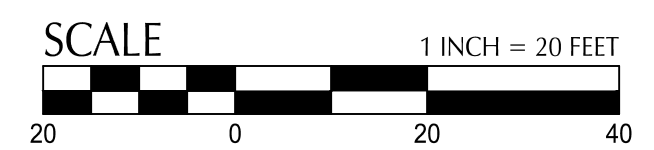
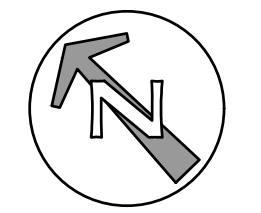
MATCHLINE SEE SHEET LU2.4



KEY MAP

File: N:\proj\2020\00067-Dollar-Street-MS-CAD\PLT\LU2-FLOODPLAIN.dwg TAB:LU2.3  
 Plotted: 12/1/22 at 2:16pm By: Tketchum

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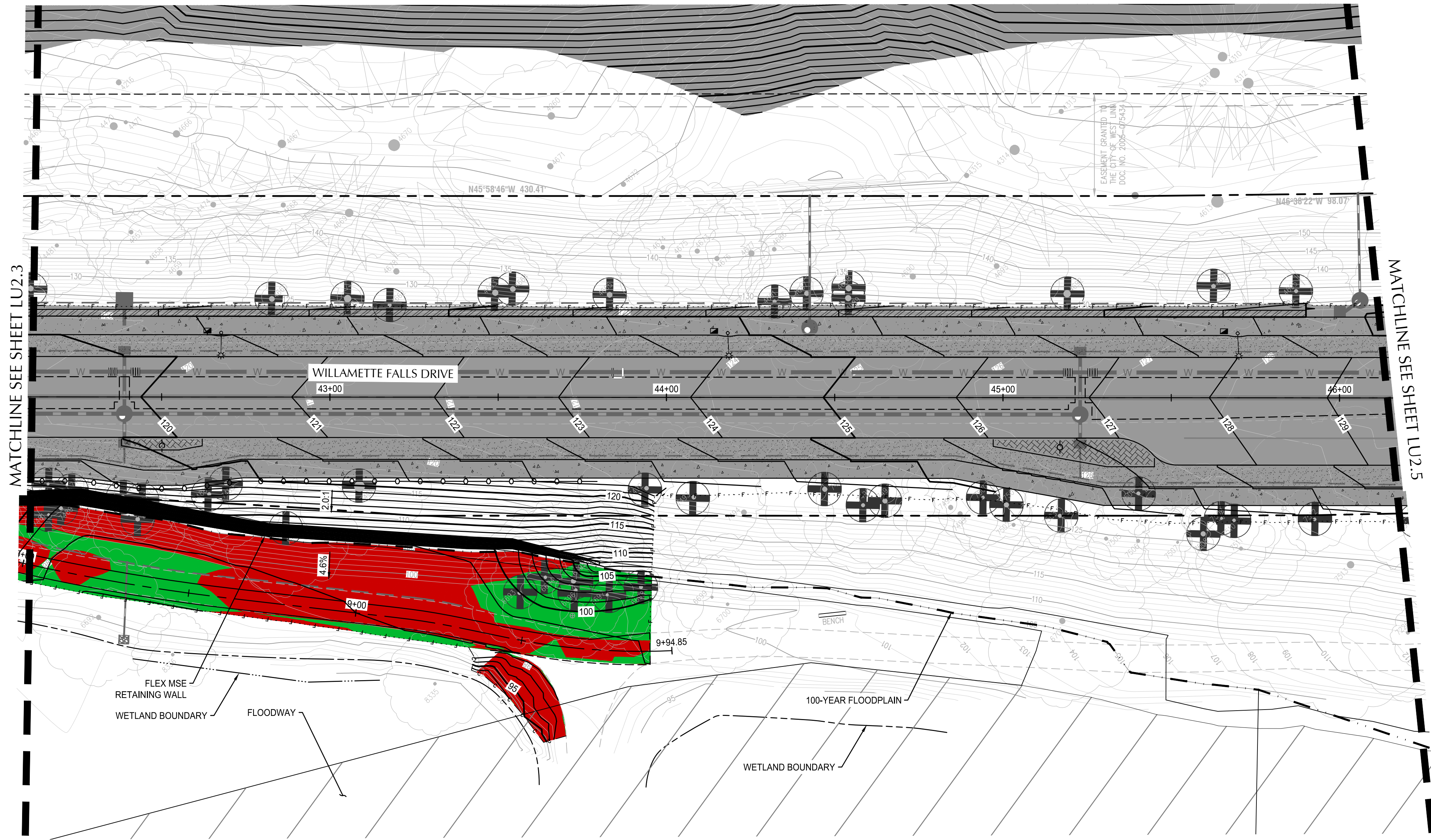
JOB No.:	2000067
DESIGNED BY:	LB/TK/MM/JG/NP
DRAWN BY:	SB/RC
CHECKED BY:	DP/CV
PLOT DATE:	12/1/22 2:16pm
PLOTTED BY:	Tketchum
DWG NAME:	2000067-LU2.0-FLOODPLAIN.dwg
TAB NAME:	LU2.3

West Linn, OR 97068

**WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING**

SHEET NO.  
**LU2.3**  
 SHEET 10 OF 17  
 RECORD NO.  
 2000067-67





PLAN - WILLAMETTE FALLS DRIVE  
SCALE: 1" = 20'

SHEET NOTES

1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU1.X SHEETS FOR GRADING PLANS.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

PROJECT FLOODPLAIN SUMMARY

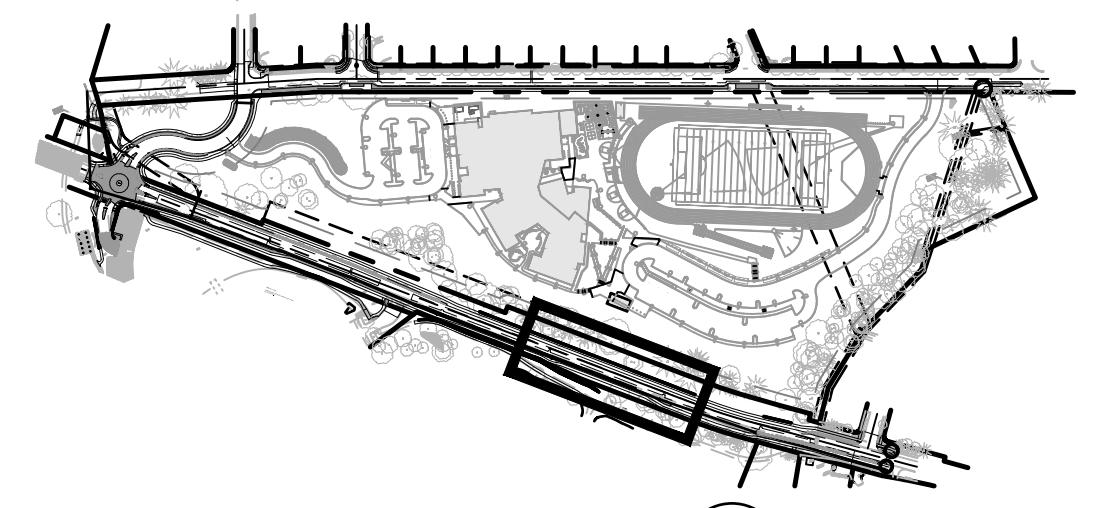
CUT = 497 CU.YD.  
FILL = 460 CU.YD.  
NET = 37 CU.YD. (CUT)

SHEET LEGEND

- PROPERTY LINE
- 100 YEAR FLOODPLAIN
- SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
- CUT AREA WITHIN FLOODPLAIN
- FILL AREA WITHIN FLOODPLAIN
- FLOODWAY
- ### FEET BASE FLOOD ELEVATION

MATCHLINE SEE SHEET LU2.3

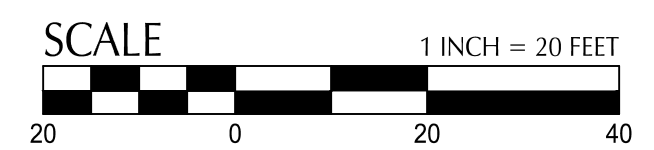
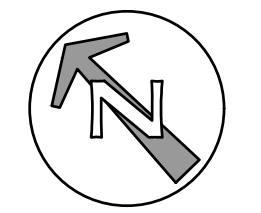
MATCHLINE SEE SHEET LU2.5



KEY MAP

File: N:\proj\2020\00067-Dollar-Street\MSCAD\PL01\LU-WFD\2000067-LU2.0-FLOODPLAIN.dwg TAB:LU2.4  
 Plotted: 12/1/22 at 2:16pm By: T.Ketchum

REVISION	DATE	DESCRIPTION



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JOB No.:	2000067
DESIGNED BY:	LB/TK/MM/JG/NP
DRAWN BY:	SB/RC
CHECKED BY:	DP/CV
PLOT DATE:	12/1/22 2:16pm
PLOTTED BY:	TKetchum
DWG NAME:	2000067-LU2.0-FLOODPLAIN.dwg
TAB NAME:	LU2.4

West Linn, OR 97068

WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING

SHEET NO.

**LU2.4**

SHEET 11 OF 17

RECORD NO.  
2000067-68




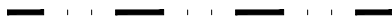





**SHEET NOTES**

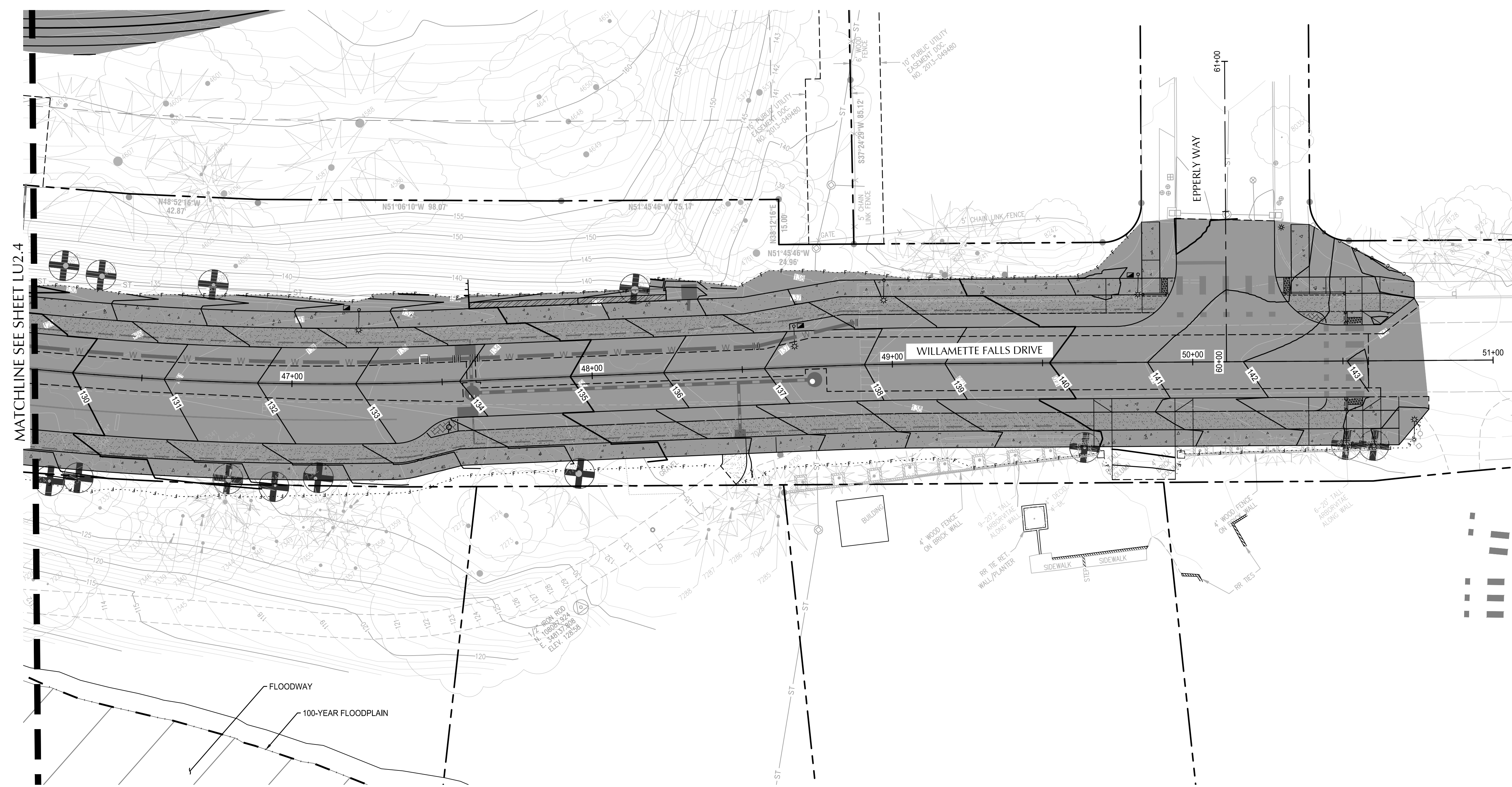
1. REFER TO LAND USE CASE FILE AP-21-02 FOR PRIOR APPROVALS.
2. SEE LU1.X SHEETS FOR GRADING PLANS.
3. SEE LU3.X SHEETS FOR LANDSCAPE IMPROVEMENTS.

**PROJECT FLOODPLAIN SUMMARY**

CUT = 497 CU.YD.  
 FILL = 460 CU.YD.  
 NET = 37 CU.YD. (CUT)

**SHEET LEGEND**

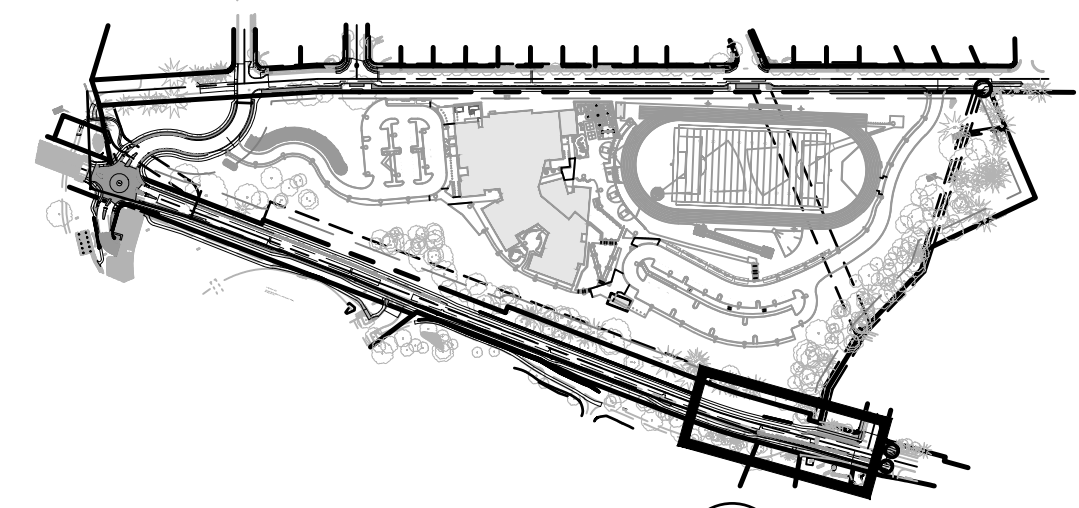
-  PROPERTY LINE
-  100 YEAR FLOODPLAIN
-  SEE LAND USE AP-21-02 FOR PRIOR LAND USE APPROVAL
-  CUT AREA WITHIN FLOODPLAIN
-  FILL AREA WITHIN FLOODPLAIN
-  FLOODWAY
-  ### FEET BASE FLOOD ELEVATION



**PLAN - WILLAMETTE FALLS DRIVE**

SCALE: 1" = 20'

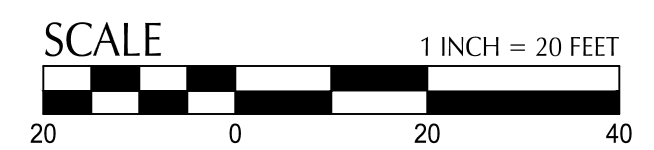
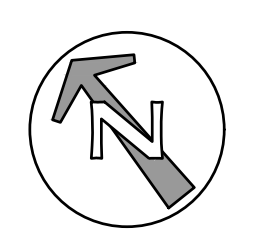
MATCHLINE SEE SHEET LU2.4



KEY MAP

File: N:\ep\2020\00067-Dollar-Street\MSCAD\PL01\LU-WFD\200067-LU2.0-FLOODPLAIN.dwg TAB:LU2.5  
 Plotted: 12/1/22 at 2:17pm By: Tketchum

REVISION	DATE	DESCRIPTION



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 F: 503.224.4681  
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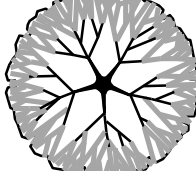
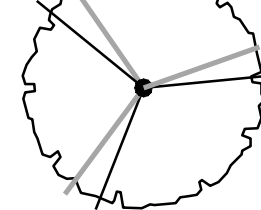







FOR INFORMATION ONLY


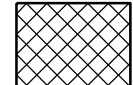









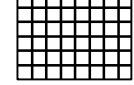
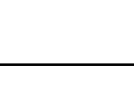




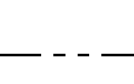
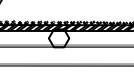
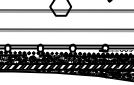










JOB No.:	2000067
DESIGNED BY:	LB/TK/MM/JG/NP
DRAWN BY:	SB/RC
CHECKED BY:	DP/CV
PLOT DATE:	12/1/22 2:17pm
PLOTTED BY:	Tketchum
DWG NAME:	2000067-LU2.0-FLOODPLAIN.dwg
TAB NAME:	LU2.5

WILLAMETTE FALLS DRIVE FLOODPLAIN BALANCING

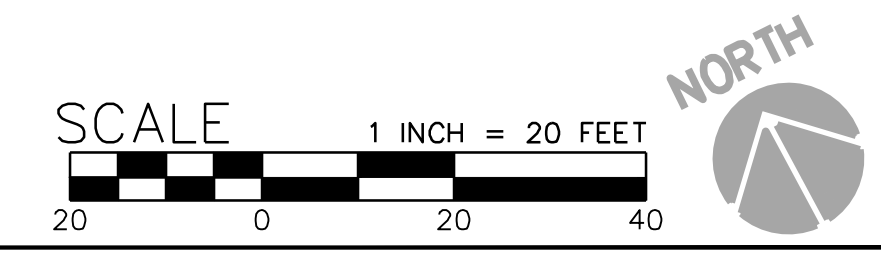
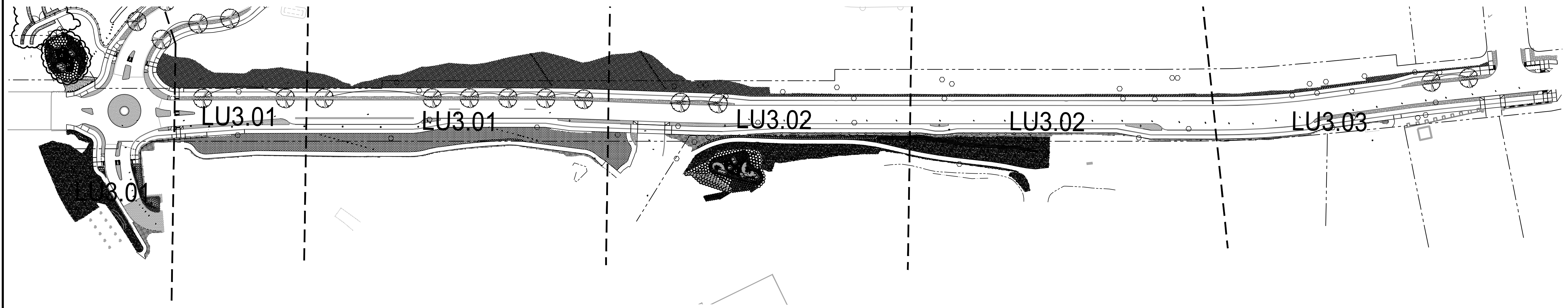
SHEET NO.	LU2.5
SHEET	12 OF 17
RECORD NO.	2000067-69



TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	SPACING
	ACE CIR	2	ACER CIRCINATUM / VINE MAPLE	1.5" CAL.	AS SHOWN
	ACE AUT	52	ACER RUBRUM 'AUTUMN FLAME' / AUTUMN FLAME RED MAPLE	2.5" CAL.	AS SHOWN
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	SPACING
	CLE SIX	36	CLETHRA ALNIFOLIA 'SIXTEEN CANDLES' / SIXTEEN CANDLES SUMMERSWEET	#1	36" O.C.
	COR SER	104	CORNUS SERICEA / RED TWIG DOGWOOD	#2	48" O.C.
	JUN PAT	1,814	JUNCUS PATENS / CALIFORNIA GRAY RUSH	#1	12" O.C.
	LON PIL	83	LONICERA PILEATA / PRIVET HONEYSUCKLE	#1	18" O.C.
	MAH AQ3	83	MAHONIA AQUIFOLIUM 'COMPACTA' / COMPACT OREGON GRAPE	#2	48" O.C.
	MAH RE2	90	MAHONIA REPENS / CREEPING MAHONIA	#1	36" O.C.
	POMU	657	POLYSTICHUM MUNITUM / WESTERN SWORD FERN	#1	36" O.C.
	SPI TOR	97	SPIRAEA BETULIFOLIA 'TOR' / TOR BIRCHLEAF SPIREA	#1	36" O.C.
	WESP	53	SPIRAEA DOUGLASII / WESTERN SPIREA	#1	36" O.C.
SHRUB AREAS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	

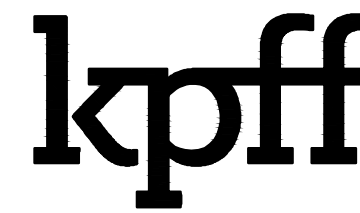
	4,053 SF	WOODLAND MIX / EROSION CONTROL MIX			
	4,053 SF	-			
	3100 SF	REINFORCED SOIL SLOPE			
	FRA WOO 465 SF	FRAGARIA VESCA / WOODLAND STRAWBERRY	BULB/4" POT	15% @ 18" o.c.	
	HEU MIC 465 SF	HEUCHERA MICRANTHA / CREVICE ALUMROOT	BULB/4" POT	15% @ 18" o.c.	
	MAH RE5 248 SF	MAHONIA REPENS / CREEPING MAHONIA	BULB/4" POT	8% @ 18" o.c.	
	POL MU3 775 SF	POLYSTICHUM MUNITUM / WESTERN SWORD FERN	BULB/4" POT	25% @ 18" o.c.	
	PTE WES 775 SF	PTERIDIUM AQUILINUM / WESTERN BRACKENFERN	BULB/4" POT	25% @ 18" o.c.	
	TEL GRA 372 SF	TELLIMA GRANDIFLORA / BIGFLOWER TELLIMA	BULB/4" POT	12% @ 18" o.c.	
GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	SPACING
	25,037 SF	EROSION CONTROL MIX			
	25,037 SF	-			
	17,961 SF	NO MOW TYPE 1 2 LBS PER 1000 SF.			
	FES HTN 17,961 SF	FESTUCA OVINA 'QUATRO' / QUATRO SHEEP FESCUE	SEED		
	FES CHN 17,961 SF	FESTUCA RUBRA 'CHANTILLY' / CHANTILLY RED FESCUE	SEED		
	FES SHL 17,961 SF	FESTUCA RUBRA 'SHORELINE' / SHORELINE RED FESCUE	SEED		
	FES COM 17,961 SF	FESTUCA RUBRA COMMUTATA / CHEWINGS FESCUE	SEED		
	FES TR2 17,961 SF	FESTUCA TRACHYPHYLLA / HARD FESCUE	SEED		
	TRI REP 17,961 SF	TRIFOLIUM REPENS / WHITE CLOVER	SEED		
	17,894 SF	NO MOW TYPE 2 - FLOWERING MIX 2 LBS PER 1000 SF.			
	CHR MAX 17,894 SF	CHRYSANTHEMUM MAXIMUM / MAX CHRYSANTHEMUM	SEED		
	CLA AMO 17,894 SF	CLARKIA AMOENA / FAREWELL TO SPRING	SEED		
	ESC CAL 17,894 SF	ESCHSCHOLZIA CALIFORNICA / CALIFORNIA POPPY	SEED		
	FES HT2 17,894 SF	FESTUCA OVINA 'QUATRO' / QUATRO SHEEP FESCUE	SEED		
	FES TRA 17,894 SF	FESTUCA TRACHYPHYLLA / HARD FESCUE	SEED		
	LOB MAR 17,894 SF	LOBULARIA MARITIMA / SWEET ALYSSUM	SEED		
	LOL PE2 17,894 SF	LOLIUM PERENNE / PERENNIAL RYEGRASS	SEED		
	LUP PER 17,894 SF	LUPINUS PERENNIS / WILD LUPINE	SEED		
	TRI WF1 17,894 SF	TRIFOLIUM FRAGIFERUM / STRAWBERRY CLOVER	SEED		
	TRI RE2 17,894 SF	TRIFOLIUM REPENS / WHITE CLOVER	SEED		
	RUB PEN 648 SF	RUBUS PENTALOBUS 'EMERALD CARPET' / BRAMBLE	BULB/4" POT	18" O.C.	

SEE LAND USE AP. 21.02 FOR PRIOR LANS USE APPROVAL

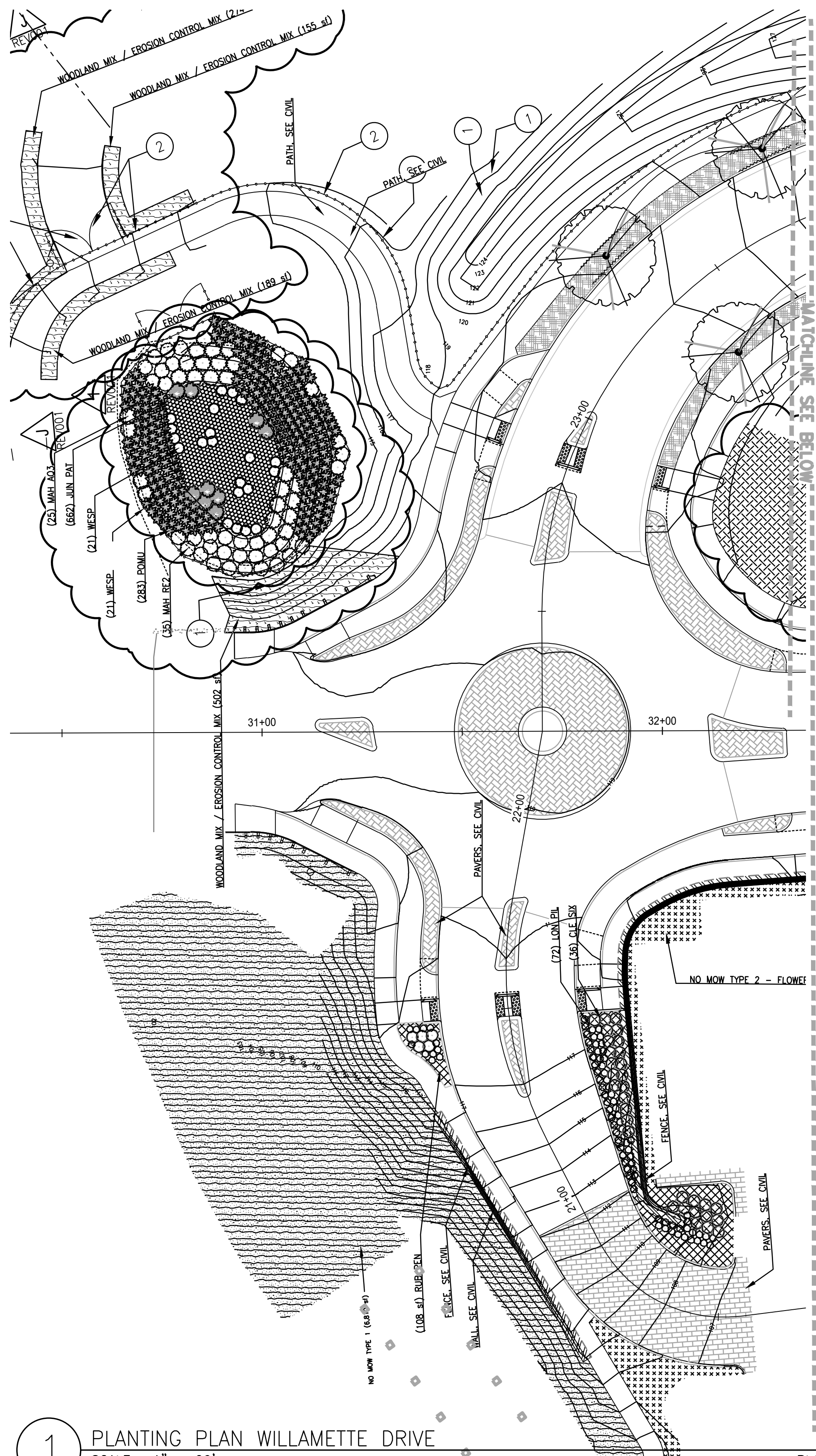


File: C:\Users\wmorales\AppData\Local\Temp\AcPublish\_27138P3651.03 PLANTING\_OFF-SITE\_LU.dwg TAB:LU3.00  
 Plotted: 11/10/22 at 12:55pm By: wmorales

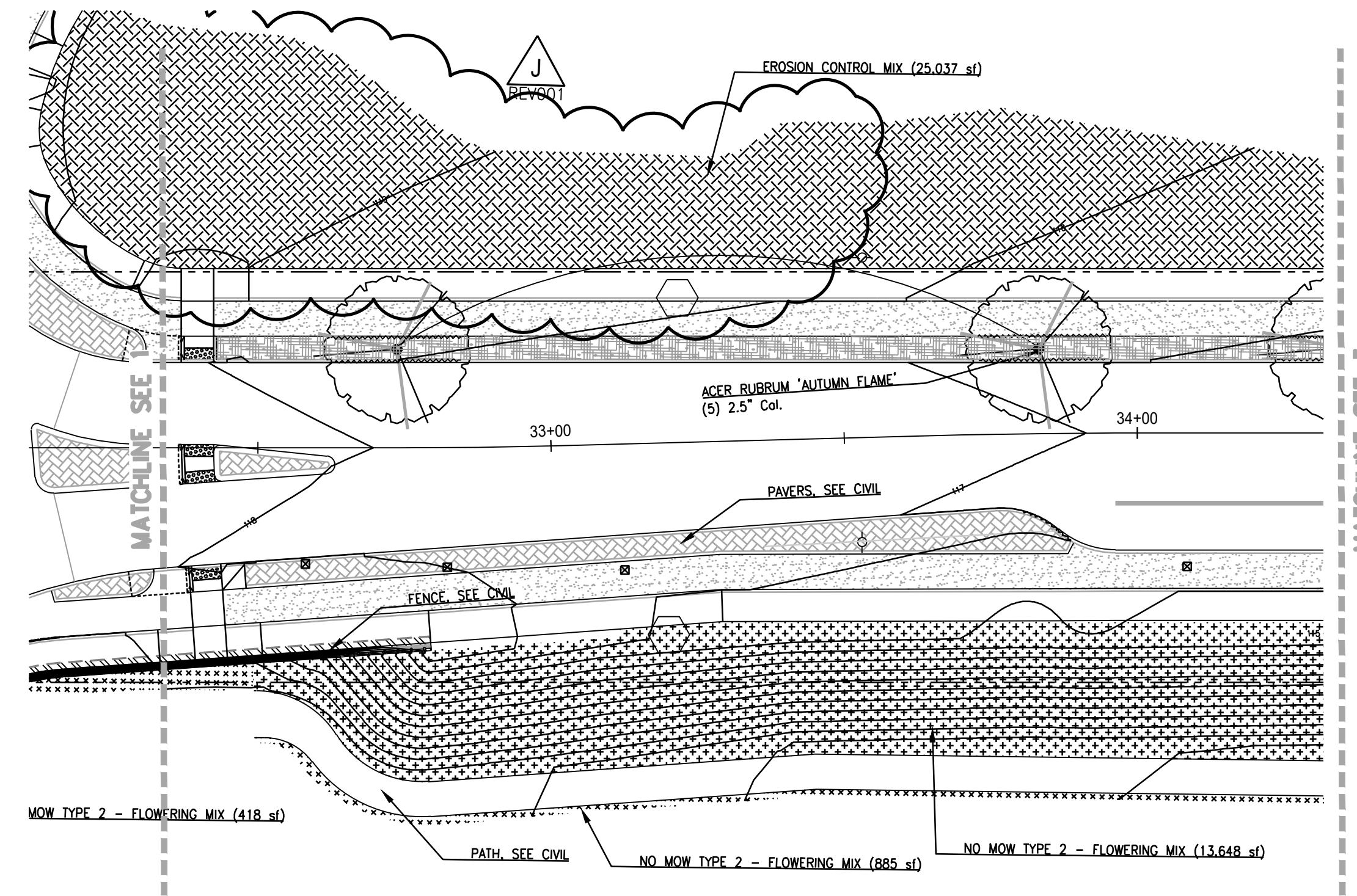
REVISION	DATE	DESCRIPTION

<b>WALKER MACY</b> 111 SW OAK, SUITE 200 PORTLAND, OR 97204 503-228-3122	 111 SW Fifth Ave., Suite 2600 Portland, OR 97204 O: 503.542.3860 F: 503.224.4681 www.kpff.com	FOR INFORMATION ONLY	JOB No.: 2000067 DESIGNED BY: LB/TK/MM/JG/NP DRAWN BY: SB/RC CHECKED BY: DP/CV PLOT DATE: 11/10/22 12:55pm PLOTTED BY: wmorales DWG NAME: P3651.03 PLANTING_OFF-SITE LU.dwg TAB NAME: LU3.00	West Linn, OR 97068 SCALE 1 INCH = 20 FEET NORTH	SHEET NO. <b>LU3.00</b> SHEET 13 OF 17 RECORD NO.
			PLANTING OVERALL & SCHEDULE		



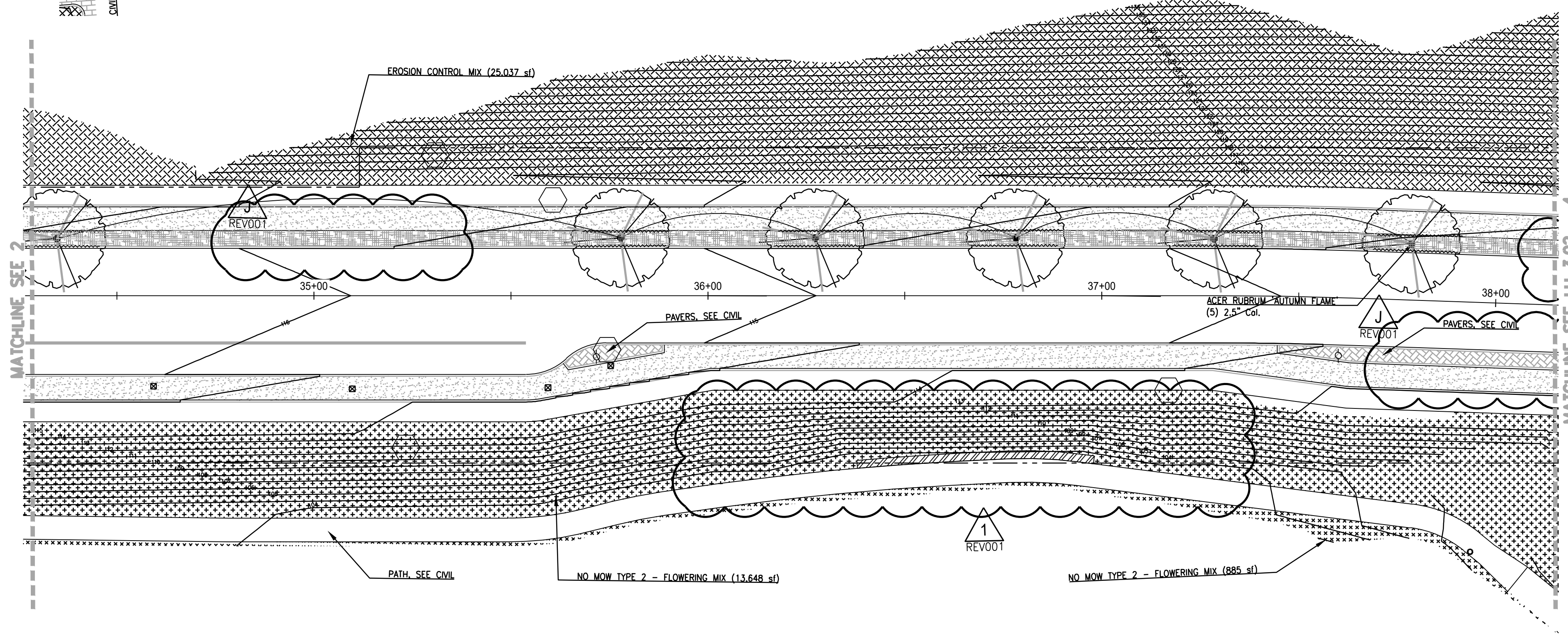


PLAN



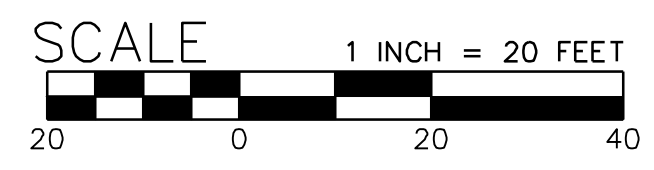
2 PLANTING PLAN WILLAMETTE DRIVE  
SCALE: 1" = 20'

PLAN



3 PLANTING PLAN WILLAMETTE DRIVE  
SCALE: 1" = 20'

PLAN

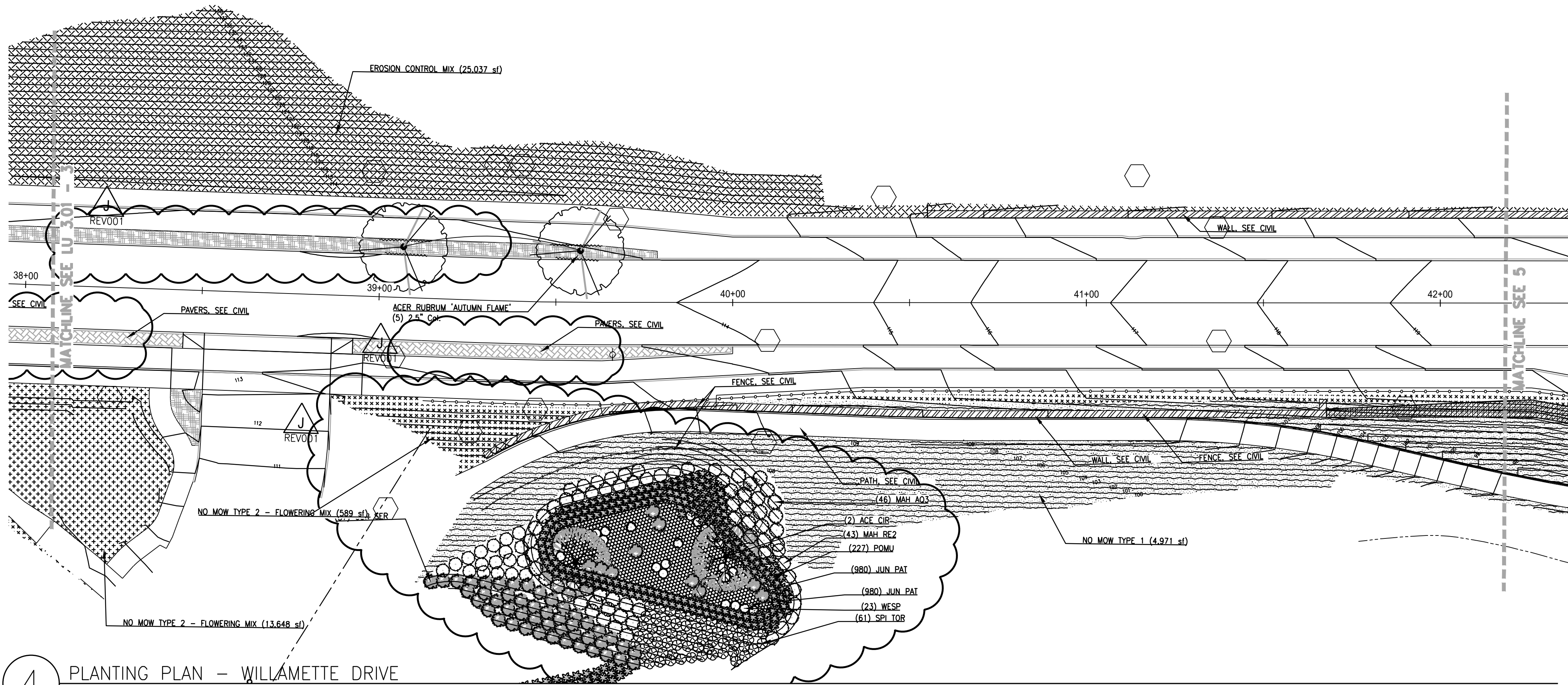


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 Plotted: 11/10/22 at 12:55pm By: wmorales  
 22x34

REVISION	DATE	DESCRIPTION

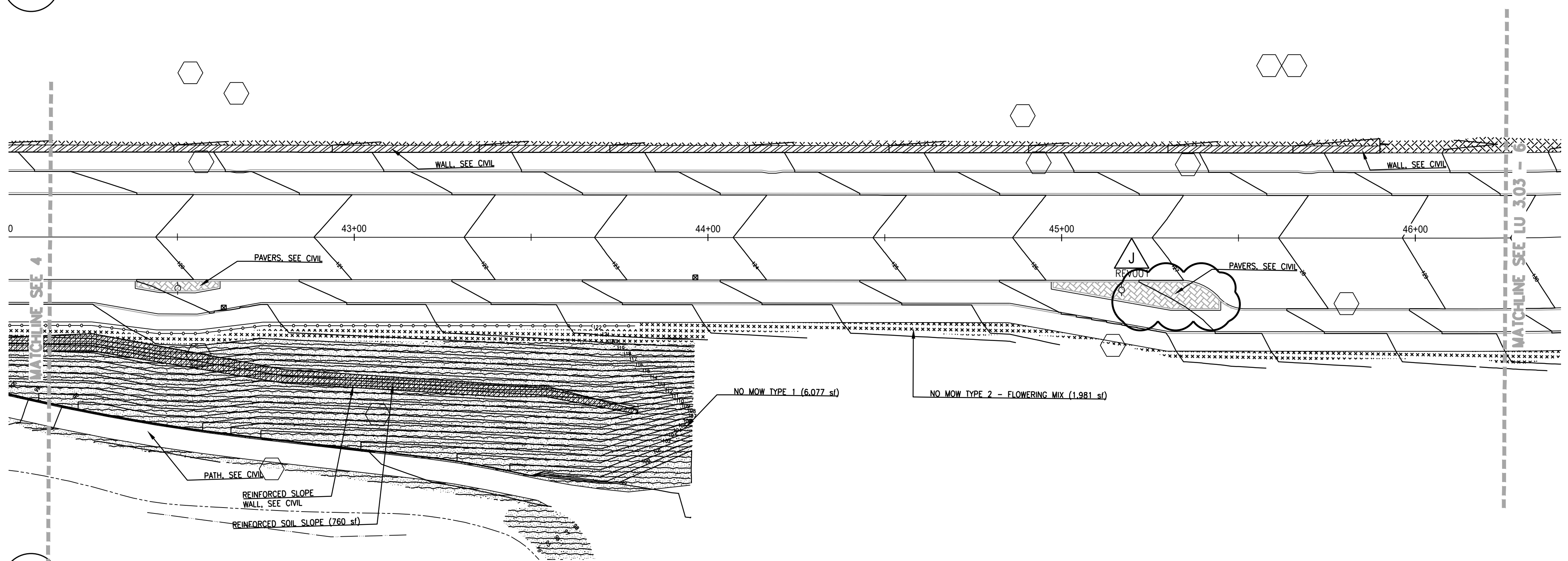
<b>WALKER MACY</b> 111 SW OAK, SUITE 200 PORTLAND, OR 97204 503-228-3122	 111 SW Fifth Ave., Suite 2600 Portland, OR 97204 O: 503.542.3860 F: 503.224.4681 www.kpff.com	FOR INFORMATION ONLY	JOB No.: 2000067 DESIGNED BY: LB/TK/MM/JG/NP DRAWN BY: SB/RC CHECKED BY: DP/CV PLOT DATE: 11/10/22 12:55pm PLOTTED BY: wmorales DWG NAME: P3651.03 PLANTING_OFF-SITE_LU.dwg TAB NAME: LU3.01	West Linn, OR 97068  <b>PLANTING PLAN</b>	SHEET NO. <b>LU3.01</b> SHEET 14 OF 17 RECORD NO.
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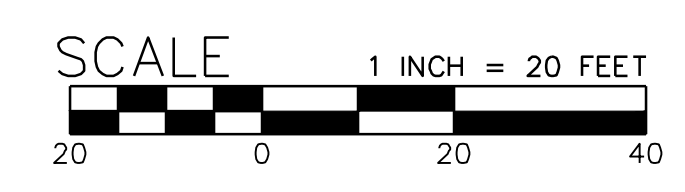
4 PLANTING PLAN - WILLAMETTE DRIVE  
SCALE: 1" = 20'

PLAN



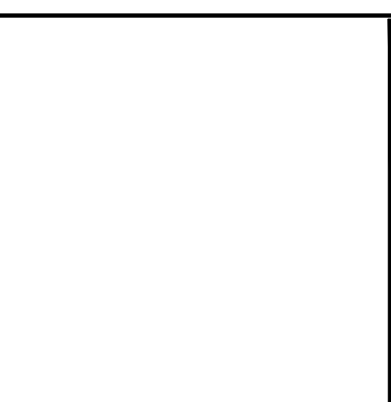
5 PLANTING PLAN - WILLAMETTE DRIVE  
SCALE: 1" = 20'

PLAN



File: C:\Users\wmorales\AppData\Local\Temp\AcPublish\_27139P\3651\_03 PLANTING\_OFF-SITE\_LU.dwg TAB:LU3.02  
 Plotted: 11/10/22 at 12:55pm By: wmorales  
 22x34

REVISION	DATE	DESCRIPTION



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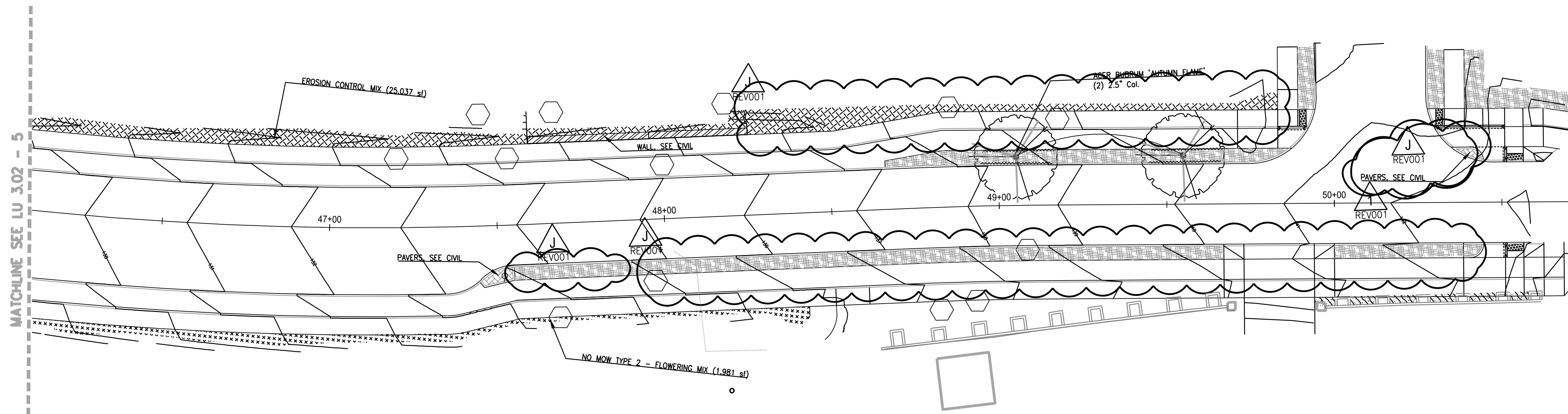
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JOB No.:	2000067
DESIGNED BY:	LB/TK/MM/JG/NP
DRAWN BY:	SB/RC
CHECKED BY:	DP/CV
PLOT DATE:	11/10/22 12:55pm
PLOTTED BY:	wmorales
DWG NAME:	P3651.03 PLANTING_OFF-SITE_LU.dwg
TAB NAME:	LU3.02

West Linn, OR 97068	
PLANTING PLAN	
SHEET	15 OF 17
RECORD NO.	

SHEET NO.  
**LU3.02**





6 PLANTING PLAN - WILLAMETTE DRIVE  
SCALE: 1" = 20'

PLAN

File: C:\Users\wmorales\AppData\Local\Temp\AcPublish\_27139P3651.03 PLANTING\_OFF-SITE\_LU.dwg, TAB: LU.03.03  
 Plotted: 11/10/22 at 12:55pm By: wmorales  
 22x34

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PLOT DATE:	11/10/22 12:55pm
PLOTTED BY:	wmorales
DWG NAME:	P3651.03 PLANTING_OFF-SITE_LU.dwg
TAB NAME:	LU3.03

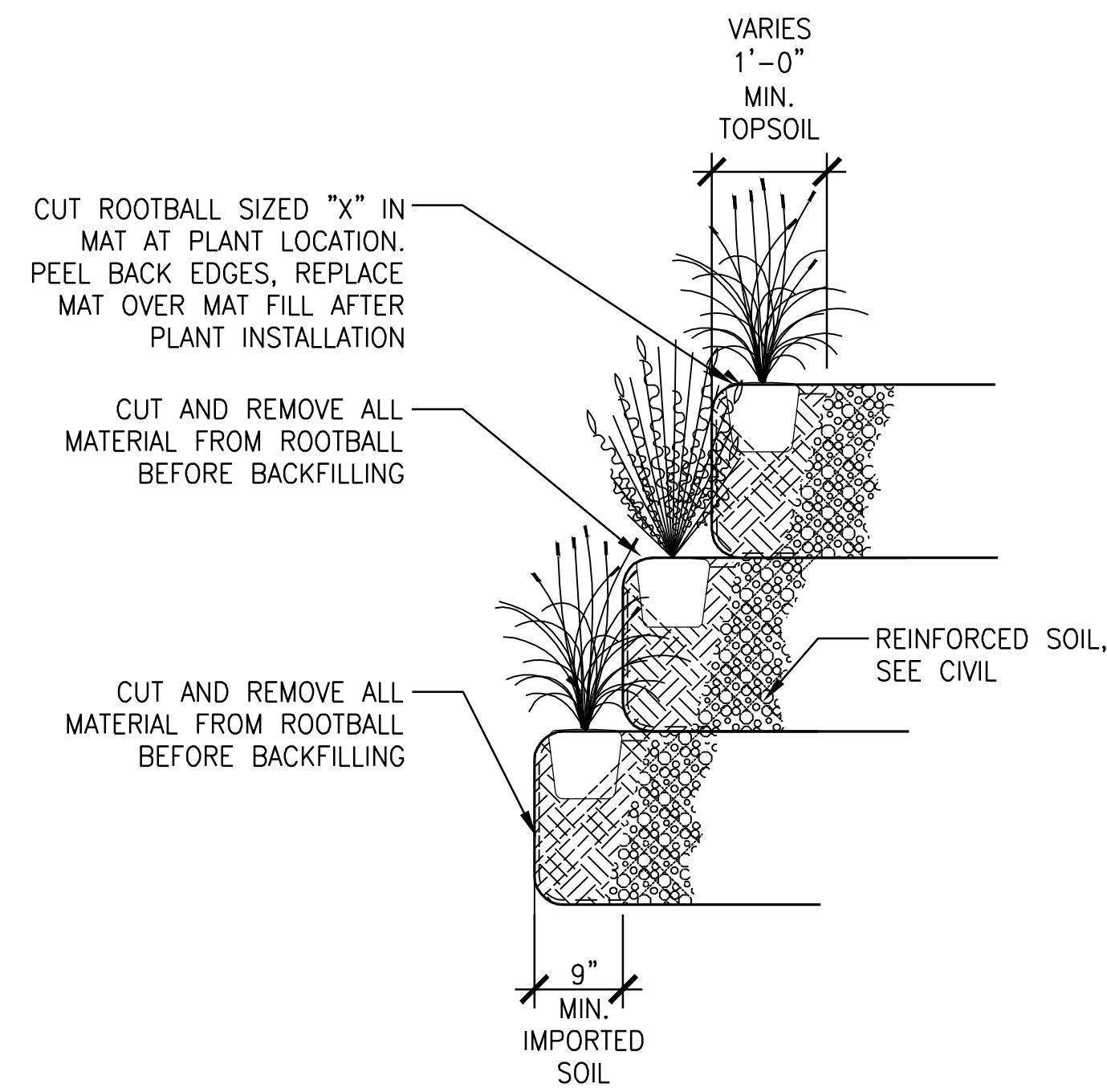
West Linn, OR 97068

PLANTING PLAN

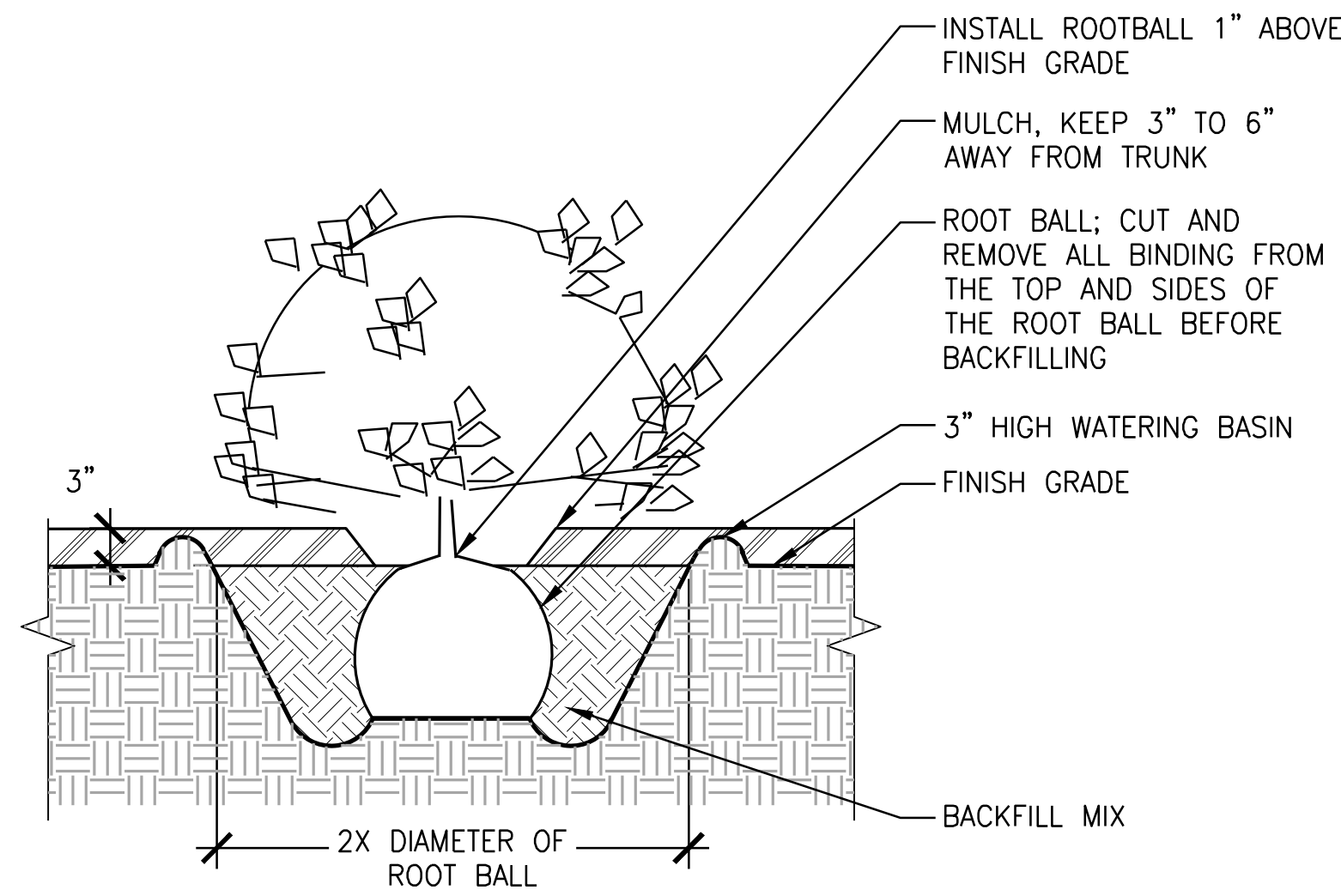
SHEET NO.

**LU3.03**

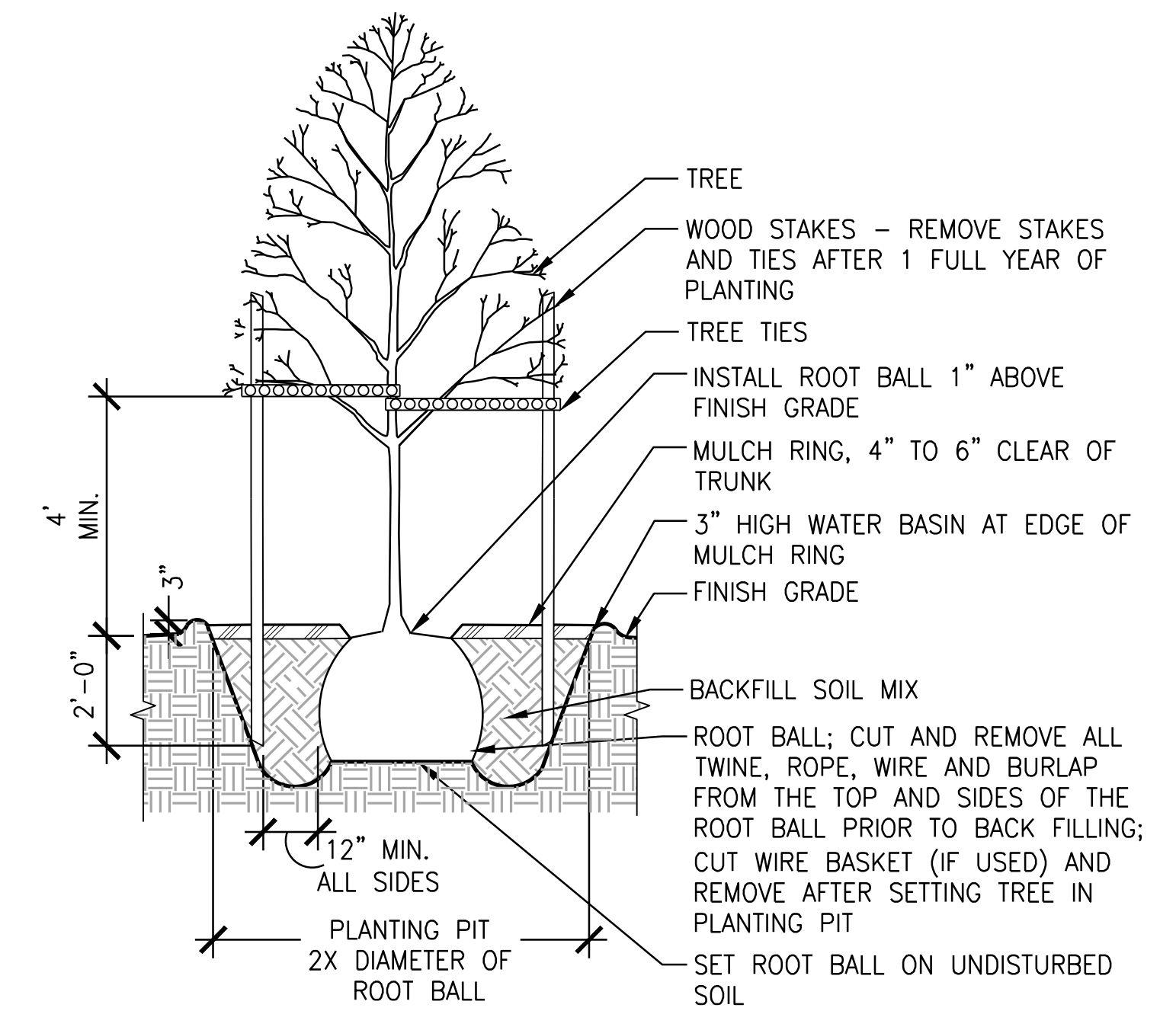
SHEET 16 OF 17  
RECORD NO.



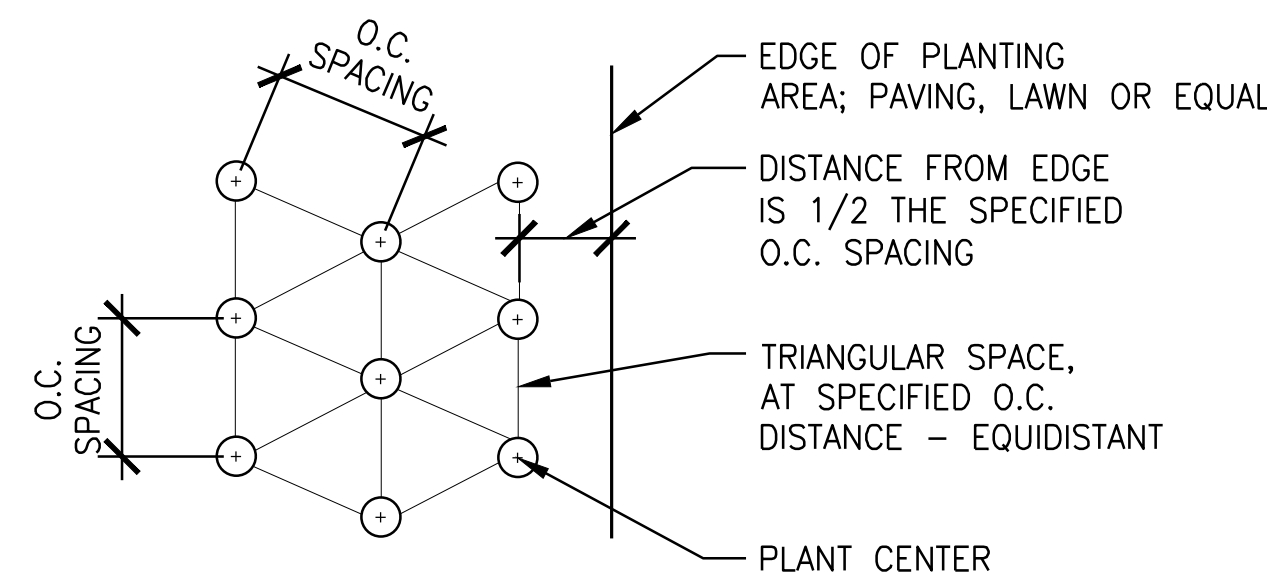
5 PLANTING AT REINFORCED SOIL SLOPED WALL  
SCALE: 3/4" = 1'-0"  
SECTION



3 SHRUB & GROUND COVER PLANTING  
SCALE: 3/4" = 1'-0"  
SECTION

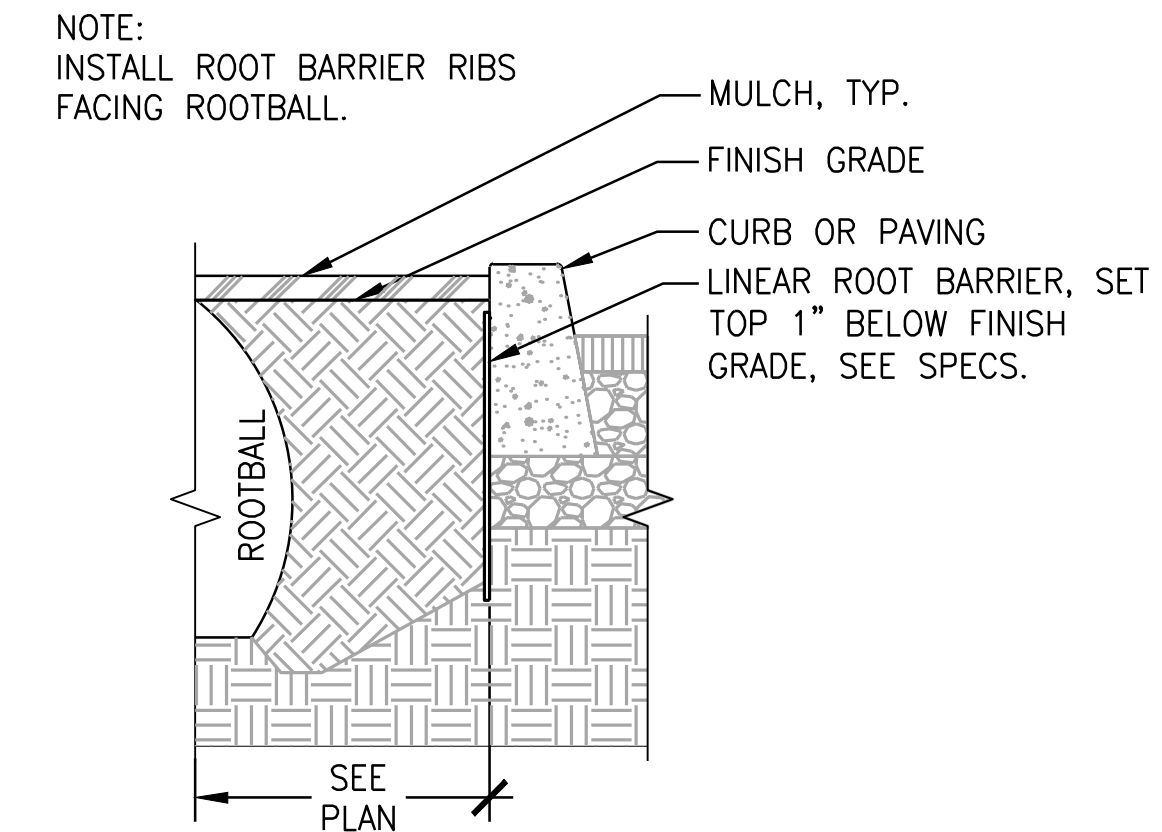


1 DECIDUOUS TREE PLANTING  
SCALE: 3/8" = 1'-0"  
SECTION



4 SHRUB & GROUND COVER TRIANGULAR SPACING  
SCALE: 3/4" = 1'-0"  
SECTION

NOTE:  
- SEE PLANT SCHEDULE FOR EACH PLANT'S APPROPRIATE O.C. SPACING.  
- PLANTING PLAN SHOWING INDIVIDUAL LOCATION OF A SHRUB AND OR GROUND COVER TAKE PRECEDENT OVER THIS DETAIL.



2 ROOT BARRIER  
SCALE: 3/4" = 1'-0"  
SECTION

File: C:\Users\wmorales\AppData\Local\Temp\AcPublish\_271381P3851\_03 DETAILS.dwg TAB.L1601  
Plotted: 11/10/22 at 12:41pm By: wmorales  
22x34

REVISION	DATE	DESCRIPTION

<b>WALKER   MACY</b> <small>111 SW OAK, SUITE 200          PORTLAND, OR 97204          503-228-3122</small>	 <small>111 SW Fifth Ave., Suite 2600          Portland, OR 97204          O: 503.542.3860          F: 503.224.4681          www.kpff.com</small>	FOR INFORMATION ONLY	JOB No.: 2000067 DESIGNED BY: LB/TK/MM/JG/NP DRAWN BY: SB/RC CHECKED BY: DP/CV PLOT DATE: 11/10/22 12:41pm PLOTTED BY: wmorales DWG NAME: P3851_03 DETAIL.S.dwg TAB NAME: L1601	West Linn, OR 97068  PLANTING DETAILS	SHEET NO.  <b>LU4.01</b> SHEET 17 OF 17 RECORD NO.
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