FINAL Staff Report and Notice of Decision

Riverside Phase IV Neighborhood Park

Type II Preliminary Site Plan Review, Critical Areas Review, and SEPA MDNS

(2020-025-SPR/CAR/SEPA) June 7, 2021

PROPOSAL:	The applicant is proposing to develop a neighborhood park on parcel 986028825 and dedicate it to the City for public use once complete. The site is proposed to be accessed from NW Pacific Highway via a 24-foot-wide driveway. The park would fulfill the obligation to provide neighborhood park space for Phases 1-3 of the Riverside Estates Subdivision (previously approved) under La Center Municipal Code (LCMC) Chapter 18.147, provided the amendment to a development agreement concerning the property is fully executed. The total size of the property is 5.19 acres; 2.64 acres of which would be developed as a park. The developed portion of the park would include play equipment, an 8-foot-wide asphalt path, a basketball court, picnic tables, benches, an open field, six parking stalls, and stormwater infrastructure. The existing site includes a Category III wetland located in the western half of the site. The City's critical areas ordinance requires a 110-foot buffer for this wetland. Some of the proposed park improvements and associated grading would be developed in portions of the buffer extending to the edge of the wetland requiring a critical areas permit.
LOCATION:	▪ 34512 NW Pacific Highway, La Center, WA 98629 ▪ SE 1/4 Sec 33, T5N, R1E, WM ▪ Property Identification Number: 986028825
APPLICABLE STANDARDS	This staff report addresses the following standards and approval criteria of the La Center Municipal Code (LCMC): 3.35, Impact Fees; 8.60, Sign Regulations; 13.10.110, Side Sewer and Connections; 18.30, Procedures; 18.147, Parks and Open Space; 18.215, Site Plan Review; 18.245, Supplemental Development Standards; 18.280, Off-Street Parking and Loading Requirements; 18.300, Critical Areas; 18.310, Environmental Policy; 18.320, Stormwater and Erosion Control; 18.360, Archaeological Resource Protection; and La Center Engineering Standards.
DECISION:	**APPROVAL,** subject to conditions

CONTACT LIST

OWNER

Ettro Capital Management
Contact: Peter Ettro
503.568.1907
peter@ettrocapital.com

MANAGER

Sid Constantinescu
Pacific Crest Realty Advisors LLC

APPLICANT

9317, LLC
Contact: Luke Sasse
9321 NE 72nd, Bldg. C, #7
Vancouver, WA 98665
360.449.0099
luke@timberlandframing.com

APPLICANT'S AND MANAGER'S REPRESENTATIVE

PLS Engineering
Contact: Travis Johnson
604 W. Evergreen Blvd.
Vancouver, WA 98660
360.944.6519
PM@PLSEngineering.com

LA CENTER STAFF

Anthony Cooper, PE, City Engineer
305 NW Pacific Highway
La Center, WA 98629
360.263.7665
acooper@ci.lacenter.wa.us

Ethan Spoo, AICP, Consulting Planner
WSP USA
210 East 13th Street, Suite 300
Vancouver, WA 98660
360.823.6138
ethan.spoo@wsp.com

Sam Roberts, AICP, Consulting Planner
WSP USA
210 East 13th Street, Suite 300
Vancouver, WA 98660
360.823.6127
sam.roberts@wsp.com

I. OVERVIEW AND PROCEDURAL BACKGROUND

Proposal

The applicant is proposing to develop a neighborhood park on the subject parcel and dedicate it to the City for public use once complete. The park would fulfill the obligation to provide neighborhood park space for Phases 1-3 of the Riverside Estates Subdivision (previously approved) under LCMC Chapter 18.147. A total of 2.08 acres of park space are required for the 326 units in Riverside. The total size of the property is 5.19 acres, of which 2.64 acres would be developed as a park. The developed portion of the park would include play equipment, an 8-foot-wide asphalt path, a basketball court, picnic tables, benches, an open field, six parking stalls, and stormwater infrastructure. The site is proposed to be accessed from NW Pacific Highway via a 24-foot-wide driveway. The property is zoned Medium Density Residential (MDR-16) and public parks are permitted outright in this zone.

The existing site is undeveloped and includes a Category III wetland located in the western half of the site ("Wetland A"). The City's critical areas ordinance requires a 110-foot buffer for medium intensity uses. Temporary buffer impacts would occur from grading activities and utility trenching, which would be restored upon completion of the project. In addition, permanent indirect impacts to Wetland A would occur due to an insufficient buffer once park development is complete. The applicant is proposing to purchase wetland credits at the East Fork Lewis River Mitigation Bank (EFLMB) to offset the indirect buffer impacts. The project will require a Type II Site Plan Review for the park improvements and a Type II critical areas permit for impacts to the wetland and buffer.

Clark County Maps Online indicates the site also has a "high" probability of archaeological resources. An archaeological predetermination that was completed for the entire Riverside Estates area found two designated prehistoric archaeological sites; however, those sites are not located on the area proposed for the park. The cultural deposits at these sites are sparse and lack diversity and richness and no further archaeological investigations were recommended as necessary. The applicant is conditioned below to implement an inadvertent discovery plan during construction to address the procedure for unexpected discovery of archaeological or cultural resources during development.

The proposal is subject to review under SEPA per WAC 197-11. The applicant submitted a completed SEPA checklist with their application materials. During application review, the City reviewed the SEPA checklist and issued a mitigated determination of nonsignificance (MDNS), as further discussed in this staff report.

Development Agreement

On July 12, 2019, the City entered into a development agreement (DA) (Clark County Recording Number 5626386) with ECM Riverside LLC ("developer") pertaining to certain aspects of the development of Riverside Estates, a residential development consisting of two phases of single-family residences and one phase of multi-family residences. The City Council approved a resolution on June 23, 2020 which conditionally approved the amendment of the development agreement upon obtaining permits and providing a performance bond. One of the amendments included how the development would meet the park and open space requirements under LCMC 18.147. The City negotiated with the developer to construct a fourth phase of the development as public park area. This amendment would remove the requirement for public park areas to be developed within Phases 1, 2, and 3. The City found that the that use of the entirety of the Phase 4 area of 5.19 acres for park, open space, and natural area

better satisfies public interests with respect to park areas rather than smaller, noncontiguous areas disbursed throughout the development. Before the amended DA is approved and recorded, the proposed Phase 4 park is required to receive site plan and critical areas approval to demonstrate consistency with the LCMC, which is detailed in this staff report. Once the amendment to the DA is recorded and the park improvements are constructed, the City would acquire the property from the developer for use as a public park.

Application Timeline:

- The City conditionally approved an amended DA with the developer of Riverside Estates to provide the Phase 4 park on June 24, 2020.
- The applicant filed the application materials on October 28, 2020.
- The City made a completeness determination on November 17, 2020.
- A combined notice of application/SEPA MDNS was sent out to property owners within 150-feet, as well as to agencies and other interested parties on November 24, 2020. The comment period closed on December 8, 2020. No public comments were received on the combined notice of application/SEPA MDNS. Washington Start Department of Ecology (Ecology) provided comments on the proposal.
- The application was placed on hold (which stops the review period) on December 8, 2020 so that the applicant could provide additional information on how the proposed mitigation for wetland buffer impacts was meeting the City's critical areas standards.
- The applicant provided this additional information (an addendum to the originally submitted bank use plan) on March 8, 2021, officially taking the application off of hold and restarting the review period.

Applicable Standards and Approval Criteria

This staff report addresses the following standards and approval criteria of the LCMC: 3.35, Impact Fees; 13.10.110, Side Sewer and Connections; 18.30, Procedures; 18.147, Parks and Open Space; 18.215, Site Plan Review; 18.245, Supplemental Development Standards; 18.280, Off-Street Parking and Loading Requirements; 18.300, Critical Areas; 18.310, Environmental Policy; 18.320, Stormwater and Erosion Control; 18.360, Archaeological Resource Protection; and La Center Engineering Standards.

II. ENGINEERING REVIEW

Chapter 3.35 -- Impact Fees

Findings: The proposed park is included in the City's Capital Improvement Program (CIP). Because this park is included in the CIP, the developer is entitled to receive park impact fee credits for the value of the cost of construction of the improvements to the park. The City will issue the park impact fee credits as development milestones are achieved with respect to construction of the park. Park impact fees that are paid prior to the completion of the park are subject to refund pursuant to LCMC 3.35.160. The amount of the credits issued and refunds made cannot exceed the reasonable value of the cost of construction.

Title 12 -- Street, Sidewalks and Public Ways

Findings: *City of La Center Engineering Standards for Construction* shall apply to all public road improvements unless modified by the director. LCMC 12.10.040. Pacific Highway is classified as a Minor Arterial A standard, per City standards. The applicant is proposing half street improvements on the south side of Pacific Highway adjacent to the park development, meeting these standards. In addition,

per the City's Parks, Recreation, and Open Space Master Plan ("parks plan"), Pacific Highway requires an "On Roadway Trail" (Figure 12) along the roadway. Compliance with this standard is detailed below in 18.147 Parks and Open Space.

Chapter 13.10 -- Sewer System Rules and Regulations

Findings: Connection to the public sewer system is required. All work is to be performed by a duly licensed contractor in the City of La Center (LCMC 13.10.230). Work will be performed using an open trench method unless otherwise approved (LCMC 13.10.200). All costs associated with installing the side sewer shall be borne by the applicant (LCMC 13.10.110).

For the waste line from the park drinking fountain, a minimum 4-inch diameter sewer lateral will need to connect to the existing sewer main in the Riverside Estates Subdivision sewer system. The applicant has provided this connection, meeting the City design standards.

Chapter 18.320 -- Stormwater and Erosion Control

Findings(s): LCMC 18.320.120(1) states that ground-disturbing activities of more than 500 square feet are subject to the requirements of *City of La Center Erosion Control Guidelines*. Per LCMC 18.320.120(2)(a), the creation of more than 2,000 square feet of impervious surface triggers stormwater regulation under LCMC 18.320. The applicant proposes to create new impervious surface area for the access road to the park and the parking lot. Per LCMC 18.320 stormwater treatment and quantity disposal are required for this new impervious surface. The applicant submitted plans that show a bioswale that will treat stormwater runoff from the paved access road and the paved parking lot surface. The stormwater then drains to a detention pond to provide quantity control before outfalling to a rock flow spreader before draining to the existing slope. This stormwater treatment and detention system will provide acceptable methods of treatment and disposal per the LCMC. There is a 3-foot-wide jurisdictional ditch along the south side of the site. The trail connection from W. 15th Street to the park crosses this stream. The ditch is not regulated as a wetland under the City's critical areas standards but work within the ditch could require federal permits/approval from the Army Corps of Engineers and Ecology (404 permit/401 certification). However, the applicant is proposing to cross the ditch with a bridge that spans the ordinary high water mark which would not trigger any federal or state permits/approvals.

III. LAND USE REVIEW

Chapter 8.60 -- Sign Regulations

Findings: The applicant's plans don't indicate signs would be provided on the site. The City requires that a monument sign be installed at the entrance to the park identifying the park by name and address.

As a **condition of approval**, the applicant's final site plan shall show a monument sign at the entrance to the park identifying the park and its address with graphic elevations of the sign as required by the City public works department. The sign shall be installed prior to acceptance of the park by the City.

As a **condition of approval,** no sign shall be erected on site before a sign permit is applied for and approved under LCMC 8.60.030.

Chapter 18.30 -- Procedures

Findings: The pre-application review was waived for the proposal. The application was received on October 28, 2020 and was deemed complete on November 17, 2020, having provided all applicable submittal requirements outlined in LCMC 18.30.050, LCMC 18.215.050 (site plan review), and LCMC 18.300 (critical areas). The application was noticed in accordance with a Type II procedure, as outlined in LCMC 18.30.120(1). All application reviews – Type II site plan, Type II critical areas review, and SEPA – are combined and reviewed in this staff report, including an issuance of decision and conditions of approval, as outlined in LCMC 18.30.090(3).

Chapter 18.147 – Parks and Open Space

Findings: Per LCMC 18.147.030(1)(b)(xv), park design features in addition to or in lieu of standards included in LCMC 18.147 may be acceptable if determined by the review authority to meet the intent of the LCMC 18.147 and the City's parks plan. The City Council's adoption of the DA for Riverside Estates acknowledged that the parks and open space improvements proposed by the developer conformed with LCMC 18.147 and the parks plan. Under the terms of the DA, the developer was to provide parks and open space within Phases 1, 2, and 3 of the Riverside Estates Development. As mentioned, this section of the DA has been amended to remove the requirement for public parks to be developed within Phases 1, 2, and 3 and to require the development of the entirety of Phase 4 for park, natural area, and open space to satisfy the park and open space requirements for Phases 1, 2, and 3. This is consistent with LCMC 18.147.030(1)(b)(iii), which states that it is highly desirable to have parks be one contiguous space. Final approval of the amended DA is contingent upon the proposed park meeting requirements under the LCMC and achieving site plan and critical areas approval, which is demonstrated in this staff report. Applicable sections from LCMC 18.147 and the City's parks plan are addressed below.

18.147.010 Purpose

Findings: The purpose of LCMC 18.147 is to implement the City's parks plan. Per Figure 12 of the parks plan, Pacific Highway requires an On Roadway Trail along the roadway. Trail development standards along Pacific Highway (Type 5) are included on Figure 15 of the parks plan and requires a 5-foot on-road bike lane, a 4-foot planter strip, and 6-foot sidewalk. However, given the slopes of the site and the location of the wetland and buffer on the west/south side of the site, it isn't possible to provide a 4-foot planter strip along Pacific Highway. Rather than providing a 4-foot planter strip within Pacific Highway right-of-way, the applicant is proposing to provide street trees spaced at 30 feet along the site's frontage. Staff finds that this meets the City's arterial standard.

As a **condition of approval**, the applicant's final landscape plan shall show trees spaced every 30 feet behind the fence along Pacific Highway.

18.147.030 Park size and design standards

Finding: Per LCMC 18.147.030(1)(a)(ii) (development in an MDR-16 zoning district), a park shall be provided at a ratio of one-quarter acre per 35 dwelling units. The Riverside subdivision is 326 units, requiring 2.08 acres of park space. The proposed park is roughly 2.64 acres, meeting this requirement. LCMC 18.147.030(1)(b) addresses park design. Design of the park has been accepted per the DA as meeting the intent of the chapter and parks plan (LCMC 18.147.030(1)(b)(xv)). The park will be dedicated to the City after completion.

18.147.040 Facility plan

Finding: The applicant has submitted preliminary park and landscape plans (Exhibit 2) and a narrative demonstrating compliance with LCMC 18.147.040(1). A condition of approval is included below to include all of the applicable information in LCMC 18.147.040(2). The City will take ownership of the park and trail after constructed and assume park maintenance. The police chief and public works director reviewed the site plan and specifications for the park and trail prior to final approval. Based on recommendations from the police chief and in compliance with 18.147.040(1 and 2), the following conditions of approval are required:

As a **condition of approval**, the final site plan and landscape plan shall contain all of the applicable information outlined in LCMC 18.147.040(1) and LCMC 18.147.040(2).

As a **condition of approval** to address safety and security of the park, the final site plan shall include the following:

- A gate at the entrance of the park;
- Removable bollards at both ends of the trail (at Pacific Highway and at the connection to the Riverside Subdivision) to prevent unauthorized vehicles from entering the park;
- An additional light fixture at the eastern corner of the parking lot to provide better illumination in this area;
- A video camera meeting police department requirements;
- A sign near the playground, to be provided by the applicant, that states the rules of the park with language for the sign as required by the public works department;
- Lighted bollards spaced evenly along the length of the trail to provide adequate lighting. The selected bollards shall have shielding to cast lighting on the trail and away from the wetland.

18.147.050 Facility maintenance and liability

Finding: The City will take ownership of the park and trail after constructed and assume maintenance and liability of the park and trail facilities pursuant to LCMC 18.147.

18.147.050 Impact fee credits

Finding: The proposed park is included in the City's Park, Recreation and Open Space Plan. Because this park is included in the Park, Recreation, and Open Space Plan, the developer is entitled to receive park impact fee credits for the value of the cost of construction of the improvements to the park. The City will issue the park impact fee credits as development milestones are achieved with respect to construction of the park consistent with the amended DA.

Chapter 18.215 -- Site Plan Review

18.215.060 Criteria for site plan approval

(2) In reviewing a site plan for approval, the director shall find that all of the following have been met:

a. The proposed plan shall meet all applicable provisions of this title and other appropriate provisions of the La Center Municipal Code, the following are enumerated to indicate the various requirements under which a plan must be found consistent. Failure to meet any one of these, and other requirements not necessarily specified here, shall be grounds for denial of site plan approval.

Findings: This staff report reviews consistency of the proposal with the applicable provisions of the LCMC. As detailed in *b. – k.* below and throughout the staff report, staff finds that the applicant has met or can be conditioned to meet the requirements under which a site plan must be found consistent.

b. The proposed use is permitted within the district in which it is located.

Findings: The property is zoned MDR-16; public parks and recreational facilities are permitted outright in this zone.

c. The proposal meets the lot, yard, building, height and other dimensional requirements of the district within which it is located.

Findings: Parks and recreational facilities do not have setback or height requirements in the MDR-16 zone. Per LCMC 18.140.040(3)(f)(i), for fences or hedges proposed along public streets or sidewalks, the maximum height is six feet. The applicant is proposing a 4-foot black vinyl chain link fence along NW Pacific Highway south of the sidewalk, meeting this standard.

d. The proposal meets the screening, buffering and landscape strip requirements, as set forth in Section 18.245.060 LCMC.

Findings: Compliance with LCMC 18.245.060 is detailed below in that section.

e. Minimum parking and loading space requirements are met, as required by Chapter 18.280 LCMC.

Findings: Compliance with LCMC 18.280 is detailed below in that section.

f. All applicable conditions and criteria contained in other titles of the La Center Municipal Code are met.

Findings: This staff report addresses the applicable criteria of the LCMC, and conditions of approval are provided throughout the report as well as summarized at the end of the report.

g. Improvement requirements are provided in accordance with the applicable sections of the La Center development code.

Findings: The required improvements and conditions of approval in this report are in accordance with the LCMC.

h. All conditions of any applicable previous approvals (i.e., CUP) have been met.

Findings: As mentioned, before the amended DA for Riverside Estates is approved and recorded, the proposed park is required to receive site plan and critical areas approval to demonstrate consistency with the LCMC, which is detailed in this staff report. The amended DA allows for park space to be satisfied in Phase 4 of the development. Therefore, the applicant's site plan review application for the park is consistent with the DA.

i. Development subject to site plan review has provided underground public and private utility lines including but not limited to those for electricity and communication.

Findings: Underground public water, sewer, stormwater, and electricity lines for lighting are proposed to support the park. No communication lines are proposed.

As a **condition of approval**, any required underground communication lines that are needed to support the security camera shall be installed prior to City acceptance of the park.

j. Public water, sewer and stormwater lines have been installed in conformance with the standards of the city code. Public water, sewer and stormwater lines within or along the frontage of a development have been extended to the extreme property lines of that development unless it can

be demonstrated to the city engineer that such extensions are impractical or infeasible or inappropriate.

Findings: Proposed water, sewer, and stormwater infrastructure associated with the park have been reviewed and preliminarily approved by the City Engineer for conformance with the standards of the LCMC. This analysis is included above in Section II Engineering Review. Condition of approval number 1 requires the applicant receive engineering approval from the City and comply with the City's *Engineering Standards for Construction.* Condition of approval number 11 requires the applicant obtain final site plan and engineering document approval prior to construction or ground disturbance.

k. Proposed phasing plans do not exceed six years and all required public infrastructure is installed in the first phase of the development.

Findings: The applicant is not proposing to phase development of the park. Therefore, this requirement does not apply.

As a **condition of approval,** prior to construction or ground disturbance, the applicant shall apply for and receive final site plan and engineering document approval from the City consistent with this preliminary site plan and critical areas permit approval and conditions.

Chapter 18.240 – Mitigation of Adverse Impact

Findings: The proposed park will have indirect impacts to Wetland A as well as temporary direct impacts to the wetland's buffer. Mitigation for these impacts are discussed below in LCMC 18.300 critical areas, including required conditions of approval. Other environmental impacts from the proposal are addressed in the SEPA conditions in Section IV of this staff report. Demand for City services such as streets, drainage, and utilities from the proposed park have been reviewed by the City's engineer. The park will not impact schools and will help satisfy a need for neighborhood park space identified in the City's Parks, Recreation, and Open Space Plan. The police chief reviewed the site plan of the park and provided comments as required by LCMC 18.147.040; conditions of approval related to safety and security of the park are required as specified in response to that code section.

Chapter 18.245 -- Supplementary Development Standards

18.245.020 Height of fences and hedges

Findings: The proposed 4-foot chain link fence along NW Pacific Highway is meeting the height and material requirements of LCMC 18.245.020. Site distance requirements will be reviewed by the City Engineer during the final site plan review process.

18.245.040 Lighting

Findings: According to the lighting plan, the applicant is proposing six light poles; three streetlight poles along the park's street frontage and three light poles in the interior of the park. Additional lighting requirements are included in this staff report (see condition of approvals in Section 18.147.040 and 18.280).

18.245.050 Noise

Findings: As a **condition of approval**, all construction equipment shall have muffled exhaust and construction activities are only permitted during City-approved construction hours. Contractors are required to comply with the maximum noise level provisions of WAC 173-60 during construction.

18.245.060 Landscaping

Findings: The site borders Clark County property zoned Residential 12 (R-12) to the west; MDR-16 property to the south; and MDR-16 property to the east, a portion of which is separated by public right-of-way (NW Pacific Highway). According to LCMC 18.245.060, MDR-16 sites bordering other MDR-16 sites, separated or not by a street, require 5-feet of L1 landscaping. Per LCMC 18.245.060(2)(a)(ii)(A), where the required landscaped area is less than 10-feet deep, L1 landscaping requires one tree per 30 linear feet of landscaped area. Based on the submitted landscape plan, the applicant is providing landscaping consistent with this requirement along NW Pacific Highway, the eastern border of the site, and a portion of the southern border. However, for a majority of the southern border of the site, no trees are proposed due to the fact that much of the southern property line is a wetland and buffer area. LCMC 18.245.060(4) allows the City to require applicant to provide landscaping and screening that differs from the standards in this section where necessary to comply with the other applicable standards for the use or development. LCMC 18.300 requires that applicants avoid impacts to critical areas and buffers; therefore, staff find that a landscape screen along the site's southern border would not comply with the City's critical areas ordinance and is not required in this case.

LCMC 18.245.060 does not include landscape buffering and screening requirements between City and County zones. However, per LCMC 18.147.030(1)(b)(x), a minimum 3.5-foot/maximum 6-foot fence or vegetative buffer shall be used along park borders where they abut a residential area and neither the fence nor hedge shall be fully sight-obscuring. The R-12 property bordering the proposed park to the west currently contains residential uses. Much of the northern/western boundary of the site is also wetland.

As a **condition of approval,** prior to final site plan approval, the applicant shall update their landscape plan to demonstrate compliance with LCMC 18.147.030(1)(b)(x) and fence the park property outside of wetland and buffer areas.

LCMC 18.245.060(10) requires that landscaping be installed prior to final inspection.

As a **condition of approval**, the applicant shall install all landscaping prior to final acceptance of the park by the City.

LCMC 18.245.060(11, 13, 14) specifies planting size and spacing requirements for groundcover plants, and trees.

As **a condition of approval**, prior to final site plan approval, the applicant's final landscape plan shall meet the requirements of LCMC 18.245.060(11, 13, and 14).

LCMC 18.245.060(16) requires that landscape materials meet current industry standards and be properly supported to ensure survival.

As **a condition of approval**, plants shall be installed to meet current nursery industry standards and be properly supported and a reference to nursery standards and specifications for support shall be noted on the final landscape plan prior to final site plan approval.

As **a condition of approval**, prior to final site plan approval, the applicant shall submit an irrigation plan and receive approval for a permanent underground irrigation system which shall be installed prior to City acceptance of the park.

Chapter 18.280 -- Off-Street Parking and Loading Requirements

Findings: LCMC 18.280.010 (off-street parking requirements) does not include minimum required parking for parks and recreational facilities. The applicant is proposing six spaces to support the park,

which staff believes is sufficient to support the use which, as a neighborhood park, would receive mostly foot traffic. The proposed stalls and access driveway meet the dimensional standards (parking stalls are width of not less than 9 feet and 180 square feet; and access the two-way access drive is 24 feet) required under LCMC 18.280. The applicant is providing one disabled parking stall. The parking would be asphalt concrete and graded and drained meeting the City's engineering standards. The vehicle aisle, turnaround areas, and 24-foot driveway have been reviewed by the City engineer for compliance with applicable engineering standards. Lighting is addressed below.

Chapter 18.282 – Outdoor Lighting

Findings: City of La Center Engineering Standards will be used for the site access road, Pacific Highway Lighting. Full Cutoff LED lights will be used for the site per the Lighting requirements and Cobra Head lighting shall be installed along the Pacific Highway in the Engineering Standards with house side shields to reduce light trespass. LCMC 18.282.040 requires that no exterior lighting shall directly illuminate critical areas and critical areas buffers.

As a **condition of approval,** prior to final site plan approval, the applicant shall provide a final photometric plan and lighting cut sheets that demonstrate compliance with LCMC 18.245.040 and that the required lighting on site does not directly illuminate Wetland A or its buffer.

Chapter 18.300 -- Critical Areas

18.300.050 Allowed uses with critical areas review or permit

Findings: Per LCMC 18.300.050(4)(a) and LCMC 18.300.050(4)(b), the City may allow walkways and trails and parks and recreational facilities on critical areas and within buffers if the proposed development activity meets the standards of LCMC 18.300.110 (Development standards) and LCMC 18.300.120 (Mitigation). Compliance with these sections is included below. According to LCMC 18.300.050(3), the City may approve these uses subject to a Type II process. LCMC 18.300.110(2)(g) requires an applicant to receive applicable state and federal permits. The proposed work does not currently require state or federal permits; however, due to the close proximity of the work to a wetland, a condition is included below that if any state or federal permits become necessary, they shall be obtained prior to construction.

18.300.090 Critical lands

Findings: The wetland on-site (Wetland A) and associated buffer were delineated by Ecological Land Services, Inc. (ELS). Information regarding Wetland A and its buffer are included in the bank use plan compiled by ELS and submitted with the application, as well as the bank use plan addendum requested by the City. According to the bank use plan, Wetland A is a Category III depressional wetland. Per LCMC Table 18.300.090(5)(i)(i)-2, designated buffer widths for a Category III wetland with a moderate habitat function and a moderate intensity land use is 110 feet. Impacts to Wetland A and the wetland buffer and proposed mitigation is addressed below under the Type II process specified for allowed uses in LCMC 18.300.050. Landslide hazard areas are mapped adjacent to Pacific Highway; however, per the submitted geotechnical report, no landslide hazards are actually present in this area.

18.300.110 Development standards

(2) In order to approve application for development on lands subject to this chapter, the mayor or his or her designee shall find that the following standards have been met:

(a) All reasonable alternatives for locating the development activity in such a way so as to avoid critical areas have been considered and the development activity will be located in the least environmentally sensitive area as practicable and the purpose of this chapter, as described in LCMC 18.300.010, is fulfilled. If avoidance is not practicable, as determined by the city, development shall minimize adverse impacts to critical areas and buffers consistent with the mitigation sequencing measures and mitigation and enhancement measures prescribed in this chapter.

Findings: The park improvements are located in the least environmentally sensitive area practicable on site. The park is required to be a certain size per LCMC 18.147.030(1)(a)(ii) and is just barely meeting that requirement (see this section above). The wetland on site is 2.14 acres; roughly 40 percent of the park parcel. In addition, the wetland requires a 110-foot buffer. The proposed improved portion of the park is roughly 0.57 acres, according to the submitted bank use narrative, and sized appropriately to fit the different elements of the park agreed upon in the DA. The park is proposed in the eastern portion of the property away from Wetland A. However, due to the expansive nature of critical areas on site, the project would result in approximately 0.29 acre of temporary impacts to the wetland buffer from site grading and utility trenching and approximately 0.41 acre of permanent indirect impacts to Wetland A due to an insufficient buffer once park development is complete. The area adjacent to Pacific Highway slopes downward to the west. The proposed trail and park will be constructed as far away as possible from Wetland A but grading in the buffer is needed to ensure the trail and park are ADA compliant. Mitigation for all impacts from the proposal are discussed in LCMC 18.300.120 (Mitigation) below.

The applicant placed unauthorized fill from Phases 1-3 of the Riverside Subdivision development on the property in the fall of 2020 which is located within the wetland buffer and impacted buffer vegetation. The applicant has stated in correspondence with the City that they intend to use this fill to construct the park, therefore the fill will remain permanently.

(b) The city has approved the vegetation removal methods and the removal of native plants has been avoided.

Findings: The City has approved the proposed vegetation removal on site to accommodate the park development. Historically, the property has been used for farming and livestock and the uplands portion of the property where the park improvements would be placed are actively mowed and consist of pasture grasses and forbs; no significant native vegetation exists. A 36-inch DBH Oregon white oak exists on the western portion of the site that will not be impacted.

(c) All adverse impacts to all affected critical areas and buffers are either avoided or fully mitigated.

Findings: Direct impacts to the wetland will be completely avoided by the proposal. The applicant is proposing park improvements on the least environmentally sensitive area of the site as described in 18.300.110(2)(a) above and impacts to the wetland buffer 0.29 acres cannot be avoided. As discussed below in the mitigation section, impacts to critical areas and buffers under this project are fully mitigated.

(d) The plan minimizes cuts and fills.

Findings: The site currently slopes from north to south. Grading is required to level the site to provide the necessary park amenities and to ensure that the proposed pathway, which connects NW Pacific Highway to the Riverside Estates development to the south, is ADA-compliant.

(e) Soils are not exposed during the rainy season (November 1st through April 30th) and construction activity is limited to the dry season (May 1st through October 31st).

Findings: As a **condition of approval**, in critical areas and buffers, soils shall not be exposed during the rainy season (November 1st through April 30th).

(f) The mayor or his or her designee has reviewed and approved an erosion control plan, grading plan, and vegetation removal and replanting plan prior to construction activity.

Findings: The erosion control and grading plans have been reviewed by the City Engineer. Impacts to wetland buffer vegetation and mitigation for these impacts is reviewed and approved in the following section.

The applicant placed unauthorized fill from Phases 1-3 of the Riverside Subdivision development on the property in the fall of 2020 which is located within the wetland buffer and impacted buffer vegetation. The applicant has stated in correspondence with the City that they intend to use this fill to construct the park. Therefore, the fill will remain permanently.

As a **condition of approval**, the applicant shall obtain a grading permit from the City prior to ground disturbance including removal of unauthorized fill not required for permanent park improvements.

(g) All activities have received applicable state and federal permits, and comply with SEPA requirements if the lead agency makes a threshold determination of significance (DS), or a mitigated determination of nonsignificance (MDNS).

Findings: As no direct impacts to Wetland A will occur under the proposal, the City is not aware of any state or federal permits that would be required. A 3-foot-wide jurisdictional ditch is located along the southern boundary of the site, which the proposed trail would cross. The ditch is not regulated as a wetland under the City's critical areas standards but work within the ditch could require federal permits/approval from the Army Corps of Engineers and Ecology (404 permit/401 certification). However, the applicant is proposing to cross the ditch with a bridge that spans the ordinary high water mark which would not trigger any federal or state permits/approvals. The lead agency (City of La Center) made a SEPA threshold of mitigated determination of nonsignificance (MDNS) (Exhibit 7).

As a **condition of approval**, if necessary, the applicant shall obtain all applicable state and federal permits prior to construction.

(3) Review Process.

(a) The review process shall be the type specified in the LCMC for each particular land use action unless otherwise specified in this chapter.

Findings: Per LCMC 18.300.050(3), the City may approve parks and recreational facilities on critical areas and within buffers subject to a Type II process. This review process is combined with the Type II site plan review approval for the proposed park.

18.300.120 Mitigation

(1) Approval. City approval of a mitigation plan is a prerequisite for approval of any development activities on critical areas.

(a) The applicant shall submit a written request describing the extent and nature of the proposed development activity on critical areas and buffers. The request shall include boundary locations and identification of all designated critical areas and buffers.

Findings: The applicant applied for a critical areas permit and the application included a critical areas report (bank use plan) and addendum and a geotechnical report that delineated critical areas and buffers on site and described the proposed development activity's impact on critical areas and buffers.

(b) The application for development shall include a mitigation plan prepared in compliance with this section.

Findings: As detailed below in the mitigation sequencing and no net loss sections, the applicant is proposing to offset temporary wetland buffer impacts by fully restoring disturbed areas and indirect wetland impacts by purchasing credits at the EFLMB. The applicant's bank use plan (Exhibit 3) and geotechnical report (Exhibit 5 are the mitigation plans required by this section. This requirement is met.

(c) The city may require the applicant to prepare special reports evaluating potential adverse impacts upon critical areas and potential mitigation measures as part of the land use application process. These reports may include, but are not limited to, the following: stormwater management plan; hydrology, geology, and soils report; grading and erosion control plan; native vegetation report; fish and wildlife assessment and impact report; water quality report; wetlands delineation; and other reports determined necessary by the city.

Findings: The applicant submitted the necessary reports and plans to the City to evaluate impacts to critical areas and buffers and proposed mitigation measures, including a bank use plan and bank use plan addendum, stormwater management plan, grading and erosion control plan, geotechnical report and landscaping plan. The applicant is required to obtain final site plan, engineering document approval, and a grading permit prior to ground disturbance by conditions of approval. During the final site plan review and engineering document review, the City will ensure that the stormwater report, grading and erosion control plan meet engineering standards.

(d) The city shall consult with state and federal resource management agencies and, in order to protect wildlife habitat or natural resource values, shall attach such conditions as may be necessary to effectively mitigate identified adverse impacts of the proposed development activity.

Findings: The City consulted with Ecology on impacts to Wetland A and its buffer from the proposal and the most appropriate type of mitigation for these impacts. Ecology agreed with how the applicant calculated indirect impacts to Wetland A but suggested that this could be a good opportunity for on-site mitigation rather than mitigation at an off-site bank. However, as there are no direct wetland impacts, Ecology can only provide a recommendation on this matter. The City's code under LCMC 18.300.900(5)(o)(i) allows for compensatory mitigation off-site at a mitigation bank if the applicant can demonstrate that off-site mitigation is ecologically preferable. The applicant has met this requirement in the bank use plan by providing a rational for off-site mitigation, noting that:

> *The 2008 Compensatory Mitigation for Losses of Aquatic Resources, Final Rule recommends purchasing mitigation bank credits for ecological considerations (lower risk of failure and lower temporal loss of resources and services) and to avoid the maintenance and contingency issues and outright failures that often accompany permittee-responsible mitigation sites. Use of the Bank substantially lowers the risk of failure and temporal loss of resource. Mitigating the impacts offsite at EFLMB will be more meaningful and beneficial to the overall watershed as the goals and objectives for the establishment and success of EFLMB directly address watershed concerns and priorities and correspond in-kind with the mitigation needs of the proposed project. Additionally, habitat function provided at the Bank is far greater than habitat functions provided by the regularly mowed pasture grasses being impacted.*

The City agrees with the ecological benefits of mitigating the indirect impacts off-site. This mitigation is addressed below. Ecology also recommended that a split-rail fence be installed adjacent to the walking path and that signs be posted to stay out of the buffer. In addition, they

recommended that the buffer should be retained in a natural state, with no mowing or use of fertilizers and/or pesticides. These recommendations have been included as conditions of approval below.

The City and Ecology also discussed the southeast corner of the site where the proposed trail snakes around Wetland A and heads south, connecting to Riverside. This portion of Wetland A – approximately 0.17 acre according to the bank use plan addendum – is not proposed to be mitigated at the bank as this area was already mitigated for to offset some of the indirect impacts associated with the Riverside subdivision to the south (Nationwide Permit 2018-167). While the subdivision and proposed park projects have been separated, they are connected as the park is being provided to fulfill the obligation to provide neighborhood park space for Phases 1-3 of the subdivision. As such, the City finds that this 0.17 acre portion of Wetland A has already been mitigated for under the subdivision project and does not require additional mitigation for the addition of a park.

(f) All reports recommending mitigation shall include provisions for monitoring of programs and replacement of improvements, on an annual basis, consistent with report recommendations and at years one, three, five, and seven. The city reserves the right to require reporting at year 10.

Findings: A mitigation monitoring program is not required for the indirect wetland impacts as the applicant would be purchasing wetland bank credits to off-set these impacts to Wetland A. The EFLMB is monitored in accordance with the protocols established at the bank. The applicant is conditioned below to include a 3-year monitoring plan for the temporary wetland buffer impacts.

(2) Mitigation Sequencing.

(a) Prior to authorizing impacts to critical areas or their buffers, the applicant shall demonstrate and the city shall verify that the applicant has met the following sequence in order of priority:

(i) Avoidance. Avoid the impact altogether by not taking a certain action or parts of an action;

(ii) Minimization. Minimize the impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;

(iii) Rectification. Rectify the impact by repairing, rehabilitating, or restoring the affected environment to the conditions existing at the time of the initiation of the project or activity;

(iv) Reduction or elimination. Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action;

(v) Compensation. Compensate for the impact by replacing, enhancing, or providing substitute resources or environments; and

(vi) Monitoring. Monitor the impact and the compensation projects and take appropriate corrective measures.

Findings: As mentioned, avoidance of impacts to Wetland A and its buffer are not possible under the proposal due to the expansive nature of these features on site. The applicant is minimizing impacts to these areas to the greatest extent possible by developing on the upland portion of the site. For temporary impacts to the Wetland A buffer, the applicant will restore the impacted area to pre-construction conditions by reseeding the area with native buffer seed mix. Roughly 0.41 acres of permanent indirect impacts will occur to Wetland A due to an insufficient buffer once park development is complete. The applicant is proposing to purchase credits at the EFLMB to offset this indirect impact. At the EFLMB, recommended banks credits to wetlands impacts for impacts to a Category III wetland is 1:1. However, indirect impacts to wetlands can be adequately compensated for

by using 50 percent of the bank's required ratio for direct wetland impacts. The bank use plan proposes to purchase a total of 0.21 credits to compensate for 0.41 acres of indirect impact, as shown below.

Figure: Mitigation Bank Credits Proposed for Indirect Impacts

Impacted Resource	Impact Type	Impact Area Acres	Bank Ratio	Indirect Impact Multiplier	Credit Purchase
Category III Wetland A	Indirect	0.41	1:1	0.50	0.21
				Total Credit Purchase	**0.21**

The City finds that the proposed mitigation meets the requirement for achieving no net loss of ecological functions.

As identified on Sheet 2 of the Bank Use Plan, an existing mitigation area is located within Wetland A. The City's code does not include any buffers for mitigation sites. As such, the City has relied on Clark County's code for guidance as it was developed base on best available science. Per Clark County Code (CCC) 40.450.040(D)(6), wetland mitigation areas shall be protected by the water quality function wetland buffers required in CCC Table 40.450.030-2. According to this table, Category III wetlands with a Moderate Intensity Use require a 60-foot buffer. With the remaining wetland and wetland buffer area to the east of the existing mitigation site, there is a greater than 60-foot area between the mitigation site and the proposed work; therefore, no direct or indirect impacts would occur to the existing mitigation site.

(b) Development shall avoid critical areas and their buffers, and where avoidance is not practical, development shall minimize adverse impacts to critical areas and buffers, as determined by the city after review of a critical area report filed by the applicant and consistent with the provisions of this chapter. To determine whether avoidance is practical, the city shall consider issues such as: […]

Findings: Avoidance of critical areas and buffers is determined to be impractical. As previously mentioned, the applicant has submitted and the City has reviewed and approved minimization/mitigation measures that were detailed in the applicant's bank use plan and bank use plan addendum to address impacts to the wetland and buffer.

(3) No Net Loss.

(a) Mitigation efforts, when allowed, shall ensure that development activity does not yield a net loss of the area or function of the critical areas. No net loss shall be measured by:

(i) Avoidance or mitigation of adverse impacts to fish life; or

(ii) Avoidance or mitigation of net loss of habitat functions necessary to sustain fish life; or

iii) Avoidance or mitigation of loss of area by habitat type.

Findings: No impacts would occur to fish habitats or life. As previously discussed, fully restoring the temporarily impacted buffer area once construction is complete and purchasing credits at the EFLMB will fully compensate for the quality of habitat lost and ensure there is no net loss of ecological function.

As a **condition of approval**, the outer extent of the Wetland A boundary and buffer shall be clearly staked, flagged, and/or fenced prior to and through completion of construction consistent with LCMC 18.300.090(5)(q). Markers shall be clearly visible, durable, and permanently affixed to the ground.

As a **condition of approval**, Wetland A buffer areas that are temporarily disturbed during construction shall be fully restored with native seed mix in accordance with Sheet 3 of the Bank Use Plan prepared by Ecological Land Services, July 23, 2020. The seeding shall occur prior to dedication of the park to the City.

As a **condition of approval**, once construction is complete and the temporarily disturbed areas of the wetland buffer are restored, the buffer shall be retained in its natural state without mowing or use of fertilizers and/or pesticides.

As a **condition of approval**, the applicant shall provide a 3-year monitoring plan consistent with LCMC 18.300.090(5)(q)(viii) prior to final site plan approval.

As a **condition of approval**, a permanent physical demarcation along the upland boundary of the wetland buffer area shall be installed and maintained thereafter. Such demarcation may consist of logs, a tree or hedgerow, fencing, or other prominent physical marking. Signs shall be posted at an interval of one every 50 feet and perpetually maintained at locations along the outer perimeter of the buffer stating the following:

"Wetland and Buffer – Please Retain in a Natural State"

As a **condition of approval**, the applicant shall purchase mitigation bank credits at the East Fork Lewis Mitigation Bank in accordance with the Bank Use Plan prepared by Ecological Land Services, July 23, 2020, and provide evidence of the purchase to the City prior to final site plan approval.

As a **condition of approval**, prior to final site plan approval, the applicant shall record a conservation covenant in a form approved by the City attorney as adequate to incorporate the other restrictions of LCMC 18.300.090(5) and to give notice of the requirement to obtain a wetland permit prior to engaging in regulated activities within a wetland or its buffer.

As a **condition of approval**, the applicant shall post a cash performance bond or other security acceptable to the City for 125% of the value of the on-site mitigation and monitoring, ensuring that the requirements for on-site mitigation are fulfilled (LCMC 18.300090(5)(s)(ii)). The City shall release the bond once all mitigation and monitoring activities have been completed in accordance with the terms and conditions of the permit.

(5) Stormwater Management. Any development on critical areas shall be consistent with either Chapter 18.320 LCMC, Stormwater and Erosion Control, or the most recent version of the "Stormwater Management Manual for Western Washington," Washington State Department of Ecology, at the discretion of the public works director.

Findings: Compliance with LCMC 18.320 is included in Section II Engineering Review.

Chapter 18.310 -- Environmental Policy

Findings: The City issued a SEPA MDNS on November 24, 2020. No public comments were received on the SEPA MDNS. The applicant has been conditioned below to incorporate applicable comments submitted by Ecology on the SEPA checklist. The SEPA review process is complete. SEPA conditions of approval are included in Section IV of this staff report.

Chapter 18.360 -- Archaeological Resource Protection

Findings: Clark County Maps Online indicates the site has a "high" probability of archaeological resources. An archaeological predetermination that was completed for the entire Riverside Estates area found two designated prehistoric archaeological sites; however, those sites are not located on the area proposed for the park. The cultural deposits at these sites are sparse and lack diversity and richness and no further archaeological investigations were recommended as necessary. See Section IV below for a condition of approval regarding inadvertent discovery of archaeological or historical materials during project construction.

IV. DECISION AND CONDITIONS

The review authority finds the applicant has sustained the burden of proving the application complies with the applicable provisions of the La Center Municipal Code. Therefore, the application is **approved, subject to the following conditions:**

A. Engineering and Public Works

General Conditions

1. The applicant, at time of engineering approval, shall comply with all applicable City of La Center *Engineering Standards for Construction* and all engineering recommendations contained in this Staff Report unless modified by the Public Works Department (LCMC 12.10.040); and the applicant shall comply with all applicable La Center land use regulations, goals, and policies.
2. The City will issue the park impact fee credits as development milestones are achieved with respect to construction of the park.
3. The applicant shall install street improvements along Pacific Highway per the *Engineering Standards for Arterial "A"* section.
4. All parking lot and access road installation to serve the park shall comply with *City Engineering Standards* and applicable Geotechnical Reports for this site.
5. The paved trail in the park shall comply with City *Paved Trail Standards* at minimum with vegetation as shown on the park's landscape plan.
6. The applicant will need to submit irrigation plans complying with the City irrigation system requirements and install the irrigation system to meet *City Engineering Standards.* The water service and meter and backflow to the irrigation need to be sized to support the system.
7. All handicap ramps must comply with current ADA standards.

Sanitary Sewer

8. The applicant shall install a public sewer lateral to the site for the park drinking fountain. The applicant will need to extend this sewer lateral per the *Plumbing Code* as regulated by the La Center Building Official.

Potable Water

9. The applicant shall extend water service to serve the park drinking fountain. The applicant will need to extend water service per the *Plumbing Code* as regulated by the La Center Building Official. The size of the water service for the irrigation system will have to be coordinated with CPU.

Stormwater and Erosion Control

10. The applicant shall install the stormwater treatment system and detention facility to comply with the *City Engineering Standards* and LCMC 18.320.

B. Land Use and Critical Areas

11. Prior to construction or ground disturbance, the applicant shall apply for and receive final site plan and engineering document approval from the City consistent with the preliminary site plan and critical areas permit approval and conditions.
12. The applicant's final site plan shall show a monument sign at the entrance to the park identifying the park and its address with graphic elevations of the sign as required by the City public works department. The sign shall be installed prior to acceptance of the park by the City.
13. The applicant's final landscape plan shall show trees spaced every 30 feet behind the fence along Pacific Highway.
14. The final site plan and landscape plan shall contain all of the applicable information outlined in LCMC 18.147.040(1) and LCMC 18.147.040(2).
15. To address safety and security of the park, the final site plan shall include the following:
    - A gate at the entrance of the park;
    - Removable bollards at both ends of the trail (at Pacific Highway and at the connection to the Riverside Subdivision) to prevent unauthorized vehicles from entering the park;
    - An additional light fixture at the eastern corner of the parking lot to provide better illumination in this area;
    - A video camera meeting police department requirements;
    - A sign near the playground, to be provided by the applicant, that states the rules of the park with language for the sign as required by the public works department;
    - Lighted bollards spaced evenly along the length of the trail to provide adequate lighting. The selected bollards shall have shielding to cast lighting on the trail and away from the wetland.
16. Any required underground communication lines that are needed to support the security camera shall be installed prior to City acceptance of the park.
17. All construction equipment shall have muffled exhaust and construction activities are only permitted during City-approved construction hours. Contractors are required to comply with the maximum noise level provisions of WAC 173-60 during construction.
18. Prior to final site plan approval, the applicant shall update their landscape plan to demonstrate compliance with LCMC 18.147.030(1)(b)(x) and fence the park property outside of wetland and buffer areas.
19. The applicant shall install all landscaping prior to final acceptance of the park by the City.
20. Prior to final site plan approval, the applicant's final landscape plan shall meet the requirements of LCMC 18.245.060(11, 13, and 14).
21. Plants shall be installed to meet current nursery industry standards and be properly supported and a reference to nursery standards and specifications for support shall be noted on the final landscape plan prior to final site plan approval.
22. Prior to final site plan approval, the applicant shall submit an irrigation plan and receive approval for a permanent underground irrigation system which shall be installed prior to City acceptance of the park.
23. Prior to final site plan approval, the applicant shall provide a final photometric plan and lighting cut sheets that demonstrate compliance with LCMC 18.245.040 and that the required lighting on site does not directly illuminate Wetland A or its buffer.
24. Prior to final site plan approval, the applicant shall provide lighting cut sheets that demonstrate compliance with LCMC 18.282.
25. In critical areas and buffers, soils shall not be exposed during the rainy season (November 1st through April 30th).

26. The applicant shall obtain a grading permit from the City prior to ground disturbance including removal of unauthorized fill not required for permanent park improvements.
27. If necessary, the applicant shall obtain all applicable state and federal permits prior to construction.
28. The outer extent of the Wetland A boundary and buffer shall be clearly staked, flagged, and/or fenced prior to and through completion of construction consistent with LCMC 18.300.090(5)(q). Markers shall be clearly visible, durable, and permanently affixed to the ground.
29. Wetland A buffer areas that are temporarily disturbed during construction shall be fully restored with native seed mix in accordance with Sheet 3 of the Bank Use Plan prepared by Ecological Land Services, July 23, 2020. The seeding shall occur prior to dedication of the park to the City.
30. Once construction is complete and the temporarily disturbed areas of the wetland buffer are restored, the buffer shall be retained in its natural state without mowing or use of fertilizers and/or pesticides.
31. The applicant shall provide a 3-year monitoring plan consistent with LCMC 18.300.090(5)(q)(viii) prior to final site plan approval.
32. A permanent physical demarcation along the upland boundary of the wetland buffer area shall be installed and maintained thereafter. Such demarcation may consist of logs, a tree or hedgerow, fencing, or other prominent physical marking. Signs shall be posted at an interval of one every 50 feet and perpetually maintained at locations along the outer perimeter of the buffer stating the following:

    "Wetland and Buffer – Please Retain in a Natural State"

33. The applicant shall purchase mitigation bank credits at the East Fork Lewis Mitigation Bank in accordance with the Bank Use Plan prepared by Ecological Land Services, July 23, 2020, and provide evidence of the purchase to the City prior to final site plan approval.
34. Prior to final site plan approval, the applicant shall record a conservation covenant in a form approved by the City attorney as adequate to incorporate the other restrictions of LCMC 18.300.090(5) and to give notice of the requirement to obtain a wetland permit prior to engaging in regulated activities within a wetland or its buffer.
35. The applicant shall post a cash performance bond or other security acceptable to the City for 125% of the value of the on-site mitigation and monitoring, ensuring that the requirements for on-site mitigation are fulfilled (LCMC 18.300090(5)(s)(ii)). The City shall release the bond once all mitigation and monitoring activities have been completed in accordance with the terms and conditions of the permit.
36. In the event any archaeological or historic materials are encountered during project activity, work in the immediate area (initially allowing for a 100-foot buffer; this number may vary by circumstance) must stop and the following actions taken.
    - Implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering;
    - Take reasonable steps to ensure confidentiality of the discovery site; and,
    - Take reasonable steps to restrict access to the site of discovery.

    The applicant shall notify the concerned Tribes and all appropriate county, city, state, and federal agencies, including the Washington Department of Archaeology and Historic Preservation and the City of La Center. The agencies and Tribe(s) will discuss possible measures to remove or avoid cultural material, and will reach an agreement with the applicant regarding actions to be taken and disposition of material. If human remains are uncovered, appropriate law enforcement agencies shall be notified first, and the above steps followed. If the remains

are determined to be Native, consultation with the affected Tribes will take place in order to mitigate the final disposition of said remains.

See the Revised Code of Washington, Chapter 27.53, "Archaeological Sites and Resources," for applicable state laws and statutes. See also Washington State Executive Order 05-05, "Archaeological and Cultural Resources." Additional state and federal law(s) may also apply.

Copies of the above inadvertent discovery language shall be retained on-site while project activity is underway.

Contact	**Information**
Cowlitz Indian Tribe, Nathan Reynolds, Interim Cultural Resources Manager	Phone: 360-575-6226; email: nreynolds@cowlitz.org
City of La Center, Sarah Dollar, Permit Technician	Phone: 360-263-7665; email: sdollar@ci.lacenter.wa.us
Office of the Clark County Medical Examiner (for human remains)	Phone: 564-397-8405; email: medical.examiner@clark.wa.gov
Washington DAHP, Dr. Allison Brooks, Ph.D, Director	Phone: 360-586-3066; email: Allyson.Brooks@dahp.wa.gov

C. SEPA

37. The applicant shall implement the applicable requirements from Washington State Department of Ecology's comments sent December 8, 2020.
38. All grading and filling of land shall only utilize clean fill from an approved source.
39. The applicant shall use vehicles fitted with standard manufacturer's emission's control equipment to reduce construction-period emissions. Construction vehicles shall not be permitted to idle when not in use.
40. Only native plant species listed in LCMC Table 18.340.040 are allowed to be used for planting/replanting; nuisance and prohibited plants are not allowed.

V. APPEALS

A final decision regarding a Type II application may be appealed by the applicant, applicant's representative, or by any person, agency, or firm with an interest in the matter within 14 calendar days of this decision date. Appeals shall contain all information specified in LCMC 18.30.130. The public record for this file is available at the City's Public Works Building, 305 NW Pacific Highway, La Center, Washington between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. Please contact Sarah Dollar at 360-263-7665 for further information.

For an appeal regarding a decision subject to a Type II process, the Finance Director/City Clerk shall schedule a public hearing to be held by the hearings examiner not more than 35 days from the date a complete appeal was timely filed. Notice and a staff report shall be provided, a public hearing shall be conducted, and a decision shall be made and noticed regarding the appeal. LCMC 18.030.130(4).

Ethan Spoo, AICP
Consulting City Planner

Anthony Cooper, PE
City Engineer

VI. Exhibits (on file at the City)

1. Applicant narrative
2. Preliminary plans
3. Bank Use Plan
4. Bank Use Plan Addendum
5. Geotechnical Report
6. SEPA Checklist
7. SEPA MDNS

Exhibit 1

PLS ENGINEERING

SITE PLAN REVIEW NARRATIVE
For
RIVERSIDE NEIGHBORHOOD PARK

A TYPE II APPLICATION

Submitted to
CITY OF LA CENTER

For
9317 LLC
9321 NE 72ND AVE. BLDG C #7
VANCOUVER, WA 98665

October 2020

GENERAL PROJECT INFORMATION

Applicant

9317 LLC
Contact: Luke Sasse
9321 NE 72nd Ave. Bldg C #7
Vancouver, WA 98665
(360) 449-0099
luke@timberlandframing.com

Owner:

ECM Riverside, LLC
Contact: Peter Ettro
340 Oswego Point Drive #208
Lake Oswego, OR 97034
(503) 568-1907
peter@etrrocapital.com

Contact:

PLS Engineering
Travis Johnson
604 W Evergreen Blvd
Vancouver, WA 98660
(360) 944-6519, Office
(360) 944-6539, Fax
PM@plsengineering.com

Location:	**SE 1/4 of Section 33, T5N, R1E, WM**
Property Address	**34512 NW Pacific Highway, La Center, WA**
Project Size:	**5.19 acres**
Zoning:	**MDR-16, UH-10**
Comprehensive Plan:	**UM – Urban Medium Density Residential**
Current Use:	**Vacant**
Tax Lot Information:	**986028825**
School District:	**La Center**
Water District:	**Clark Public Utilities**
Sewer District:	**Rural/Resource**
Fire District:	**Clark County**
Traffic Impact District:	**La Center**

Table of Contents

Project Description

The site is zoned MDR-16, Medium Density Residential, and UH-10, Urban Holding, with a comprehensive plan designation of UM – Urban Medium Density Residential. The parcel is identified as parcel number 986028825 and is 5.19 acres in size. The site is located at 34512 NW Pacific Highway, La Center, WA and is located in the Southeast ¼ of Section 33, Township 5 North, Range 1 East, of the Willamette Meridian.

Clark County GIS maps show an area of steep slopes and potential instability along NW Pacific Highway as well as hydric soils and a wetland located onsite. The site is currently vacant. Existing vegetation consists of brush, grass, trees and a manmade pond. Based on aerial mapping between 1978 to 1984 a single-family home and shop was installed on the east side of the property with a driveway accessing NW Pacific Highway. The home and shop have been demolished, leaving a gravel driveway and an existing well.

Parcels to the south are zoned MDR-16 and currently being developed as Riverside Estates Subdivision. To the north, across NW Pacific Highway, and to the east are large lots zoned MDR-16 and developed with single-family residences. Northwest of the site is a parcel zoned R-12 within Clark County jurisdiction that is developed with a single-family residence.

The applicant proposes to develop the site with a public park that will be dedicated to the City of La Center. Construction of the park will begin when all necessary approvals are granted. The City of La Center Park, Recreation and Open Space Master Plan and the City of La Center Comprehensive Plan show a need for a Neighborhood Park on the north side of the Riverside development along NW Pacific Highway. The Comprehensive Plan refers to this Neighborhood Park as NP-1, the proposed park will serve the residents in the northwest area of the City.

A Type II Site Plan Review is necessary to review and permit the Community Park. Please see the following narrative that demonstrates compliance with the approval criteria for site plans.

Site Plan Review Code Compliance Discussion

18.147 Parks and Open Space

The proposed park is intended to serve the Riverside Estates Development, and adjacent properties in the area. The park will be built to meet the Neighborhood standards and meet the requirements of the Recreation and Open Space Master Plan and the City of La Center Comprehensive Plan.

18.147.030 Park size and design standards

Per 18.147.030(1)(a)(ii), for 182 lots and 144 apartment units a total of 2.33 acres in park area is required. The park size proposed is 5.19 acres, meeting this requirement. Within the Riverside development there is an existing trail system and two additional tracts of land that provide both passive and active recreational opportunities.

The proposed park design and layout meets current La Center park requirements and ADA regulations. The park was designed by Chris Baumann, a landscape architect licensed in the state of Washington.

18.147.030(1)(b)(vi) requires that 40% of the site's perimeter abut a public right-of-way to ensure public access to the park. The park fronts on NW Pacific Highway along 15% of its perimeter. Because of the way the site is situated, it is not possible to meet the 40% requirement. To meet the objective of this requirement, a 24' wide access road is proposed from NW Pacific Highway into the park to provide parking off of NW Pacific Highway. An 8' pedestrian trail is also proposed to connect the park to NW Pacific Highway.

18.147.030(1)(b)(vii) requires that all parks have at least 75% of their area improved with usable active play areas and open space. In total the Riverside development has provided 2.64 acres of active open space.

A 5' paved path is proposed in the improved section of the park while an 8' wide paved path is proposed to meander around the park and connect to the Riverside Estates homes to the south. The park will have the following amenities:

- Open space/lawn area
- 5 sitting benches
- 3 trash receptacles
- 1 dog waste receptacle
- 1 bike rack for up to 8 bikes
- 2 play structures
- 4 picnic tables
- Sport court with basketball hoop
- Water fountain
- Paved sidewalk and plaza area
- Paved meandering path

All undeveloped active play space is proposed to be covered with grass that will be irrigated.

Plantings and native vegetation are proposed to screen the park. Please see the included Landscape Plan for details. Proposed lighting and plantings have been designed to maintain sight lines into the park. One side of the park abuts a public road which will increase visibility of the park for citizens and police patrols. The access road, parking area and improved portions of the park, including the play structure, sports court, water fountain and picnic area, will have lighting to illuminate the park for citizens and police.

There are two planned trails in the vicinity of the park, however neither are constructed at this time. The layout of the park and the proposed trail will provide opportunity for future connection to planned trails when they are built out. The wetland and its buffer will function as passive open space within the proposed park. The meandering path is stubbed to NW Pacific Highway and connects to the Riverside Estates subdivision to the south; as future planned trails develop

pedestrians will be able to utilize a mix of street sidewalks and trails to interconnect between neighborhoods and other parks and trails within the city.

A stormwater treatment facility is included with the park area. Runoff from the access drive and the parking area will be collected in catch basins and conveyed to a treatment and detention facility which will provide treatment for the pollution generating surfaces created by this project. From there the runoff will be discharged to the existing wetland area via flow spreaders at pre-development rates.

18.147.050 Facility maintenance and liability

The applicant proposes to construct the park and dedicate it to the city. Per 18.147.050(2), *"The city reserves the right to, but is not obligated to, assume maintenance and liability of park and trail facilities developed pursuant to this chapter."*

(a) The city may accept maintenance and liability for park and trail facilities if the public works director finds all of the following:

(i) The applicant requests that the city assume the responsibilities.

Response: The applicant does request that the city assume responsibility for the park.

(ii) The facility lies within land dedicated or granted to the city.

Response: The site lies within land that will be dedicated or granted to the city.

(iii) The facility has been constructed to city standards.

Response: The facility has been designed to meet city Neighborhood Park standards and meets the needs of the City of La Center Recreation and Open Space Master Plan and the City of La Center Comprehensive Plan, specifically referred to as NP-1.

(iv) The facility meets a need identified in the parks plan.

Response: The facility meets a need identified in the parks plan, specifically identified as proposed neighborhood park 1 on Figure 12 of the City of La Center Parks and Open Space Plan, and further identified as "Jenny Creek Greenway" on Figure 12b o the same plan.

(v) The city has adequate resources for maintenance of the facility.

Response: The City has approved this park within a developer's agreement as a City owned Neighborhood Park.

(b) The city shall accept maintenance and liability for a park and trail facility through approval by the city council.]

Response: The City has approved this park within a developer's agreement as a City owned Neighborhood Park.

(c) If the city accepts maintenance and liability for the park and trail facilities the applicant shall provide maintenance of provided parks and trails for a period of two years after the dedication of the park or trails to the city. The applicant shall submit a park landscape maintenance agreement and a two-year park maintenance bond, in a form acceptable by the public works director.

Response: The City has approved this park within a developer's agreement as a City owned Neighborhood Park. The applicant will dedicate the park to the City once all improvements have been completed and accepted by the City of La Center.

LMC 18.215 Site Plan Review

This application will be reviewed as a Type II Site Plan because a SEPA checklist is required. All required submittal items listed in 18.215.050 are included with this application, with the exception of the following:

- Architectural elevations: architectural elevations are not included as no structures are proposed with the park.
- Traffic Study: a traffic study is not warranted based on the trips generated by the park.
- Pre-application Conference Report- a pre-application conference was not held. A pre-application waiver is included with this submittal.

The proposed neighborhood park will provide an outdoor recreational area offering play equipment, a basketball half-court, bicycle racks, picnic tables, open space lawn and 7 parking spaces. Pedestrian paths are proposed to connect the park to NW Pacific Highway and to the Riverside Estates residential lots to the south. The proposed public park will be paid for with Park Impact Fees.

The park will be open from dusk to dawn. No deliveries are planned for the park. Construction is expected to begin in early Spring 2022 and will last approximately 6-8 months.

The park will have temporary impacts to wetland buffer and indirect impacts to the wetland. These impacts are addressed separately in the included Critical Areas Narrative and supplementing materials for a Critical Areas Permit.

18.215.060 Criteria for site plan approval

The site is zoned MDR-16, public parks and recreational facilities are an allowed use within this zone. Lot size, setbacks and other dimensional requirements of the district are not applicable to the proposed park.

18.245.060 Landscaping

The table in this section shows a requirement for L1 landscaping within a 5' buffer when a parcel zoned MDR abuts other MDR parcels. The parcel to the northwest is within Clark County jurisdiction and is zoned R-12. R-12 is a multi-family residential zone, therefore MDR standards were applied to this parcel. L1 landscaping is considered general landscaping, and this type of buffer is suitable when the primary method to separate uses is distance. The park and it's amenities are all set back more than 5' from all property lines. A mix of trees, shrubs and grass are proposed, and along with native vegetation will fulfill the L1 requirements as shown on the included Preliminary Landscape Plan.

18.280 Off Street Parking and Loading Requirements

There is no standard for how many parking spaces are required for a neighborhood park, likely due to the fact that many residents will simply walk to the park. The applicant has proposed an access drive and 6 parking spaces that can accommodate patrons that need to drive to the park.

The proposed parking stalls are 9 feet wide by 20 feet deep and designed at 90 degrees. One ADA space is included. The access drive is 24' wide, all parking and the access will

No loading facilities are proposed.

Utilities

Electricity and water will be extended to serve the site for the water fountain provide and for lighting. No other utilities are proposed.

Conclusion

The Riverside Neighborhood Park will aid in meeting comprehensive plan goals for the area and will provide a benefit to the community.

CRITICAL AREAS PERMIT NARRATIVE
For
RIVERSIDE NEIGHBORHOOD PARK

A TYPE II APPLICATION

Submitted to
CITY OF LA CENTER

For
9317 LLC
9321 NE 72ND AVE. BLDG C #7
VANCOUVER, WA 98665

October 2020

GENERAL PROJECT INFORMATION

Applicant	**9317 LLC** Contact: Luke Sasse 9321 NE 72nd Ave. Bldg C #7 Vancouver, WA 98665 (360) 449-0099 luke@timberlandframing.com
Owner:	**ECM Riverside, LLC** Contact: Peter Ettro 340 Oswego Point Drive #208 Lake Oswego, OR 97034 (503) 568-1907 peter@etrrocapital.com
Contact:	**PLS Engineering** Travis Johnson 604 W Evergreen Blvd Vancouver, WA 98660 (360) 944-6519, Office (360) 944-6539, Fax PM@plsengineering.com

Location:	**SE 1/4 of Section 33, T5N, R1E, WM**
Property Address	**34512 NW Pacific Highway, La Center, WA**
Project Size:	**5.19 acres**
Zoning:	**MDR-16, UH-10**
Comprehensive Plan:	**UM – Urban Medium Density Residential**
Current Use:	**Vacant**
Tax Lot Information:	**986028825**
School District:	**La Center**
Water District:	**Clark Public Utilities**
Sewer District:	**Rural/Resource**
Fire District:	**Clark County**
Traffic Impact District:	**La Center**

Table of Contents

Project Description

The site is zoned MDR-16, Medium Density Residential, and UH-10, Urban Holding, with a comprehensive plan designation of UM – Urban Medium Density Residential. The parcel is identified as parcel number 986028825 and is 5.19 acres in size. The site is located at 34512 NW Pacific Highway, La Center, WA and is located in the Southeast ¼ of Section 33, Township 5 North, Range 1 East, of the Willamette Meridian.

Clark County GIS maps show an area of steep slopes and potential instability along NW Pacific Highway as well as hydric soils and a wetland located onsite. The site is currently vacant. Existing vegetation consists of brush, grass, trees and a manmade pond. Based on aerial mapping between 1978 to 1984 a single-family home and shop was installed on the east side of the property with a driveway accessing NW Pacific Highway. The home and shop have been demolished, leaving a gravel driveway and an existing well.

The applicant proposes to develop the site with a Neighborhood Public Park that will be dedicated to the City of La Center. Construction of the park will begin when all necessary approvals are granted. The City of La Center Park, Recreation and Open Space Master Plan and the City of La Center Comprehensive Plan show a need for a Neighborhood Park on the north side of the Riverside development along NW Pacific Highway. The Comprehensive Plan refers to this Neighborhood Park as NP-1, the proposed park will serve the residents in the northwest area of the City. Pedestrian paths are proposed to connect the park to NW Pacific Highway and to the Riverside development south of the site and will provide pedestrian connectivity to the Highland development north of the site. Park amenities will include play equipment, a basketball half-court, bicycle racks, picnic tables, open space lawn and 6 parking spaces.

The park will have the following impacts:

- Temporary impacts to wetland buffer = 12,360 sf/0.29 acres. These impacts are due to grading for the park and the pedestrian path that is required. Once grading is complete, the area will be re-seeded with a native seed mix.
- Indirect impacts to wetland = 17,829 sf/0.41 acres. These impacts are based on the pedestrian path and park location. Impacts will be mitigated by purchasing 0.21 credits from the East Fork Lewis Mitigation Bank (EFLMB) in order to compensate for indirect Category III wetland impacts and ensure no net loss of ecological wetland and buffer functions.

Impacts to the wetland and buffer cannot be avoided due to the existing conditions of the site. Neighborhood Parks require frontage improvements if fronting a public roadway. The proposed park does front NW Pacific Hwy so frontage improvements will be provided which will require roadway widening and sidewalks. The site also slopes from north to south which requires grading to flatten the site to provide the necessary amenities and provide ADA required paths from the park to NW Pacific Highway, and to the developments to the south. The required roadway widening and grading to flatten the site for amenities and provide ADA pathways to serve all residents will require grading that impacts the wetland buffer. Wetlands and buffer encumber the majority of the site. The applicant has looked at options to minimize impacts and found them to be unfeasible. Options such as follows were reviewed:

- Reduce the size of the park.

  Response: The improved portion of the park (exclusive of drive aisle, parking and pedestrian paths) is approximately 25,000 sf/0.57 acres. Any reduction to the size of the park would make it very difficult to include the park elements being provided.

- Move the park.

  Response: The parcel is encumbered by wetlands, steep slopes and buffers. The park has been located in the best possible location to minimize impacts. Frontage on NW Pacific Highway allows visibility of the park to maintain safety. The trail will be constructed as far away as possible from the wetland boundaries in the southeastern portion of the site given the proximity to the property lines and the existing ditch. Parking and sport court areas are located on the north/northeast side of the trail, away from the wetland and where topography is less sloped.

Please see the included Bank Use Plan prepared by Ecological Land Services (ELS) for details. This report includes a Critical Areas Report Addendum that encompasses the subject site as well as proposed mitigation.

A Type II review is necessary to permit indirect wetland impacts in order to develop the park site. Please see the following narrative that demonstrates compliance with the approval criteria for critical areas permits.

Critical Areas Code Compliance Discussion

18.300.050 Allowed uses with critical areas review or permit

Item 4 in this section specifically states, "The city may allow the following uses on critical areas and within buffer areas subject to the development standards of LCMC 18.300.110 and appropriate mitigation standards as described in LCMC 18.300.120:

(a) Walkways and trails. Walkways and trails may be permitted in a wetland or riparian buffer with review; provided, that they are generally parallel to the perimeter of the wetland or stream, are located in the outer 25 percent of the buffer area, are constructed with a surface that does not interfere with soil permeability, and their surface is no more than five feet wide. The design and construction of walkways and trails shall avoid impacts to established native woody vegetation. Raised boardwalks using nontreated materials are acceptable. Walkways and trails may be located in the inner 75 percent of a wetland or riparian buffer or crossing a stream or wetland, provided there is no alternative location in the outer buffer area, and shall be minor crossings that minimize impact with approval of a critical areas permit. Wetland or riparian buffer widths shall be increased to compensate for the loss due to the width of the trail.

(b) Below or aboveground utilities, facilities and improvements, where necessary to serve development consistent with the La Center comprehensive plan and development code,

including: streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, open space, and parks and recreational facilities, where there is no other reasonable alternative, based on topographic and environmental conditions, as determined by the director."

The proposed trail and park are both addressed within sections a and b above and should be subject to the development standards of 18.300.110 and mitigation standards in 18.300.120.

18.300.110 Development standards

During the design process the applicant reviewed reasonable locations on the site for locating the park. The amenities for the park are placed in such a way so as to avoid impacts to the low quality wetland and only impact the buffer. Additionally, the park area and path have been located in the least environmentally sensitive area as practicable. Avoidance of the buffer is not practicable no matter the use of the property. The park design minimizes adverse impacts to critical areas and buffers consistent with the mitigation sequencing measures and mitigation and enhancement measures of the LCMC. Vegetation removal methods and removal of native plants in non-impacted areas has been avoided. All impacts have been fully mitigated and the plan minimizes cuts and fills; the grading is the least necessary to provide ADA paths and to pad the site for the required amenities of a Neighborhood Park.

Construction is proposed to start when the rainy season ends, approximately May of 2021. An approved erosion control plan will be implemented prior to any ground disturbances.

18.300.120 Mitigation

A mitigation plan is attached with the application prepared by Ecological Land Services Inc. As mentioned above, avoidance to wetland buffers will be physically impossible on this property no matter what use is proposed. All impacts have been minimized while still allowing a park that meets the Neighborhood Park requirements. Mitigation sequencing is discussed within the report provided by Ecological Land Services Inc. attached with this submittal.

18.300.060 Variances

This chapter requires that an application that seeks to vary from the requirements of this chapter must seek a variance. The applicant is not seeking to vary from the requirements of the chapter, rather code is being met through mitigation sequencing: avoidance, minimization, and mitigating impacts. Please see the included Bank Use Plan and Critical Areas report prepared by ELS for details.

18.300.090(4) Geologically Hazardous Areas

A Geotechnical Report was prepared for the site by Carlson Geotechnical on July 22, 2020 and has been submitted with this application. The report finds that, "The primary geologic hazards that

may affect the site are potential for slope instability and seismic shaking. We anticipate that with proper construction control, the geology and topography of the site and the surrounding area will not adversely affect the proposed project, and the project will have no geologic impact on adjacent properties or the risk of slope instability. It is our opinion that, with the use of generally accepted construction techniques and by strictly following the recommendations contained in this report and in the building code, the site is geologically suitable for the proposed development."

18.300.090(5) Wetlands

A Bank Use Plan and Critical Areas Report has been prepared for the site by ELS and has been submitted with this application. The report addresses the following code sections:

- 18.300.090 (5) Wetlands
- 18.300.100 Best Available Science
- 18.300.110 Development Standards
- 18.300.120 Mitigation

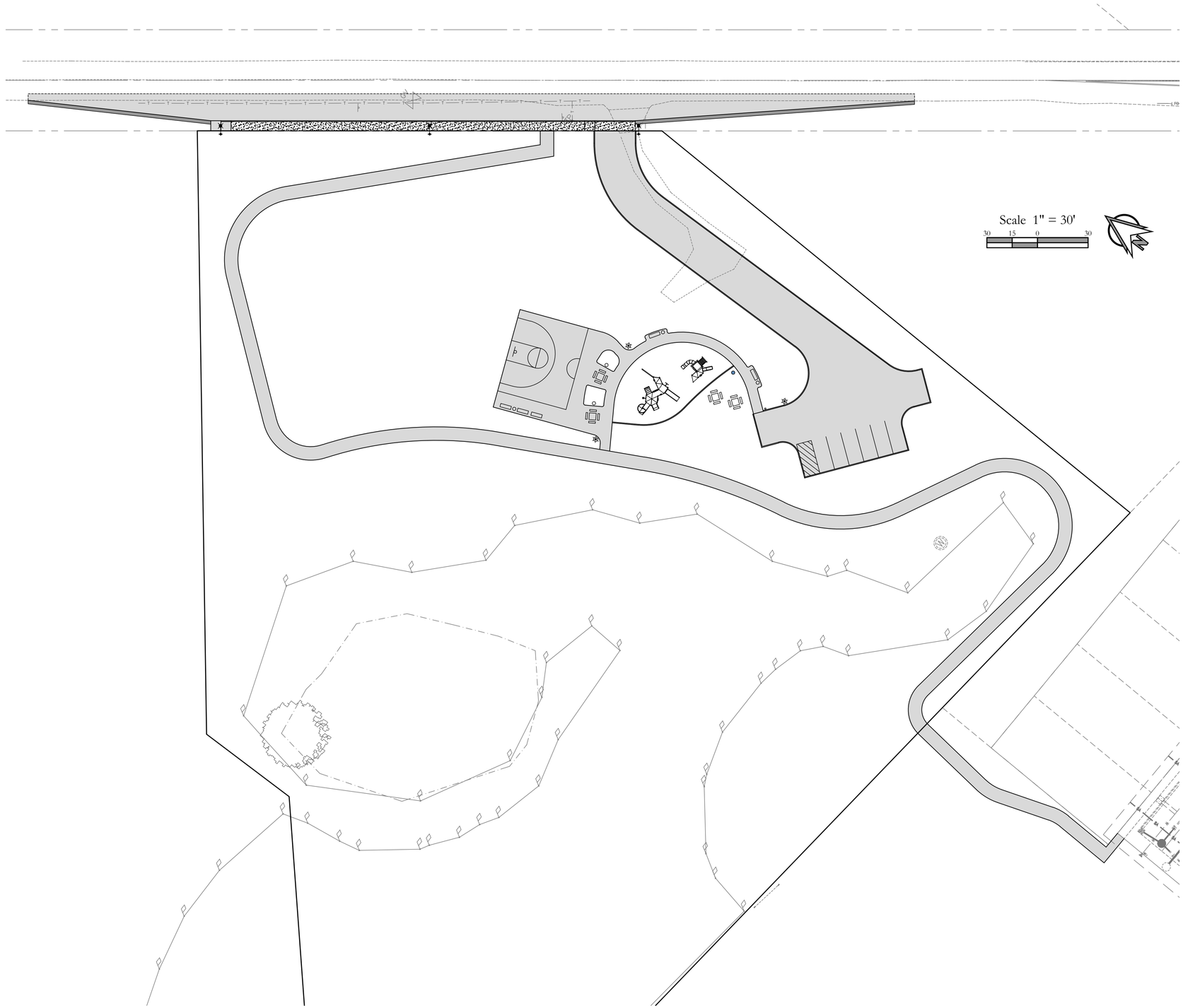
Conclusion

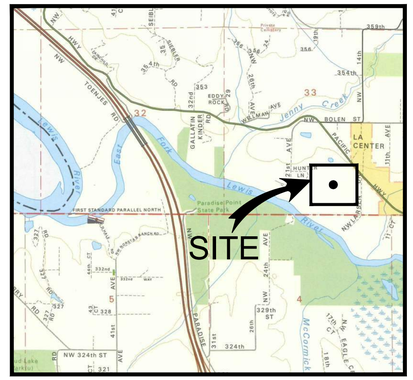
The Riverside Neighborhood Park is a public project whose construction will aid in meeting comprehensive plan goals for the area and will provide a benefit to the community. The granting of this Type II Critical Areas Permit will not adversely affect neighboring properties and will enhance the wetland and buffer area onsite.

Exhibit 2

Riverside Neighborhood Park

Located in the SE ¼ of Section 33, T5N, R1E
La Center, Washington





VICINITY MAP
NOT TO SCALE

Sheet Index

APPLICANT:
9317 LLC
Contact: Luke Sasse
9321 NE 72nd Ave. Bldg C #7
Vancouver, WA 98665
Office: (360) 449-0099
Email: luke@timberlandframing.com

OWNER:
ECM Riverside, LLC
Contact: Peter Ettro
340 Oswego Point Drive #208
Lake Oswego, OR 97034
PH: (503) 568-1907
Email: peter@etrrocapital.com

CIVIL ENGINEER:
PLS Engineering
Contact: Travis Johnson, PE
604 W Evergreen Blvd
Vancouver, WA 98660
PH: (360) 944-6519
Email: PM@plsengineering.com

SITE ADDRESS:
Parcel # 986028-825
34512 NW Pacific Hwy
La Center, WA 98629

GENERAL NOTES

If any cultural resources are discovered in the course of undertaking a development activity, construction shall stop immediately and the Office of Archaeology and Historic Preservation in Olympia and the City of La Center Public Works Department shall be notified. Failure to comply with these requirements may constitute a Class C felony, subject to imprisonment and/or fine.

UTILITY COMPANY AND EMERGENCY CONTACTS:

City of La Center	(360) 263-2782
La Center Public Works	(360) 263-2745
La Center Police Dept	(360) 263-7665
CenturyLink (Keith Meisner)	(360) 699-3720
Comcast (Michelle Janson-Moe)	(360) 316-1051
Clark County Fire & Rescue	(360) 887-4609
Clark Public Utilities (Electric)	(360) 992-8558
Clark Public Utilities (Water)	(360) 992-8022
Clark Regional Wastewater District	(360) 993-8810
NW Natural Gas	(360) 571-5465
Utility Locates	(800) 424-5555

CLARK PUBLIC UTILITIES - WATER SERVICES
DEVELOPER INSTALLED WATER MATERIAL LIST

INSTALLED WATER ITEM	MATERIAL	QUANTITY	UNITS
8" WATER MAIN	*PVC*	*22*	*LF*
1" WATER SERVICE LINE		*360*	*EA*

NOTES:

1. *PIPE MATERIAL ABBREVIATIONS:*
   - *PVC - POLYVINYL CHLORIDE PIPE*
   - *DIP - DUCTILE IRON PIPE*
2. *QUANTITIES LISTED WITHIN THIS TABLE ARE NOT FOR BIDDING PURPOSES, BUT FOR USE BY CLARK PUBLIC UTILTITIES TO DETERMINE THE INSTALLED WATER SYSTEM VALUE*

City of La Center

City Engineer _____ Date _____

811 Know what's **below.** **Call** before you dig.

ENGINEERING | PLS

Preliminary Cover Sheet For:

Riverside Neighborhood Park

A Site Located in La Center, Washington

Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

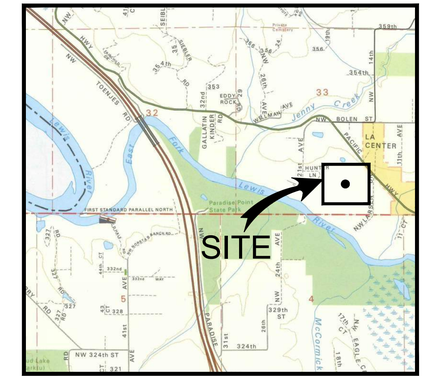
1	2	3	4	5	6

SCOTT W. GILLILAND — STATE OF WASHINGTON — 42773 — REGISTERED PROFESSIONAL ENGINEER — 10/26/20

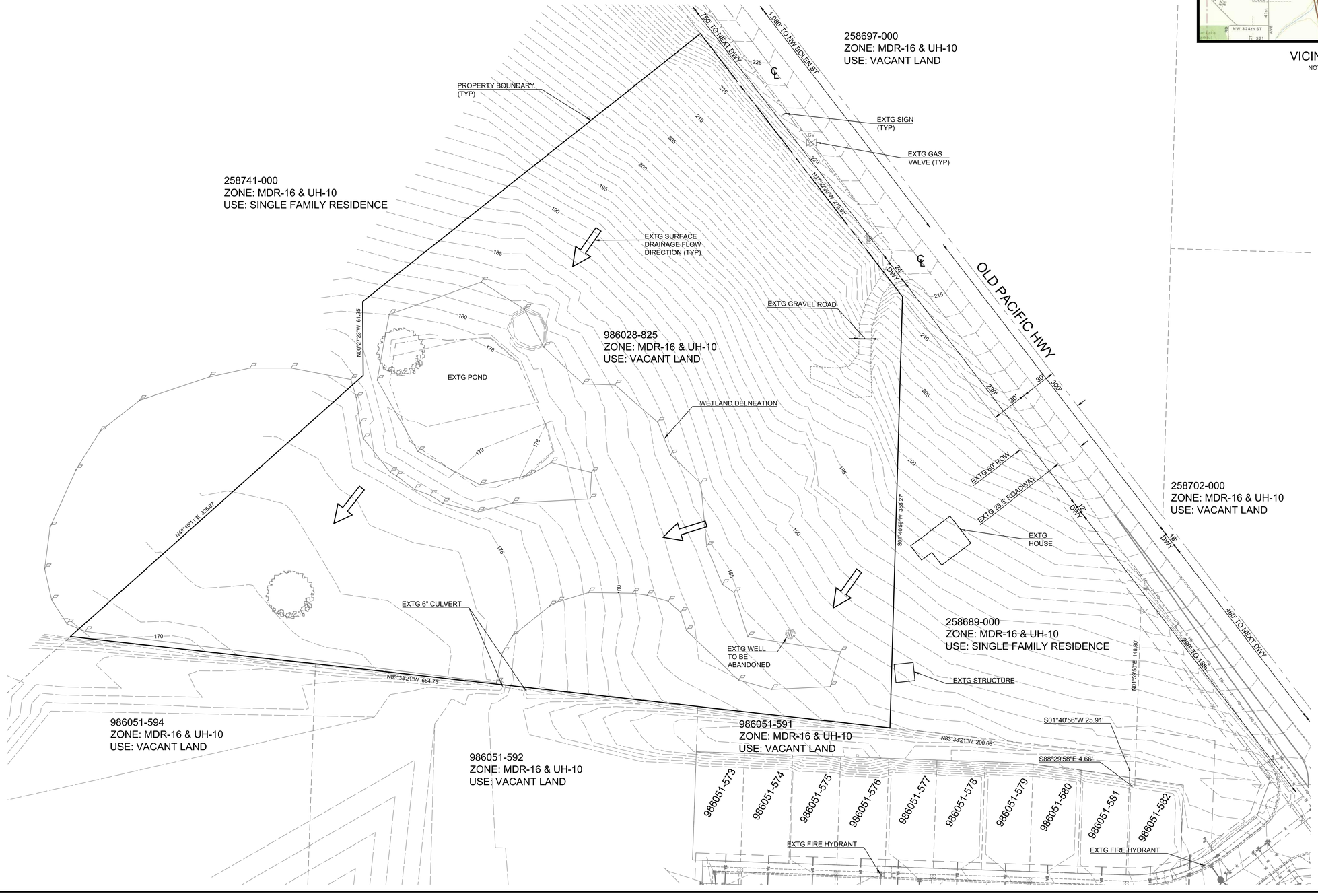
Project No.	2641
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	SWG
DRAFTED BY:	CAC
REVIEWED BY:	TGJ

LEGEND:

WV — WATER VALVE	LIGHT POLE
FIRE HYDRANT	TRANSFORMER
WM — WATER METER	GV — GAS VALVE
ST — STORM SEWER MANHOLE	SIGN
CB — CATCH BASIN	MB — MAIL BOX
AD — AREA DRAIN	BOLLARD
S — SANITARY SEWER MANHOLE	EDGE OF CONCRETE
TSB — TRAFFIC SIGNAL BOX	5 FOOT INTERVAL CONTOUR
POWER POLE	1 FOOT INTERVAL CONTOUR
GUY ANCHOR	PAINT STRIPE
	ELECTRIC LOCATE
	GAS LOCATE
	TELEPHONE LOCATE
	INDICATES MONUMENT FOUND



VICINITY MAP
NOT TO SCALE



Scale 1" = 40'
40 20 0 40

Know what's below. Call before you dig.

ENGINEERING | PLS

Existing Conditions Plan For:

Riverside Neighborhood Park

A Site Located in La Center, Washington

Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

1	2	3	4	5	6

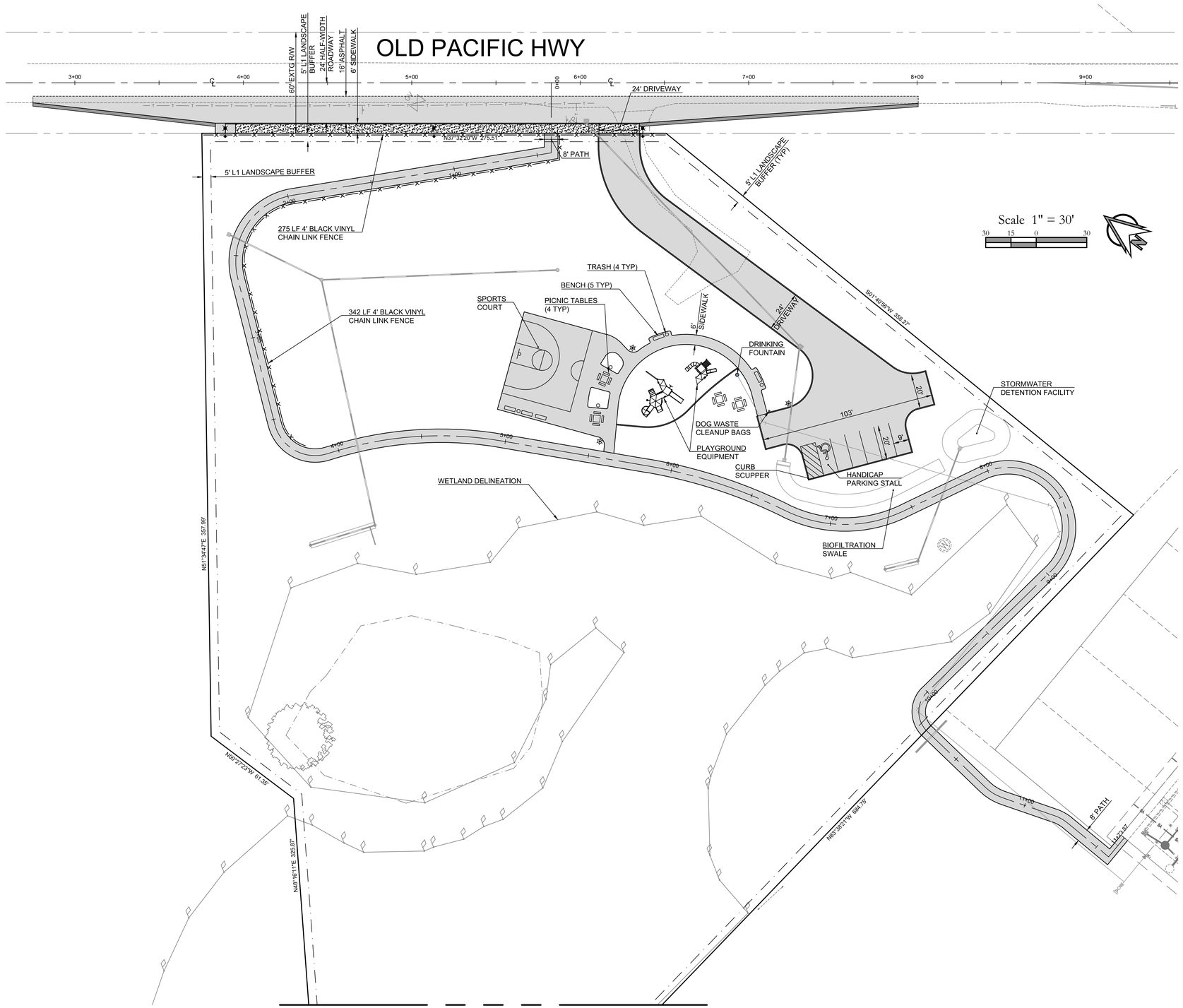
SCOTT W. GILLILAND — STATE OF WASHINGTON — 42773 — REGISTERED PROFESSIONAL ENGINEER — 10/26/20

Project No.	2641
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	SWG
DRAFTED BY:	CAC
REVIEWED BY:	TGJ

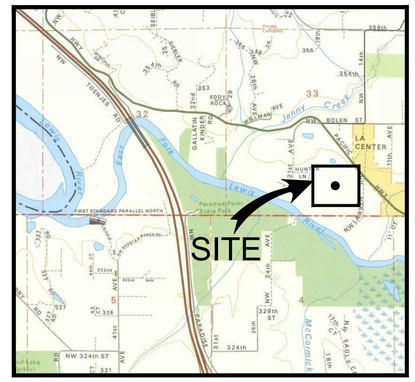
2
8

Riverside Neighborhood Park

Located in the SE ¼ of Section 33, T5N, R1E
La Center, Washington



SEE EXISTING CONDTIONS PLAN FOR REMAINDER



VICINITY MAP
NOT TO SCALE

APPLICANT:
9317 LLC
Contact: Luke Sasse
9321 NE 72nd Ave. Bldg C #7
Vancouver, WA 98665
Office: (360) 449-0099
Email: luke@timberlandframing.com

OWNER:
ECM Riverside, LLC
Contact: Peter Ettro
340 Oswego Point Drive #208
Lake Oswego, OR 97034
PH: (503) 568-1907
Email: peter@etrrocapital.com

CIVIL ENGINEER:
PLS Engineering
Contact: Travis Johnson, PE
604 W Evergreen Blvd
Vancouver, WA 98660
PH: (360) 944-6519
Email: PM@plsengineering.com

SITE ADDRESS:
Parcel # 986028-825
34512 NW Pacific Hwy
La Center, WA 98629

SITE INFORMATION:

Site Area: 5.19 AC

Building Size: N/A

Total Site Impervious Area: 0.74 AC (4% of Site)

Total Site Landscaped Area: 1.94 AC (37% of Site)

Total Parking Area: 1,260 SF (0.6% of Site)

Total Parking Spaces:

Required	=	0
Standard	=	5
ADA	=	1
Total Proposed	=	6

Legend	
Proposed Asphalt Concrete	
Proposed Cement Concrete	

Know what's **below.** **Call** before you dig.

PLS ENGINEERING

Preliminary Site Plan For:

Riverside Neighborhood Park

A Site Located in La Center, Washington

Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

1	2	3	4	5	6

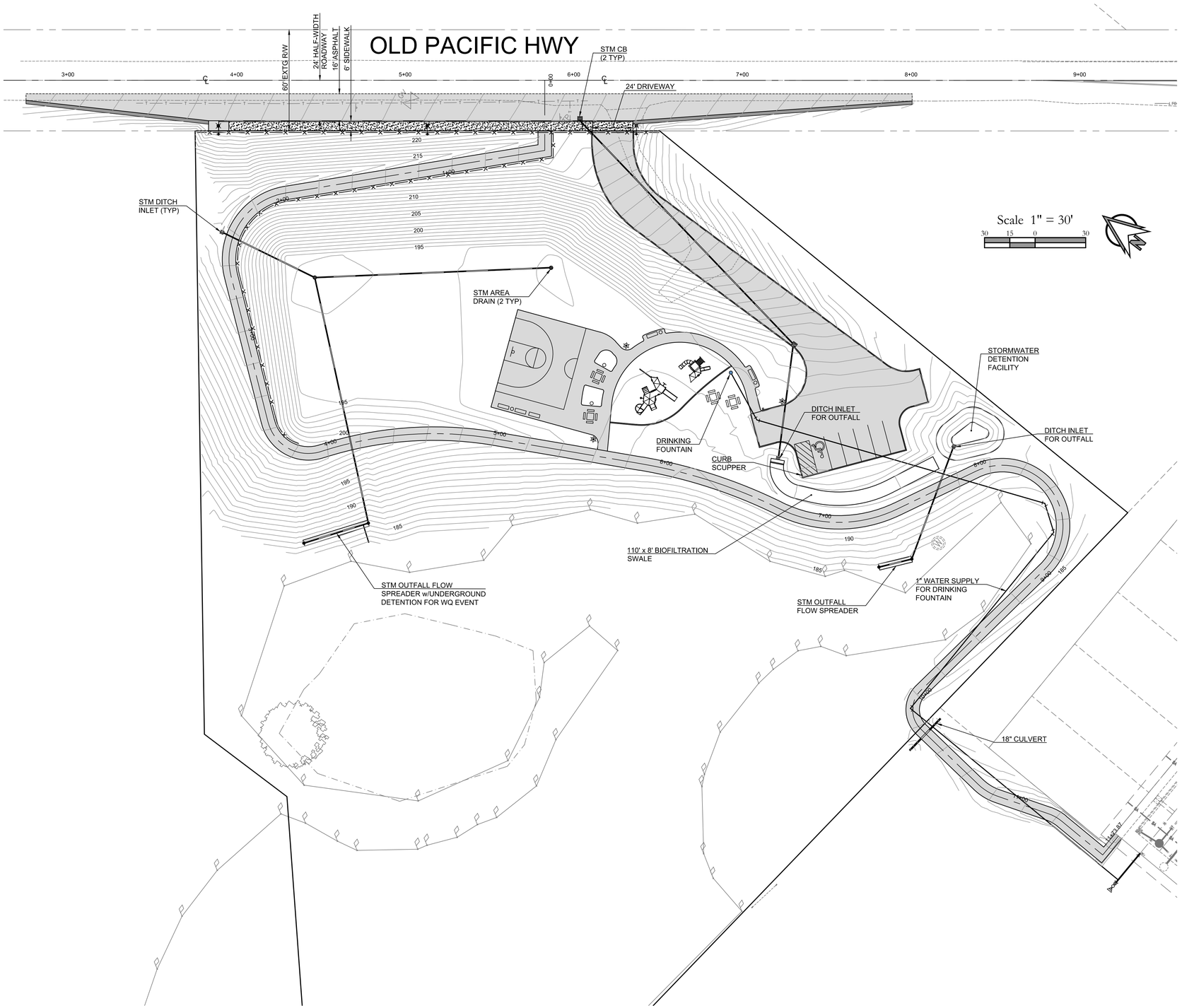
SCOTT W. GILLILAND — STATE OF WASHINGTON — 42773 — REGISTERED PROFESSIONAL ENGINEER — 10/22/20

Project No.	2641
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	SWG
DRAFTED BY:	CAC
REVIEWED BY:	TGJ

3 / 8

Riverside Neighborhood Park

Located in the SE ¼ of Section 33, T5N, R1E and
the NE ¼ of Section 4, T4N, R1E, W.M.
La Center, Washington



PLS ENGINEERING

Preliminary Utilities Plan For:

Riverside Neighborhood Park

A Site Located in La Center, Washington

Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

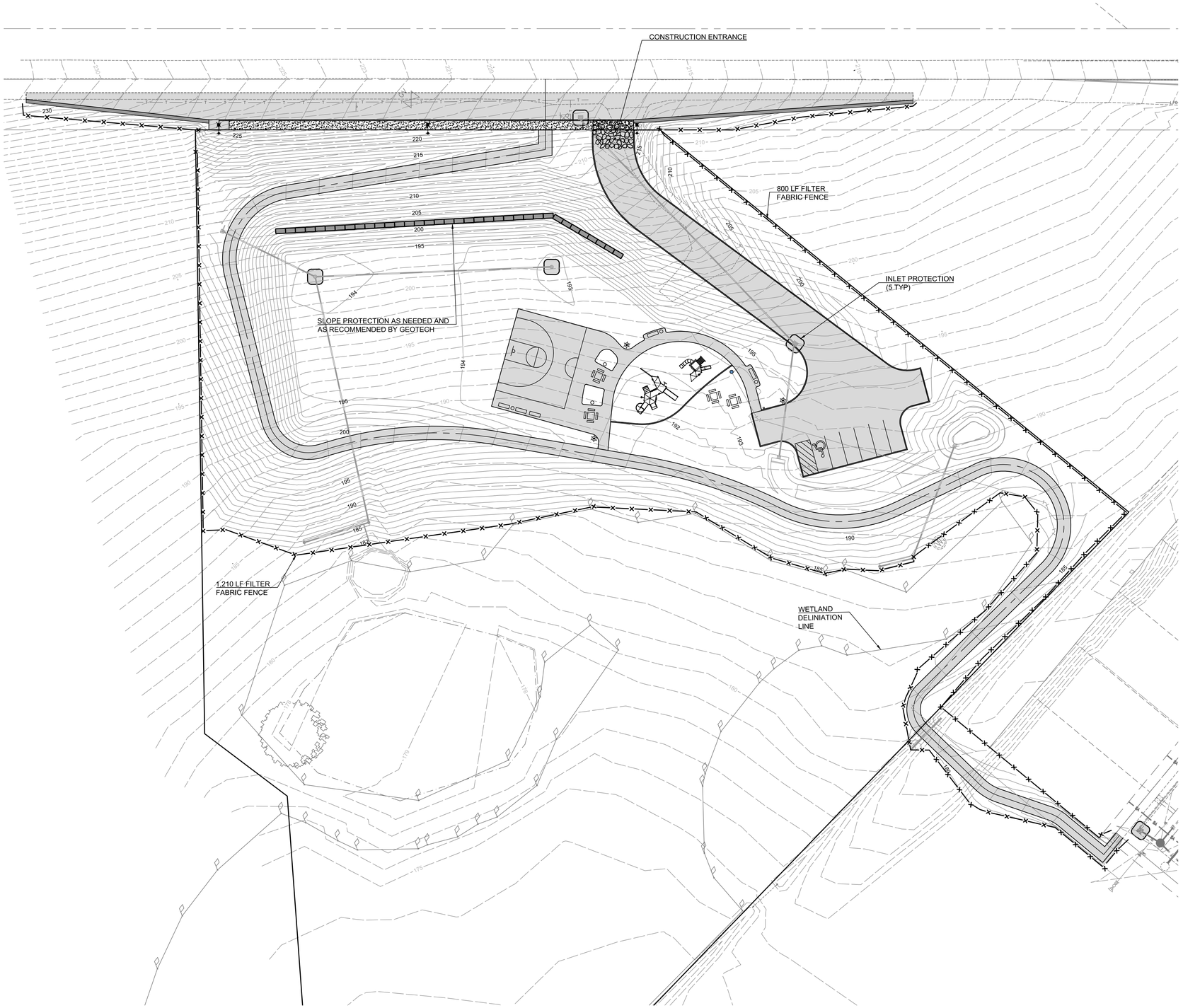
1	2	3	4	5	6

SCOTT W. GILLILAND
STATE OF WASHINGTON
42773
REGISTERED PROFESSIONAL ENGINEER
10/8/20

Project No.	2641
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	SWG
DRAFTED BY:	CAC
REVIEWED BY:	TGJ

4
8

811 Know what's **below.** **Call** before you dig.



Scale 1" = 30'

30 15 0 30

CUT VOLUME = 3,800 CY
FILL VOLUME = 9,300 CY

Contractor shall comply with with LCMC 18.320 for Erosion Control.

Know what's **below.** **Call** before you dig.

Preliminary Grading and Erosion Control Plan For:

Riverside Neighborhood Park

A Site Located in La Center, Washington

PLS ENGINEERING

Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

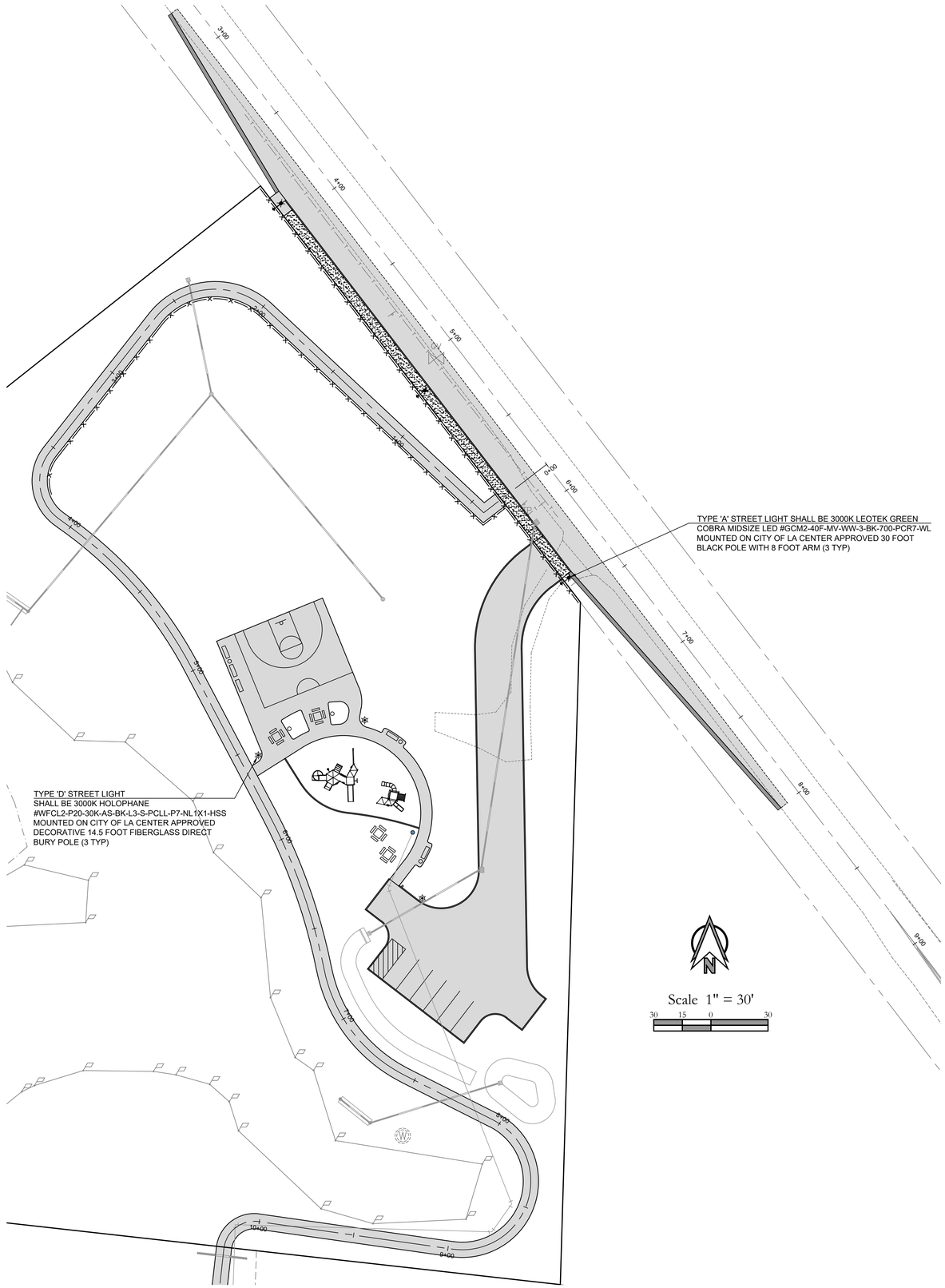
1	2	3	4	5	6

SCOTT W. GILLILAND — STATE OF WASHINGTON — 42773 — PROFESSIONAL ENGINEER

DRAFT

Project No. 2641	
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	SWG
DRAFTED BY:	CAC
REVIEWED BY:	TGJ

5 / 8



HOLOPHANE
LEADER IN LIGHTING SOLUTIONS

Catalog Number: WFCL2-P20-30K-AS-BK-L3-S-P7-PCLL-HSS-NL1X1
Notes:
Type: D

WFCL2
Utility Washington Series Luminaire
Full Cutoff LED2

Mechanical
- Heavy-grade A360-cast aluminum (<1% copper)
- Tool-less access with a spring-loaded latch
- Hinged housing door allowing the door to swing open and remain open
- Optional internal or external NEMA twist lock photocontrol receptacle. Housing contains a tempered glass window to allow light to reach the cell for internal versions.
- Mount to slip-fitter that will accept 2" high by 2-7/8" to 3-1/8" O.D. pole tenon
- Decorative top cover contains stainless steel hinge which secures entry the LED optical chamber
- Polyester powder coat paint to ensure maximum durability
- Finish meets 5,000-hour salt spray testing
- Holophane and RAL Classic finishes.

Electrical
- Surge protection meets ANSI/IEEE C62.41.2 10kV/10kA.
- Standard UPS meets 10kV/5kA per ANSI C136.2-2015.
- 208V Option meets 20kV/10kA per ANSI C136.2-2015.
- Quick disconnect connectors for ease of installation and maintenance.
- Three pole terminal block is standard, with optional prewired leads for ease of installation
- LLCD drivers meet maximum total harmonic distortion (THD) of 20%, >0.90 Power Factor and are RoHS compliant. Maximum operating temperature is +40C. Electronic driver has an estimated minimum life of 100,000 hours at 25°C.

Optical
- IP65 rated optical compartment
- LED circuit board located in the top cover
- Asymmetric or Symmetric full cutoff distributions
- 2700K, 3000K, 4000K, and 5000K CCT
- 70CRI Standard

Control Options
- Field Adjustable Output (AO) module - Onboard device that adjusts the light output and input wattage to meet site lighting requirements. Module is preset at the factory to positions numbers 8 (see chart).
- Wireless remote control for monitoring performance and/or maintenance of the system — RLNA
- Factory Programmed Driver (FPDxx) – Customize lumen output per your manufacturing and still enables control/leads so other options can also be used
- Long Life Photocontrols (PCLL) - 20 Year Life
- 3 and 7 pin photocontrol receptacles internally (P3, P7) or externally (P3EXT, P7EXT)
- Pure-night dimming (PND) enables luminaire to monitor and adjust 50% lumens based on season and geographic location, 8-day rolling average

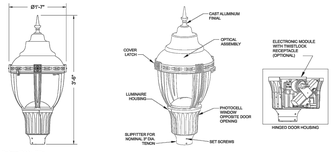
Testing/Compliance
- UL 1598 - Wet Locations Safety Listing
- Suitable for ambient temperatures -40°C to 40°C
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check with the DLC Qualified Products List at www.designlights.org/QPL for updated list.

Manufacturing
- Manufactured in Crawfordsville, Indiana, ARRA compliant
- 100% electrical testing on all luminaires before shipment
- Ten (10) years minimum experience in manufacturing LED based products

Warranty
5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_Conditions.aspx.

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25°C.
Specifications subject to change without notice.

DIMENSIONAL DATA



Maximum Weight - 17 lbs
Maximum Effective Projected Area - 1.72 sq. ft.

AcuityBrands. | Holophane | 3825 Columbus Rd., Granville, OH 43023 | Phone: 866-ROLOPHANE | www.holophane.com
© 2018 Acuity Brands Lighting, Inc. All rights reserved. Rev. 08/28/18 Specifications are subject to change without notice.
WFCL2 Page 1 of 3

WFCL2
Utility Washington Series Luminaire Full Cutoff LED2

HOLOPHANE

ORDERING INFORMATION **Example:** WFCL2 P20 30K AS GN L2 N P73

Series	LED performance package	LED Color temperature	Voltage	Mounting color	Optics	Finial
WFCL2 Utility Washington LED FCF	P10 5,500 nominal lumens (amber only)	AM True amber	[blank] Auto-sensing voltage (120 thru 277) 50/60 HZ	BK Black	L2 Type 2 distribution full-cutoff	N None
P20 6,500 nominal lumens	27K 2700K CCT	30K 3000K CCT		GR Grey	L3 Type 3 distribution full-cutoff	R Ball
P30 8,500 nominal lumens	40K 4000K CCT		AV Auto-sensing voltage (347 thru 480) 50/60 HZ	GN Graphite Green	L4 Type 4 distribution full-cutoff	S Spike
P40 8,500 nominal lumens	50K 5000K CCT			PP Prime paint	LS Type 5 distribution full-cutoff	
P50 11,500 nominal lumens				WH White		
				BZ Bronze		
				DC RAL Color code (RAL***)		
				CMC Custom color match		

Options: Option Compatibility Matrix on page 2 of 4

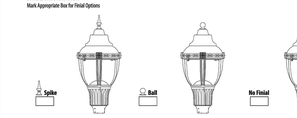
AO	Field Adjustable Output	PJE	NEMA Twist Lock Dimming Photocontrol Receptacle - 3 PIN. Externally mounted
DC	RGNA Hardware Decathlon and DCW Factory Installed	PJTE	NEMA Twist Lock Dimming Photocontrol Receptacle - 7 PIN. Externally mounted
FPDxx	Factory Programmed Driver	RME	RGNA Node (External)
P3	NEMA Twist Lock photocontrol receptacle - 3 PIN receptacle only	RMES	347V RGNA NODE (External)
P7	NEMA Twist Lock Dimming photocontrol receptacle - 7 PIN receptacle only	RME4	480V RGNA NODE (External)
PCLL	DTL twist-off photocontrol for solid-state lighting 120-277V	PSC	Shorting cap
PCLT	DTL long-life twistlock photocontrol for solid-state 4/5	SHS	House side-shield
PT4	DTL long-life twistlock photocontrol for solid-state 347V		
PT8	DTL long-life twistlock photocontrol for solid-state 480V		
PND	Part night dimming - down to 50%		

L30	1.5 Ft prewired leads	L10	10 Ft prewired leads
L03	3Ft prewired leads	L20	20 Ft prewired leads
L10	10 Ft prewired leads	L25	25 Ft prewired leads
L20	20 Ft prewired leads	L30	30 Ft prewired leads
L25	25 Ft prewired leads	NLSC	NEMA Label 1" X 1"
L30	30 Ft prewired leads	NL2X2	NEMA Label 2" X 2"
NLSC	NEMA Label 1" X 1"	208V	20kV/10kA surge protection
NL2X2	NEMA Label 2" X 2"		
208V	20kV/10kA surge protection		

Accessories: Order as separate catalog number.

XSCL2HSSS	Field Accessory - Louvered house side shield (Qty 1)
XSCL2HSSS10	Field Accessory - Louvered house side shield (Bulk Qty 50)
XSCL2SPD10KA1	10kV/5kA Extreme surge 120-277V
XSCL2SPD10KA4	10kV/5kA Extreme surge 480V
XSCL2SPD20KA1	20kV/10kA Extreme surge 120-277VV
XSCL2SPD20KA4	20kV/10kA Extreme surge 480V

FINIAL INFORMATION
Mark Appropriate Box for Finial Options



AcuityBrands. | Holophane | 3825 Columbus Rd., Granville, OH 43023 | Phone: 866-ROLOPHANE | www.holophane.com
© 2018 Acuity Brands Lighting, Inc. All rights reserved. Rev. 08/28/18 Specifications are subject to change without notice.
WFCL2 Page 2 of 3

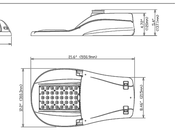
2 TYPE D LUMINAIRE
NO SCALE

LEOTEK
ILETEK GIM GROUP

Project
Type A1
Catalog No. GCM2-40F-MV-WW-3-GY-700-PCR7-WL

GreenCobra® Midsize LED Street Light
GCM F-Series Specification Data Sheet

Luminaire Data
Weight 10 lbs [4.6 kg]
EPA 0.44 ft²



Ordering Information
Sample Catalog No. GCM2 30F MV NW 2-GY 700 PCR7 WL

Product	LED Code	Voltage	Color Temperature	Distribution	Finish[1]	Drive Current[2]	Options
GCM1 30F@ 350 to 700mA	30F	MV 120-277V HV 347-480V	WW 3000K NW 4000K CW 5000K	3 Type 2 4 Type 3	GY Gray DB Dark Bronze BK Black	350[3] 350mA 530[4] 530mA 700 700mA 1A[5] 1A	FDC[6] Fixed Drive Current FFA[7] full Field Adjustability LPCR Less Photocontrol Receptacle PCR7 ANSI 7-wire Photo-control Receptacle PCR7-CR Control Ready 7-wire PC Receptacle WL Utility Wattage Label 4B 4-Bolt Mounting Bracket RWG Rubber W/Idlife Guard CF[8] Coastal Paint Finish
GCM2 30F@ 700mA to 1A, 40F @ 700mA to 1A	40F						

Notes:
1 Gray, Black and Dark Bronze standard, consult factory for other finishes.
2 Specified drive current code is the factory set maximum drive current. Field adjustable current selector enables standard dimming to lower wattage drive currents only. Consult factory if wattage limits require a special drive current.
3 350mA and 530mA drive current available with GCM1 only.
4 1A drive current available with GCM2 only.
5 Non-field adjustable, fixed drive current. Specify required drive current. Not available with PCR7-CR option.
6 The FFA option enables full field adjustability from the specified drive current code to all drive currents available. This option is not DLC qualified.
7 Field adjustable current selector included to enable standard dimming to lower wattage drive currents only. Field changeable connectors included to enable connection to PCR7 (wireless node dimming is disabled by default).
8 Control-ready wiring at factory for wireless node dimming. Default maximum drive current (700mA or 1A) must be specified.
9 Specify the CF Option for coastal installation. See warranty for details.
10 Flush mounted house side shield. Shield cuts light off at 1/2 mounting height behind luminaire.
11 Flush mounted cut-de-sac shield. Shield cuts light off at 1/2 mounting height behind luminaire and 1-1/2 mounting height on either side of luminaire.
12 Specify Color (GY, DB, BK)
13 Specify MV (120-277V) or HV (347V-480V)

Accessories*

HSSGCM*	House Side Shield, Snap-On*
CSSGCM*	Cut-De-Sac Side Shield, Snap-On*
SPB[10]	Square Pole Horizontal Arm Bracket
RPB[11]	Round Pole Horizontal Arm Bracket
PTB[10]	Pole Top Tenon Horizontal Arm Bracket
WB[12]	Wall Horizontal Arm Bracket
BSK	Bird Deterrent Spider Kit
LLPC[13]	Long-Life Twist Lock Photocontrol
SC	Twist Lock Shorting Cap

*Accessories are ordered separately and not to be included in the catalog number. For factory installed HSS, CSS specify as option in luminaire catalog number.

© 2018 Leotek Electronics USA.GCM F-Series_Spec_Sheet_060818. Specifications subject to change without notice.

1 TYPE A LUMINAIRE
NO SCALE

811 Know what's below. Call before you dig.

Prelminary Lighting Plan For:

Riverside Neighborhood Park

A Site Located in La Center, Washington

PLS ENGINEERING

Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

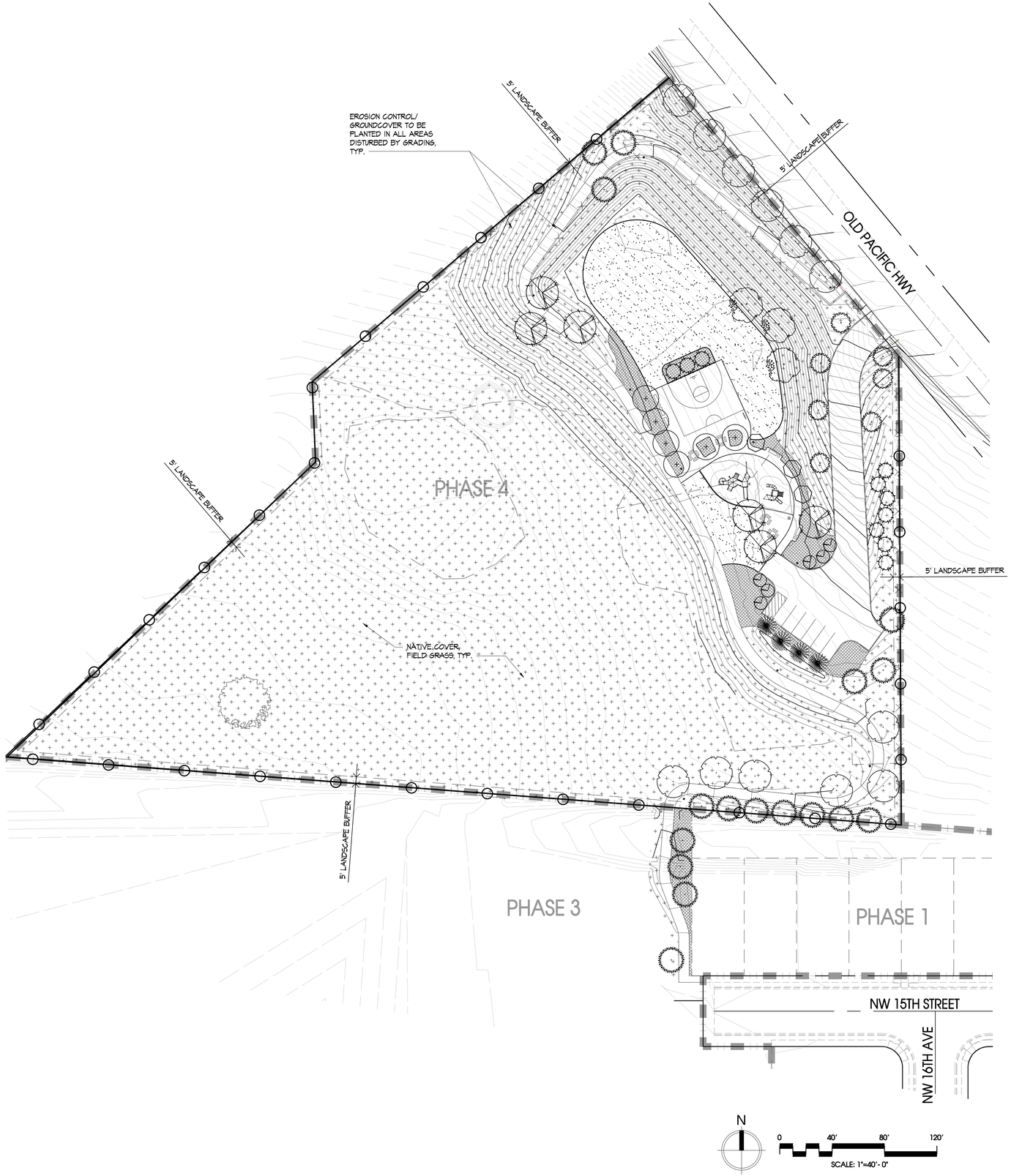
1	2	3	4	5	6

SCOTT W. GILLILAND — STATE OF WASHINGTON — 42773 — REGISTERED PROFESSIONAL ENGINEER — 10/26/20

Project No. 2641

SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	SWG
DRAFTED BY:	CAC
REVIEWED BY:	TGJ

6 / 8



PLANT LEGEND

TREES

SYMBOL	BOTANICAL / COMMON NAME	SIZE	QUANTITY
	ACER RUBRUM 'ARMSTRONG' / ARMSTRONG MAPLE	2" Cal. Min.	6
	ACER RUBRUM 'RED SUNSET' RED SUNSET MAPLE	2" cal. Min.	12
	THUJA PLICATA 'HOGAN' / HOGAN'S WESTERN RED CEDAR	6' ht. Min.	17
	PICEA OMORIKA/ OMORIKA SPRUCE	6' ht. Min.	4
	POPULUS TREMULA 'ERECTA'/ SWEDISH ASPEN	2" Cal. Min.	6
	PRUNUS SERRULATA 'KWANZAN' / KWANZAN CHERRY	2" Cal. Min.	3
	PYRUS CALLERYANA ' CHANTICLEER' / CHANTICLEER FLOWERING PEAR	2" Cal. Min.	7
	TILIA CORDATA / GREENSPIRE LINDEN	2" Cal. Min.	3
	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID' / VANDERWOLF PINE	6' ht. Min.	10
	ZELKOVA SERRATA / VILLAGE GREEN SELKOVA	2" Cal. Min.	6

SHRUBS

SYMBOL	BOTANICAL / COMMON NAME
PER FINAL LANDSCAPE PLAN	FESTUCA GLAUCA / BLUE FESCUE ILEX X MESERVEAE 'BLUE BOY / BLUE BOY HOLLY KALMIA LATIFOLIA 'ELF' / ELF MOUNTAIN LAUREL MAHONIA AQUIFOLIUM 'COMPACTA' / COMPACT OREGON GRAPE MISCANTHUS SINENSIS 'MORNING LIGHT' / MORNING LIGHT MAIDEN GRASS MYRICA CALIFORNICA / PACIFIC WAX MYRTLE NANDINA DOMESTICA 'FIREPOWER' / FIREPOWER NANDINA NANDINA DOMESTICA 'MOONBAY' / MOONBAY NANDINA PIERIS JAPONICA 'CAVATINE' / CAVATINE PIERIS PIERIS JAPONICA 'VARIEGATA' / VARIEGATED PIERIS PRUNUS LAUROCERASUS 'SCHIPKAENSIS' SCHIPKA CHERRY LAUREL VIBURNUM DAVIDII / DAVID VIBURNUM
	TURF - SOD OR SEED

IRRIGATION NOTE

ALL LANDSCAPE AREAS SHALL BE IRRIGATED WITH A DRIP, SPRAY OR HOSE BIB IRRIGATION SYSTEM. REFER TO CIVIL ENGINEERING PLANS FOR WATER SOURCE.

REFER TO SHEET L2 FOR FOR DETAILS / NOTES.

Planning Solutions, Inc.
Creating Solutions to Complex Issues
4400 NE 77th Avenue
Suite 275
VANCOUVER, WA 98662
VOICE: 360-750-9000 FAX: 360-713-6102
www.planningsolutionsinc.com

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
CHRISTOPHER A. BAUMANN
LICENSE NO. 635
EXPIRES ON 02/20/2021

RIVERSIDE NEIGHBORHOOD PARK

La Center, Washington

DRAWN: CB | CHECKED: CB
SCALE: AS SHOWN | DATE: 10-20-20
JOB #: 20-155A
ISSUED FOR: PLR
REVISIONS:
1
2
3
4
5
6

SHEET NAME:
PRELIMINARY LANDSCAPE PLAN

SHEET #:
L1

PLANTING NOTES

1. ALL BOUNDARIES, EASEMENTS, UTILITIES AND LEGAL ENCUMBRANCES TO BE CONFIRMED WITH OWNER PRIOR TO BEGINNING WORK. PROPERTY LINES AND SURVEY INFORMATION PROVIDED BY PLS ENGINEERING, INC.

2. IN NO WAY IS THIS PLAN TO BE INTERPRETED TO EXCEED THE LEGAL BOUNDARIES OF THE OWNER'S REAL PROPERTY.

3. THE LANDSCAPE DESIGNER ASSUMES NO RESPONSIBILITY FOR THE LOCATION OF BOUNDARIES, UTILITIES AND WETLANDS.

4. THIS PLAN SHALL BE INSTALLED TO MEET ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL CODES.

5. THIS PLAN SHALL BE CONSIDERED PRELIMINARY UNTIL APPROVED BY ALL GOVERNING AGENCIES. IMPLEMENTATION OF THIS PLAN SHALL NOT PROCEED UNTIL ISSUANCE OF ALL RELATED PERMITS.

6. PLANT QUANTITIES ARE FOR INFORMATION ONLY. IN CASE OF ANY DISCREPANCY, THE PLAN SHALL GOVERN.

7. ALL WORK IS TO BE PERFORMED BY LICENSED CONTRACTORS AND EXPERIENCED WORKERS.

8. THE CONTRACTOR IS TO VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES PRIOR TO PERFORMING ANY EXCAVATION. CONTRACTOR SHALL REPAIR ANY DAMAGE TO UTILITIES CAUSED BY THE CONTRACTOR'S WORK, AT NO ADDITIONAL COST TO THE OWNER. CONTACT ALL UTILITY PROVIDERS SERVING THE SITE AREA 48 HOURS PRIOR TO ANY EXCAVATION.

9. ALL PLANT MATERIALS SHALL MATCH SPECIFICATIONS PER SPECIES AND SHALL COMPLY WITH ANSI Z60.1 'STANDARD FOR NURSERY STOCK'.

10. THE CONTRACTOR SHALL ADHERE TO THE WASHINGTON ASSOCIATION OF NURSERYMEN'S GUIDELINES FOR PLANTING PRACTICES.

11. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING ELEMENTS ON AND OFF SITE, RESULTING FROM THE CONTRACTOR'S WORK.

12. THE CONTRACTOR IS RESPONSIBLE FOR THE VIABILITY OF ALL PLANT MATERIAL FOR 2 YEARS AFTER COMPLETION OF PLANTING. DISEASED, DYING, OR DEAD PLANT MATERIAL SHALL BE REPLACED BY THE CONTRACTOR DURING THE TWO YEAR PERIOD AND MAINTAINED FOR AN ADDITIONAL 2 YEAR PERIOD.

13. IMMEDIATELY UPON BID AWARD, CONTRACTOR SHALL SECURE THE PLANT MATERIALS AS SPECIFIED FROM AVAILABLE SOURCES. IN THE EVENT THAT PLANT MATERIALS ARE NOT AVAILABLE, CONTACT LANDSCAPE ARCHITECT FOR APPROVED SUBSTITUTIONS. NO SUBSTITUTION FOR PLANT MATERIAL WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.

14. TOP DRESS ALL SHRUB AND GROUND COVER AREAS (NOT LAWN) WITH 2" OF FIR BARK MULCH. SUBMIT SAMPLE TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO CONSTRUCTION.

15. TREE LOCATIONS MAY BE ADJUSTED IN THE FIELD TO SUIT SITE REQUIREMENTS AS DIRECTED BY THE LANDSCAPE ARCHITECT.

16. THE CONTRACTOR SHALL ENSURE THAT ALL EXCAVATED PLANTING PITS HAVE POSITIVE DRAINAGE. PLANT PITS FULLY FLOODED WITH WATER SHALL DRAIN WITHIN (12) HOURS OF FILLING.

17. FINISH GRADE SHALL BE SET TO ALLOW POSITIVE DRAINAGE

18. ROTOTILL 2" OF COMPOST INTO ALL PLANTED AREAS.

19. INCORPORATE PEAT INTO THE ROOT ZONE OF RHODODENDRONS, AZALEAS AND OTHER ACID LOVING PLANTS.

20. INCORPORATE 10-20-20 FERTILIZER INTO THE ROOT ZONE OF ALL NEW PLANTINGS.

21. RONSTAR, OR APPROVED EQUAL, PREEMERGENT HERBICIDE TO BE APPLIED TO ALL PLANTED AREAS PER MANUFACTURERS INSTRUCTIONS.

22. EXISTING VEGETATION TO BE SPRAYED WITH ROUNDUP, OR APPROVED EQUAL, PER MANUFACTURERS INSTRUCTIONS. SUFFICIENT TIME SHALL BE GIVEN TO ALLOW EXISTING MATERIAL TO DIE. REMOVE EXISTING VEGETATION MAT AND ROTOTILL OR SCARIFY EXISTING SOIL.

23. CROWN LAWN AREAS AND GRADE TO PROVIDE POSITIVE DRAINAGE.

24. ROLL LAWN AREA TO INSURE PROPER COMPACTION TO MINIMIZE SETTLING.

25. AMEND SOIL IN LAWN AREAS WITH 80 LBS. OF DOLOMITE LIME AND 40 LBS. OF 10-20-20 SLOW RELEASE FERTILIZER OR EQUIVALENT. PROVIDE A 3" LAYER OF SANDY LOAM TOPSOIL FOR LAWN AND BED AREA.

26. SEED LAWN AREAS WITH GRASS SEED MANUFACTURER'S RECOMMENDATIONS. COVER SEED WITH FINE MULCH APPLIED WITH ROLLER OR HYDROSEED.

27. THE PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING TURF PLANTED WITHIN THE RIGHT OF WAY.

28. PLANT MATERIAL SHALL BE PLANTED W/ ROOT CROWN 1" ABOVE FINISHED GRADE TO ALLOW POSITIVE DRAINAGE AWAY FROM CROWN.

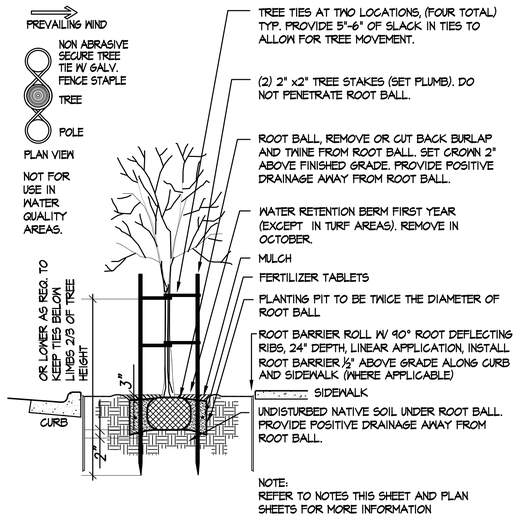
29. STAKE ALL TREES OVER 6 FT. IN HEIGHT PER DETAIL 'A' AND 'B' ON THIS SHEET.

30. REFER TO DETAILS FOR ADDITIONAL INFORMATION.

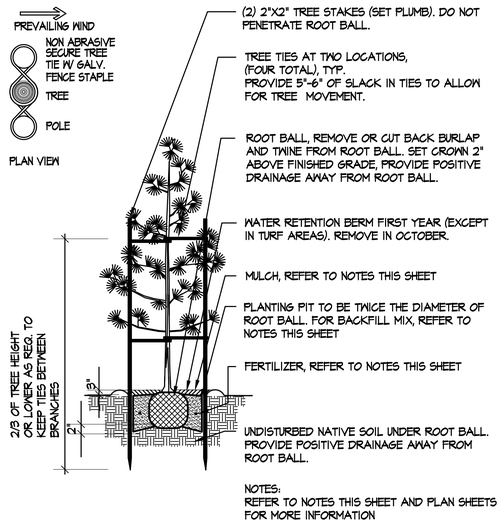
31. ALL PLANTING SHALL BE IRRIGATED BY AN AUTOMATIC UNDERGROUND SPRINKLER SYSTEM.

32. ALL PLANT MATERIALS FURNISHED ARE TO BE HEALTHY, UNIFORMLY BRANCHED AND WITH WELL DEVELOPED FIBROUS ROOT SYSTEMS.

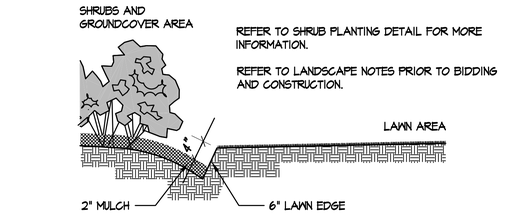
33. ALL PLANT MATERIALS FURNISHED ARE TO BE FREE FROM DEAD OR BROKEN BRANCHES, LICHENS, SCARS, BROKEN BARK OR WOUNDS. ALL PLANT MATERIALS WILL BE INSECT, WEED, AND DISEASE FREE ACCORDING TO THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF AGRICULTURE FOR NURSERY PLANT MATERIALS SOLD FOR WHOLESALE OR RETAIL. ALL PRUNING WOUNDS MUST BE WELL HEALED WITH NO EVIDENCE OF DECAY.



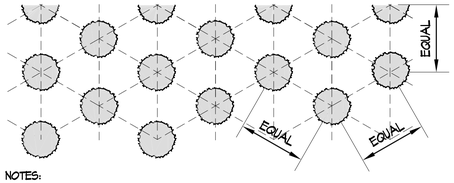
A B & B Tree Planting Detail
Not To Scale — SECTION / PLAN VIEW



B B & B Tree Planting Detail: Evergreen under 8' Height
Not To Scale — SECTION / PLAN VIEW



C Lawn Edge Detail
Not To Scale — SECTION

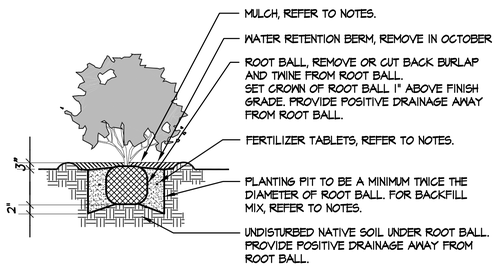


NOTES:

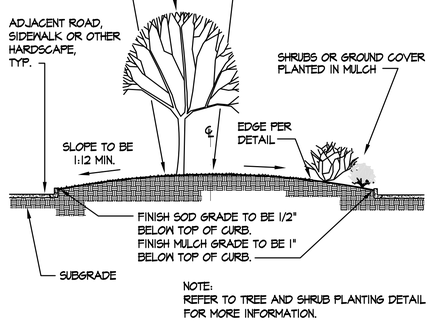
ALL GROUND COVER SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING AS SPECIFIED IN PLANTING LEGEND.

GROUND COVER TO BE LOCATED ONE HALF OF SPECIFIED SPACING DISTANCE FROM ANY HARD SURFACE, UNLESS OTHERWISE SPECIFIED.

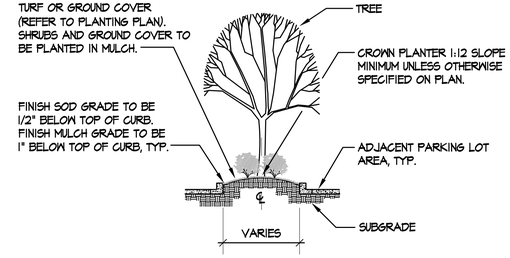
D Ground Cover Planting Detail
Not To Scale — PLAN VIEW



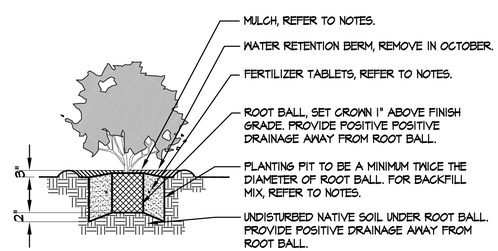
E B & B Shrub Planting Detail
Not To Scale — SECTION



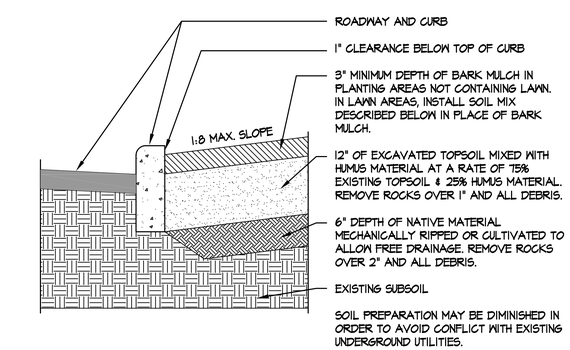
F Typical Curbed Planter Area
Not To Scale — SECTION A-A



G Typical Parking Finger Planter Area
Not To Scale — SECTION B-B



H Container Ground Cover Planting Detail
Not To Scale — SECTION



I Soil Section at Curb within Planting Strips & Finger Islands
Not To Scale — SECTION

ALL DETAILS SHOWN MAY NOT BE REQUIRED FOR THIS PROJECT.

Planning Solutions, Inc.
Creating Solutions to Complex Issues
4400 NE 77th Avenue
Suite 275
VANCOUVER, WA 98662
VOICE: 360-750-9000 FAX: 360-713-6102
www.planningsolutionsinc.com

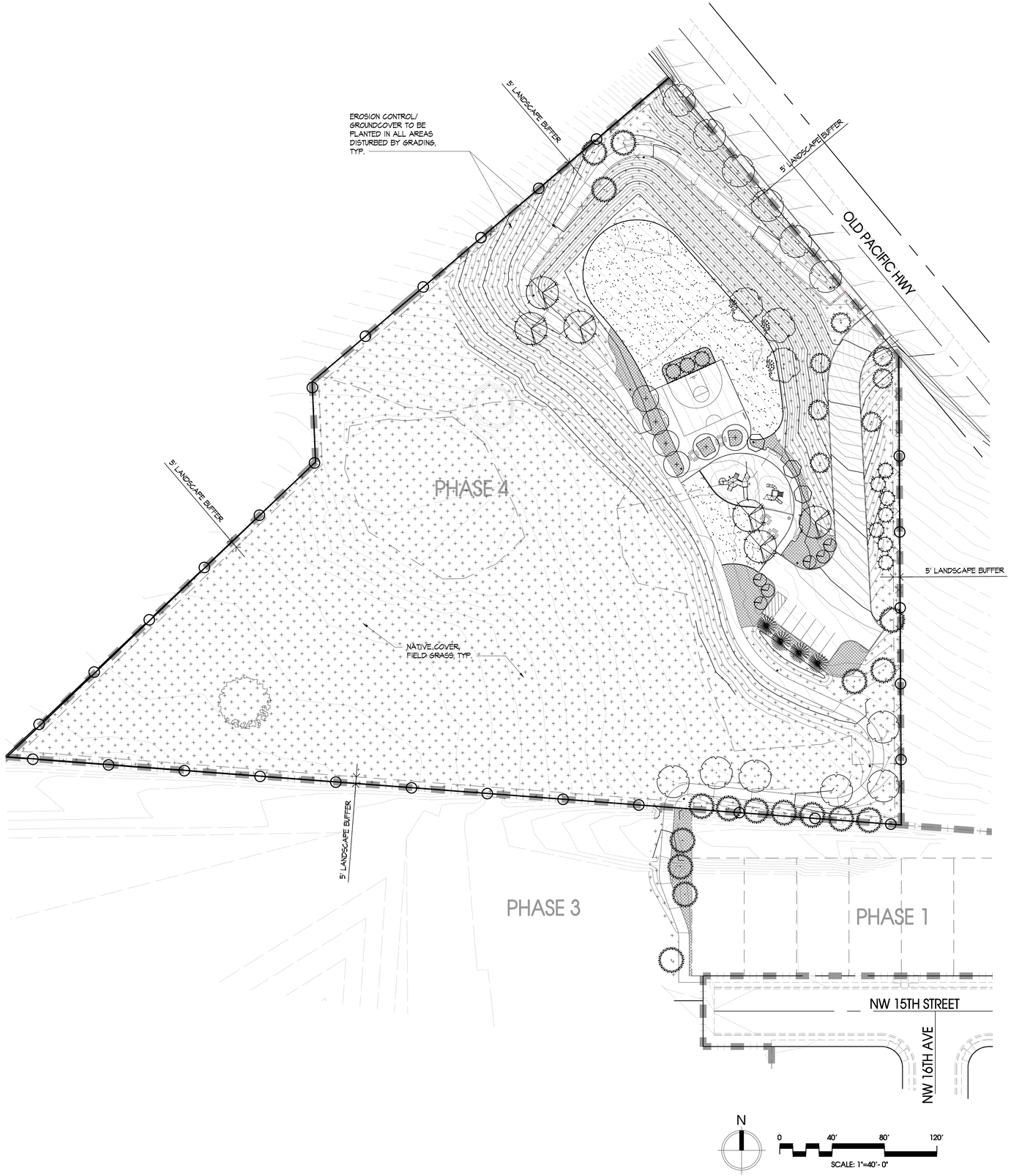
STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
CHRISTOPHER A. BAUMANN
LICENSE NO. 635
EXPIRES ON 02/20/2021

RIVERSIDE NEIGHBORHOOD PARK
La Center, Washington

DRAWN: BOP	CHECKED: CB
SCALE: AS SHOWN	DATE: 10-20-20
JOB #: 20-155A	
ISSUED FOR: PLR	
REVISIONS:	
1	
2	
3	
4	
5	
6	

SHEET NAME:
PRELIMINARY LANDSCAPE DETAILS

SHEET #:
L2
SHEET 8 OF 8



PLANT LEGEND

TREES

SYMBOL	BOTANICAL / COMMON NAME	SIZE	QUANTITY	MATURE PLANT SIZE
	ACER RUBRUM 'ARMSTRONG' / ARMSTRONG MAPLE	2" Cal. Min.	6	SPREAD by HEIGHT 20'x50'
	ACER RUBRUM 'RED SUNSET' RED SUNSET MAPLE	2" cal. Min.	12	35'x45'
	THUJA PLICATA 'HOGAN' / HOGAN'S WESTERN RED CEDAR	6' ht. Min.	17	10'x20'
	PICEA OMORIKA/ OMORIKA SPRUCE	6' ht. Min.	4	25'x50'
	POPULUS TREMULA 'ERECTA'/ SWEDISH ASPEN	2" Cal. Min.	6	10'x40'
	PRUNUS SERRULATA 'KWANZAN' / KWANZAN CHERRY	2" Cal. Min.	3	20'x25'
	PYRUS CALLERYANA ' CHANTICLEER' / CHANTICLEER FLOWERING PEAR	2" Cal. Min.	7	20'x30'
	TILIA CORDATA / GREENSPIRE LINDEN	2" Cal. Min.	3	30'x60'
	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID' / VANDERWOLF PINE	6' ht. Min.	10	15'x25'
	ZELKOVA SERRATA / VILLAGE GREEN SELKOVA	2" Cal. Min.	6	45'x50'

SHRUBS

SYMBOL	BOTANICAL / COMMON NAME	MATURE PLANT SIZE
PER FINAL LANDSCAPE PLAN		SPREAD by HEIGHT
	FESTUCA GLAUCA / BLUE FESCUE	1'x1.5'
	ILEX X MESERVEAE 'BLUE BOY / BLUE BOY HOLLY	4'x5'
	KALMIA LATIFOLIA 'ELF' / ELF MOUNTAIN LAUREL	4'x4'
	MAHONIA AQUIFOLIUM 'COMPACTA' / COMPACT OREGON GRAPE	3'x3'
	MISCANTHUS SINENSIS 'MORNING LIGHT' / MORNING LIGHT MAIDEN GRASS	6'x6'
	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE	10'x15'
	NANDINA DOMESTICA 'FIREPOWER' / FIREPOWER NANDINA	1.5'x2'
	NANDINA DOMESTICA 'MOONBAY' / MOONBAY NANDINA	2'x3'
	PIERIS JAPONICA 'CAVATINE' / CAVATINE PIERIS	3'x4'
	PIERIS JAPONICA 'VARIEGATA' / VARIEGATED PIERIS	3'x4'
	PRUNUS LAUROCERASUS 'SCHIPKAENSIS' SCHIPKA CHERRY LAUREL	5'x6'
	VIBURNUM DAVIDII / DAVID VIBURNUM	3'x3'
	TURF - SOD OR SEED	

IRRIGATION NOTE

ALL LANDSCAPE AREAS SHALL BE IRRIGATED WITH A DRIP, SPRAY OR HOSE BIB IRRIGATION SYSTEM. REFER TO CIVIL ENGINEERING PLANS FOR WATER SOURCE.

REFER TO SHEET L2 FOR FOR DETAILS / NOTES.

Planning Solutions, Inc.
Creating Solutions to Complex Issues
4400 NE 77th Avenue
Suite 275
VANCOUVER, WA 98662
VOICE: 360-750-9000 FAX: 360-713-6102
www.planningsolutionsinc.com

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
CHRISTOPHER A. BAUMANN
LICENSE NO. 635
EXPIRES ON 02/20/2021

RIVERSIDE NEIGHBORHOOD PARK

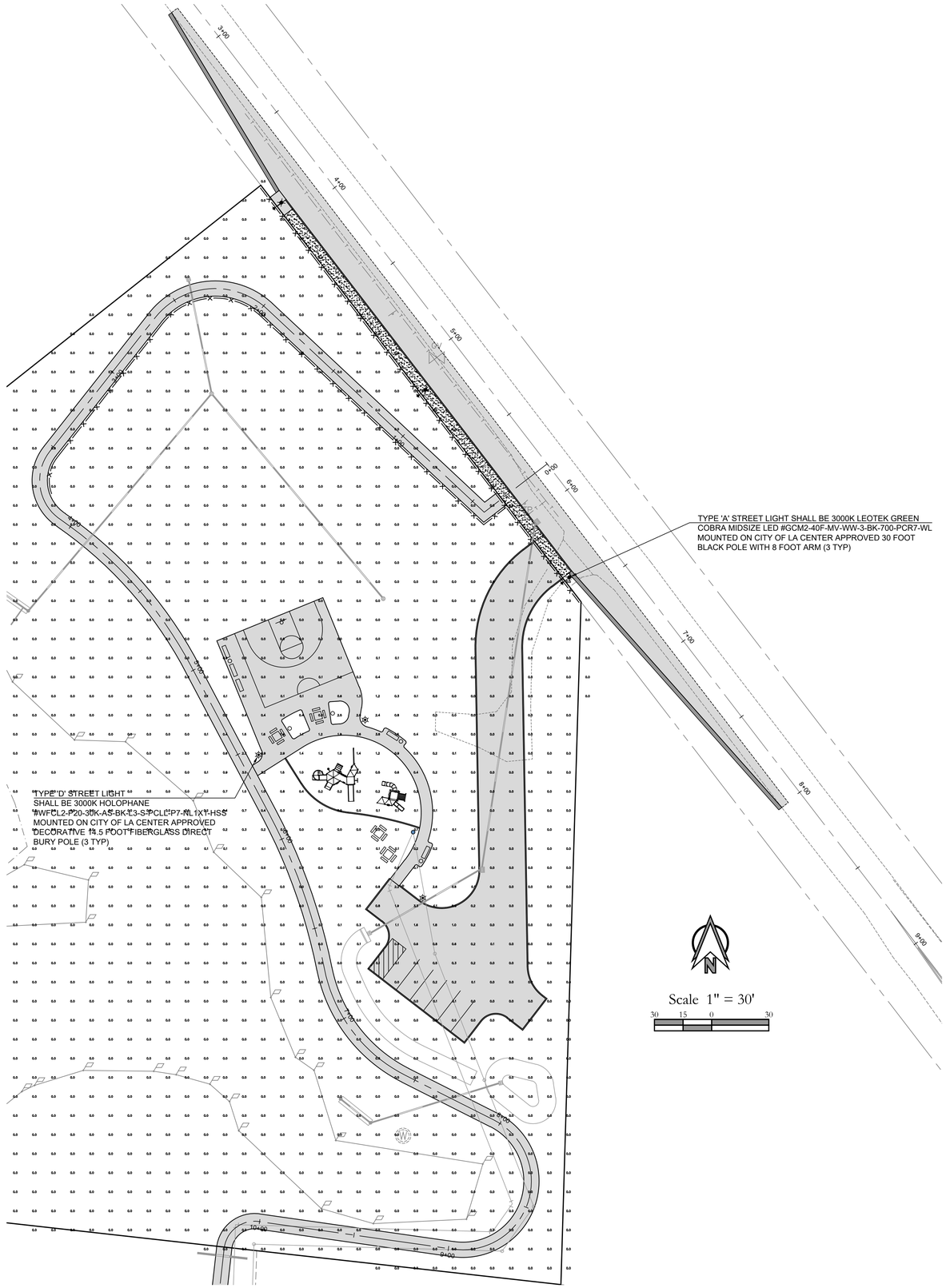
La Center, Washington

DRAWN: CB	CHECKED: CB
SCALE: AS SHOWN	DATE: 10-20-20
JOB #: 20-1559	
ISSUED FOR: PLR	

REVISIONS:
1
2
3
4
5
6

SHEET NAME:
PRELIMINARY LANDSCAPE PLAN

SHEET #:
L1



HOLOPHANE
LEADER IN LIGHTING SOLUTIONS

Catalog Number: WFCL2-P20-30K-AS-BK-L3-S-P7-PCLL-HSS-NL1X1
Notes:
Type: D

WFCL2
Utility Washington Series Luminaire Full Cutoff LED2

Mechanical
- Heavy-grade A360-cast aluminum (<1% copper)
- Tool-less access with a spring-loaded latch
- Hinged door assembly allows opening the door to swing open and remain open
- Optional internal or external NEMA twist lock photocontrol receptacle. Housing contains a tempered glass window to allow light to reach the cell for internal versions.
- Mount to slip-fitter that will accept 2" high by 2-7/8" to 3-1/8" O.D. pole tenon
- Decorative top cover contains stainless steel hinge which secures entry the LED optical chamber
- Polyester powder coat paint to ensure maximum durability
- Finish meets 5,000-hour salt spray testing
- Holophane and RAL Classic finishes.

Electrical
- Surge protection meets ANSI/IEEE C62.41.2 10kV/10kA.
- Standard UPS meets 10kV/5kA per ANSI C136.2-2015.
- 208V Option meets 20kV/10kA per ANSI C136.2-2015.
- Quick disconnect connectors for ease of installation and maintenance.
- Three pole terminal block is standard, with optional prewired leads for ease of installation
- LED drivers meet maximum total harmonic distortion (THD) of 20%, >0.90 Power factor and are ROHS compliant.
- Maximum operating temperature is +40C. Electronic driver has an estimated minimum life of 100,000 hours at 25°C.

Optical
- IP65 rated optical compartment
- LED circuit board located in the top cover
- Asymmetric or Symmetric full cutoff distributions
- 2700K, 3000K, 4000K, and 5000K CCT
- 70CRI Standard

Control Options
- Field Adjustable Output (AO) module - Onboard device that adjusts the light output and input wattage to meet site lighting requirements. Module is preset at the factory to position number 6 (see chart).
- Wireless remote control for monitoring performance and/or maintenance of the system — RUVA
- Factory Programmed Driver (FPDxx) – Customize lumen output prior to manufacturing and still enables control leads so other options can also be used.
- Long Life Photocontrols (PCLL) - 20 Year Life
- 3 and 7 pin photocontrol receptacles internally (P3, P7) or externally (EP3, EP7) mounted.
- Pure-night dimming (PND) enables luminaire to monitor and adjust 50% lumens based on season and geographic location, 8-day rolling average

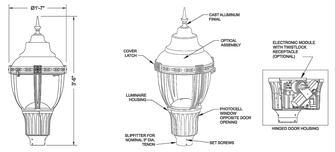
Testing/Compliance
- UL 1598 - Wet Locations Safety Listing
- Suitable for ambient temperatures -40°C to 40°C
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check with the DLC Qualified Products List at www.designlights.org/QPL for updated list.

Manufacturing
- Manufactured in Crawfordsville, Indiana, ARRA compliant
- 100% electrical testing on all luminaires before shipment
- Ten (10) years minimum experience in manufacturing LED based products

Warranty
5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_Conditions.aspx.

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25°C.
Specifications subject to change without notice.

DIMENSIONAL DATA



Maximum Weight - 17 lbs
Maximum Effective Projected Area - 1.72 sq. ft.

AcuityBrands. | Holophane | 3825 Columbus Rd., Granville, OH 43023 | Phone: 866-ROLOPHANE | www.holophane.com

Rev. 08/30/18 Specifications are subject to change without notice.
WFCL2 Page 1 of 3

WFCL2
Utility Washington Series Luminaire Full Cutoff LED2

HOLOPHANE
LEADER IN LIGHTING SOLUTIONS

ORDERING INFORMATION **Example:** WFCL2 P20 30K AS GN L2 N PF3

Series	Lumen Package	LED Color Temperature	Voltage	Mounting Color	Optics	Finial
WFCL2 Utility Washington LED FCF	P10 5,500 nominal lumens (amber only) P20 6,500 nominal lumens P30 8,500 nominal lumens P40 8,500 nominal lumens P50 11,500 nominal lumens	AM Trace amber 27K 2700K CCT 30K 3000K CCT 40K 4000K CCT 50K 5000K CCT	AV Auto-sensing voltage (120 thru 277) 50/60 HZ AH Auto-sensing voltage (347 thru 480) 50/60 HZ	BK Black GB Grey GN Graphite GN Green PP Prime paint WH White BZ Bronze TXC RAL Color color (RAL**) CMC Custom color match	L2 Type 2 distribution full-cutoff L3 Type 3 distribution full-cutoff L4 Type 4 distribution full-cutoff L5 Type 5 distribution full-cutoff	N None B Ball S Spike

Options: *Option Compatibility Matrix on page 2 of 4*

AO	Field Adjustable Output	PJE	NEMA® Twist Lock Dimming Photocontrol Receptacle - 3 PIN. Externally mounted
DC	NEMA Hardware Decathlon and DCW Factory Installed	PJTE	NEMA Twist Lock Dimming Photocontrol Receptacle - 7 PIN. Externally mounted
FPDxx	Factory Programmed Driver	RME	NEMA® Node (External)
P3	NEMA Twist Lock photocontrol receptacle - 3 PIN receptacle only	RME3	347V NEMA® NODE (External)
P7	NEMA Twist Lock Dimming photocontrol receptacle - 7 PIN receptacle only	RME4	480V NEMA® NODE (External)
PCL	DTL twist-off photocontrol for solid-state lighting 120-277V	PSC	Shorting cap
PCLT	DTL long-life twistlock photocontrol for solid-state 4/5	SHS	House side-shield
PT4	DTL long-life twistlock photocontrol for solid-state 347V		
PT5	DTL long-life twistlock photocontrol for solid-state 480V		
PWD	Part night dimming - down to 50%		

L30	1.5 fly prewired leads	L50	30 ft prewired leads
L03	3ft prewired leads	L10	10 ft prewired leads
L10	10 ft prewired leads	L20	20 ft prewired leads
L20	20 ft prewired leads	L25	25 ft prewired leads
L25	25 ft prewired leads	L30	30 ft prewired leads
L30	30 ft prewired leads	WLSH	NEMA Label 7" X 1"
WLSH	NEMA Label 7" X 1"	WL2X2	NEMA Label 2" X 2"
WL2X2	NEMA Label 2" X 2"	208V	208V/10kA surge protection
208V	208V/10kA surge protection		

Accessories *Order as separate catalog number.*

XA12.0410	Field Accessory - Louvered house side shield (Qty 1)
XA12.0410.10	Field Accessory - Louvered house side shield (Bulk Qty 50)
XA12.2PSTV10KA5	10kV/5kA Extreme surge 120-277V
XA12.2PSTV40KA4	10kV/5kA Extreme surge 480V
XA12.2PSTV20KA5	20kV/10kA Extreme surge 120-277VV
XA12.2PSTV20KA4	20kV/10kA Extreme surge 480V

FINIAL INFORMATION
Mark Appropriate Box for Finial Options

AcuityBrands. | Holophane | 3825 Columbus Rd., Granville, OH 43023 | Phone: 866-ROLOPHANE | www.holophane.com

Rev. 08/30/18 Specifications are subject to change without notice.
WFCL2 Page 2 of 3

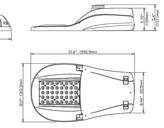
2 TYPE D LUMINAIRE
NO SCALE

LEOTEK
IS LED GEN GROUP

Project
Type A1
Catalog No. GCM2-40F-MV-WW-3-GY-700-PCR7-WL

GreenCobra® Midsize LED Street Light
GCM F-Series Specification Data Sheet

Luminaire Data
Weight 10 lbs [4.6 kg]
EPA 0.44 ft²



Ordering Information
Sample Catalog No. GCM2 30F MV NW 2-GY 700 PCR7 WL

Product	LED Code	Voltage	Color Temperature	Distribution	Finish[1]	Drive Current	Options
GCM1 30F@ 350 to 700mA GCM2 30F@ 700mA to 1A, 40F @ 700mA to 1A	30F 40F	MV 120-277V, HV 347-480V	WW 3000K, NW 4000K, CW 5000K	3 Type 2, 4 Type 3	GY Gray, DB Dark Bronze, BK Black	350[2] 350mA, 530[2] 530mA, 700 700mA, 1A[3] 1A	FDC[4] Fixed Drive Current full Field Adjustability, FPA[5] Less Photocontrol Receptacle, LPCR Less Photocontrol Receptacle, PCR7 ANSI 7-wire Photocontrol Receptacle, PCR7-CR[6] Control Ready 7-wire PC Receptacle, WL Utility Wattage Label, 4B 4-Bolt Mounting Bracket, RWG Rubber W/Idlife Guard, CF[7] Coastal Paint Finish

Notes:
1 Gray, Black and Dark Bronze standard, consult factory for other finishes.
2 Specified drive current code is the factory set maximum drive current. Field adjustable current selector enables standard dimming to lower wattage drive currents only. Consult factory if wattage limits require a special drive current.
3 350mA and 530mA drive current available with GCM1 only.
4 1A drive current available with GCM2 only.
5 Non-field adjustable, fixed drive current. Specify required drive current. Not available with PCR7-CR option.
6 The FPA option enables full field adjustability from the specified drive current code to all drive currents available. This option is not DLC qualified.
7 Field adjustable current selector included to enable standard dimming to lower wattage drive currents only. Field changeable connectors included to enable connection to PCR7 (wireless node dimming is disabled by default).
8 Control-ready wiring at factory for wireless node dimming. Default maximum drive current (700mA or 1A) must be specified.
9 Specify the CF Option for coastal installation. See warranty for details.
10 Flush mounted house side shield. Shield cuts light off at 1/2 mounting height behind luminaire.
11 Flush mounted cut-de-sac shield. Shield cuts light off at 1/2 mounting height behind luminaire and 1-1/2 mounting height on either side of luminaire.
12 Specify Color (GY, DB, BK)
13 Specify MV (120-277V) or HV (347V-480V)

Accessories*
HSSGCM[10]	House Side Shield, Snap-On*
CSSGCM[11]	Cut-De-Sac Side Shield, Snap-On*
SPB[12]	Square Pole Horizontal Arm Bracket
RPB[12]	Round Pole Horizontal Arm Bracket
PTB[12]	Pole Top Tenon Horizontal Arm Bracket
WB[12]	Wall Horizontal Arm Bracket
BSK	Bird Deterrent Spider Kit
LLPC[13]	Long-Life Twist Lock Photocontrol
SC	Twist Lock Shorting Cap

*Accessories are ordered separately and not to be included in the catalog number. For factory installed HSS, CSS specify as option in luminaire catalog number.

1 TYPE A LUMINAIRE
NO SCALE

811 Know what's below. Call before you dig.

Prelminary Lighting Plan For:

Riverside Neighborhood Park

A Site Located in La Center, Washington

Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

PLS ENGINEERING

Revisions

1	2	3	4	5	6

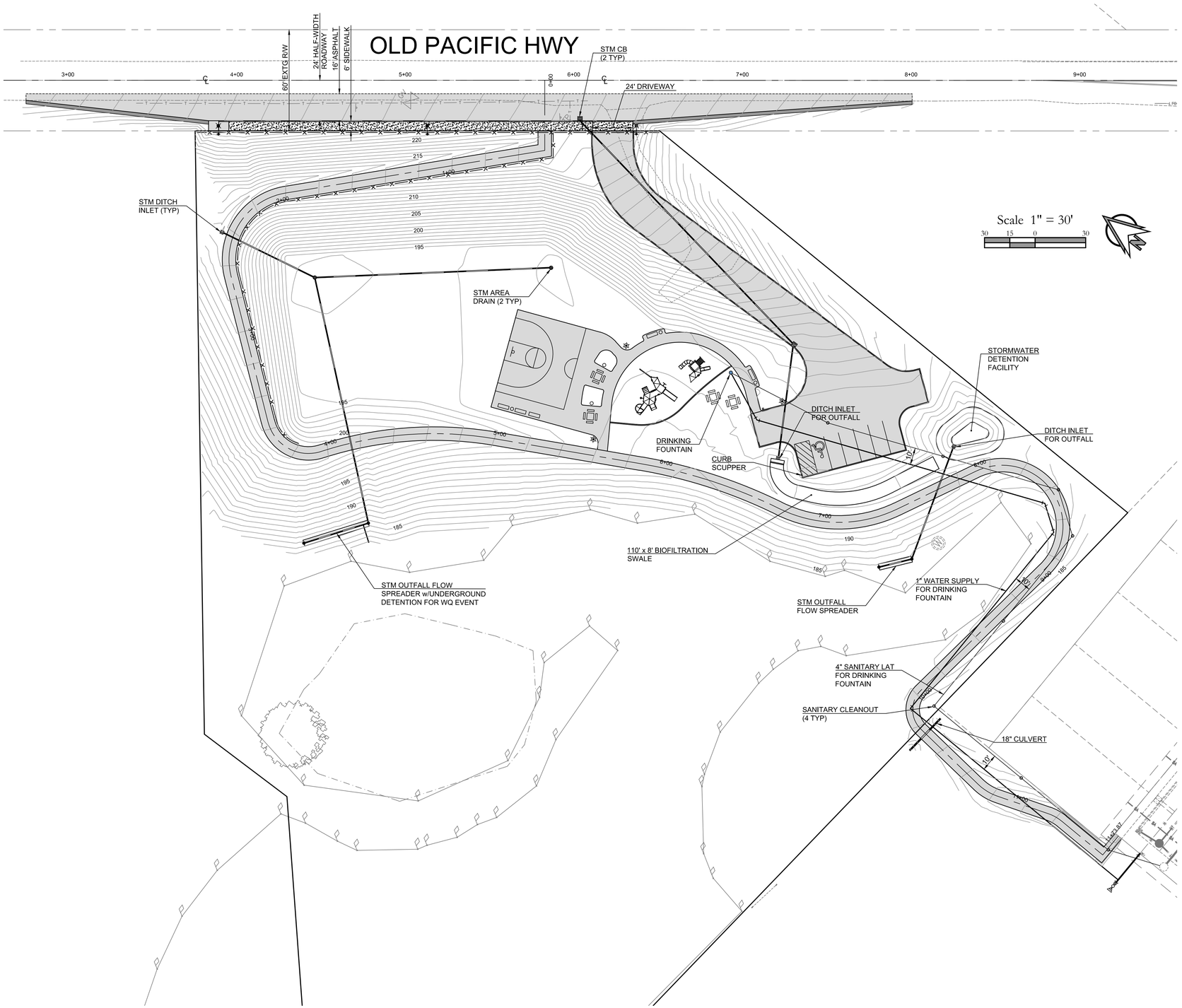
SCOTT W. GILLILAND — STATE OF WASHINGTON — 22773 — REGISTERED PROFESSIONAL ENGINEER — 10/26/20

Project No. 2641	
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	SWG
DRAFTED BY:	CAC
REVIEWED BY:	TGJ

6 / 8

Riverside Neighborhood Park

Located in the SE ¼ of Section 33, T5N, R1E and
the NE ¼ of Section 4, T4N, R1E, W.M.
La Center, Washington



Know what's **below.**
Call before you dig.

Preliminary Utilities Plan For:

Riverside Neighborhood Park

A Site Located in La Center, Washington

Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

PLS ENGINEERING

Revisions

1	2	3	4	5	6

SCOTT W. GILLILAND
STATE OF WASHINGTON
42773
REGISTERED PROFESSIONAL ENGINEER
10/6/20

Project No.	2641
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	SWG
DRAFTED BY:	CAC
REVIEWED BY:	TGJ

4
8

Exhibit 3

BANK USE PLAN

July 23, 2020

Neighborhood Park Project
La Center, Washington

Prepared for

ECM Riverside LLC
340 Oswego Pointe Drive , Suite 208
Lake Oswego, Oregon 97034
(503) 454-6551

Prepared by

Ecological Land Services
1157 3rd Avenue, Suite 220A • Longview, WA 98632
(360) 578-1371 • Project Number 2776.01

SIGNATURE PAGE

The information and data in this report were compiled and prepared under the supervision and direction of the undersigned.

Steffanie Taylor
Senior Biologist/Principal

Keelin Lacey
Biologist

TABLE OF CONTENTS

Tables

Figures

RESPONSIBLE PARTIES

APPLICANT

ECM Riverside LLC
Attn: Rachel Page
340 Oswego Pointe Drive, Suite 208
Lake Oswego, OR 97034
(503) 454-6551

PROJECT ENGINEER

PLS Engineering
Attn: Travis Johnson, P.E.
2008 C Street
Vancouver, WA 98663
travis@plsengineering.com
(360) 944-6519

ENVIRONMENTAL CONSULTANT

Ecological Land Services, Inc.
Attn: Steffanie Taylor, Senior Biologist
1157 3rd Avenue, Suite 220A
Longview, Washington 98632
steff@eco-land.com
(360) 578-1371

INTRODUCTION

Ecological Land Services, Inc. (ELS) prepared this Bank Use Plan for ECM Riverside LLC for indirect wetland impacts resulting from the proposed Neighborhood Park project north of the Riverside Estates subdivision in the City of La Center, Washington. The 5.19-acre project site is located on Parcel Number 986028825 within Section 33, Township 5 North, and Range 1 East of the Willamette Meridian (Figures 1 through 5). Construction is anticipated to begin in summer 2020.

The proposed project will indirectly impact 0.41 acres of Category III Wetland A to accommodate a paved trail associated with the park (Figure 3). Approximately 0.29 acres of temporary impacts from grading will occur within the buffer that will be restored to pre-project condition and one jurisdictional ditch will be crossed. Mitigation will consist of purchasing 0.21 credits from the East Fork Lewis Mitigation Bank (EFLMB) in order to:

1) Compensate for indirect Category III wetland impacts and
2) Ensure no net loss of ecological wetland and buffer functions

In accordance with Nationwide Permit NWS-2018-167 issued on December 20, 2018 for the Riverside Estates subdivision being constructed to the south, 1.29 acres of indirect impacts to a portion of Wetland A and 0.33 acres of indirect impacts to Wetland BB located offsite to the east were approved and mitigated at EFLMB. Only new indirect impacts outside of the previously approved and mitigated indirect impacts are being calculated for the Neighborhood Park project.

This Bank Use Plan was prepared according to the City of La Center Municipal Code (LCMC), *Chapter 18.300.090, Critical Lands* (2018), the Interagency Review Team (IRT) for Washington State's Guidance Paper, *Using Credits from Wetland Mitigation Banks: Guidance to Applicants on Submittal Contents for Bank Use Plans* (2009), the Washington State Department of Ecology (Ecology) *Wetland Mitigation in Washington State* (2006), and the U.S. Army Corps of Engineers' (Corps) *Compensatory Mitigation for Losses of Aquatic Resources* (33 C.F.R. §332 (2008)).

Critical area data used to prepare this Bank Use Plan is a compilation of data sourced from critical areas reports prepared by Loowit Consulting Group LLC (LCG) and Ecological Land Services, Inc. (ELS). LCG's report is titled *Critical Areas Report for Riverside Estates Project La Center, Washington* (LCG June 29, 2018) and is available upon request. ELS's report is also titled *Critical Areas Report for Riverside Estates Project La Center, Washington*, dated September 11, 2018 and is located in Appendix C. An additional site visit was conducted in January 2020 by ELS to reconfirm the eastern boundary of Wetland A (delineated by ELS) in preparation for development of the Neighborhood Park project. Changes to Wetland A's boundary and other minor revisions to ELS' 2018 report are addressed in an *Addendum to the Critical Areas Report for Riverside Estates La Center, Washington* dated July 23, 2020 located in Appendix A.

PROPOSED DESCRIPTION

PROJECT LOCATION

The project site consists of a 5.19-acre parcel, Tax Parcel Number 986028825 in La Center, Washington. The property is located near the intersection of Old Pacific Highway and Larsen Road and is directly north of the Riverside Estates subdivision (Figure 1).

PROPOSED DEVELOPMENT

The applicant is proposing a neighborhood park on the property with a paved 8-foot wide ADA pathway, sport courts, and parking area that will be accessed from Old Pacific Highway. The pathway will extend from the Riverside Estates subdivision to the south, cross the jurisdictional ditch, and wind around Wetland A, terminating at Old Pacific Highway. The paved parking area will be placed on the eastern side of the property, outside of Wetland A's buffer. A stormwater facility will be located south of the main parking area that will discharge treated water to a flow spreader located in southern portion of Wetland A's buffer. Catch basins will capture runoff from the north portion of the site and discharge treated water to a flow spreader in the northern portion of Wetland A's buffer. An 18-inch culvert will be placed in the ditch when it is dry to construct the crossing. The project will include clearing and grading of herbaceous vegetation within the buffer, which is considered a temporary impact (Figure 3). A water line and sanitary line will be extended from the Riverside Estate subdivision paralleling the trail in most locations. A portion of the waterline will be trenched through the graded buffer area. Prior to construction of the trail and other park elements, clearing limits will be demarcated with orange construction fencing or silt fencing. One construction access will be installed off of Old Pacific Highway and staging areas will be located in uplands outside of critical area buffers (Figure 3). Additional best management practices are discussed in the Avoidance and Minimization Section later in this report. Construction is anticipated to start upon receipt of permits in summer 2020.

Construction activities will indirectly impact 0.41 acres of Wetland A due to insufficient buffer and will involve 0.29 acres of temporary buffer impact to Wetland A from grading activities and utility trenching. All direct impacts have been avoided. The temporarily impacted areas will be reseeded with a native buffer seed mix upon completion of the project. The impacted areas within the buffer mostly consist of regularly mowed reed canarygrass (*Phalaris arundiancea*) and other herbaceous species, so the native seed mix will adequately restore the temporarily impacted areas to pre-project condition resulting in no net loss of function.

EXISTING CONDITIONS

EXISTING AND SURROUNDING LAND USES

The project site is bordered to the northeast by Old Pacific Highway and the Riverside Estates subdivision to the south. Additional surrounding properties consist of single-family residences and agricultural fields. Historically, the property has been used for farming and livestock and is currently vacant. Approximately 0.25 acres within Wetland A is an existing conservation area established as mitigation for an earlier project. There are no proposed impacts to this area. The property is zoned Medium Density Residential (MDR-16): single-family dwellings with associated shared driveways, stormwater facilities, utility installation, and road improvements.

LANDSCAPE POSITION

The project site is located on a high terrace above the East Fork Lewis River, approximately 1.5 miles from its confluence with the mainstem Lewis River. The Washington State Department of Ecology's Water Quality Atlas maps the project site within lower portion of Watershed Resource Inventory Area (WRIA) 27 – Lewis Watershed, and is within the 12-digit Hydrologic Unit Code (HUC): 17080002507.

CRITICAL AREAS DESCRIPTIONS

ELS completed a critical areas assessment for the subject property on August 8 and 19, 2018 delineating Wetland A and the jurisdictional ditch. In January 2020, ELS also reconfirmed the eastern boundary for Wetland A. Small changes were made along the southeastern portion of the boundary and are discussed in the *Addendum to the Critical Areas Report for Riverside Estates* (ELS 2020) located in Appendix A. The original critical areas report prepared by ELS is included in Appendix C and contains detailed information regarding delineation methodology, wetland characteristics, and wetland ratings. Wetland BB, located east of the park project and shown on Figure 3, was delineated by LCG June 29, 2018. The Neighborhood Park project will not impact Wetland BB therefore it is not discussed further but is shown on the figures due to its proximity to the project site. Indirect impacts to the entirely of Wetland BB were approved and mitigated in accordance with NWS-2018-167 issued on December 20, 2018 for the Riverside Estates subdivision being constructed to the south.

Wetland A

Wetland A is a Category III emergent, scrub-shrub, slope and depressional wetland totaling 2.14 acres onsite that covers approximately half of the Neighborhood Park property. The majority of the wetland consists of a slope that was bordered by an obvious change in vegetation and hydrology. A man-made farm pond comprises the depressional portion of the wetland which was bordered by a berm along the southern edge that was approximately five feet high. Scrub-shrub vegetation within the wetland consists primarily of black hawthorn (*Crataegus douglasii*), red-osier dogwood (*Cornus sericea*), and willow (*Salix spp.*). Emergent areas were dominated by reed canarygrass (*Phalaris arundinacea*) and tall fescue (*Schedonorus arundinaceus*) and experience annual mowing. Wetland hydrology likely comes from upslope runoff, a seasonally high groundwater table, and precipitation. Hydroperiods of Wetland A include permanently flooded, seasonally flooded, and saturated only. The wetland functions to slow surface flow and

to recharge groundwater. The farm pond comprises at least ten percent of the total wetland area and therefore the depressional hydrogeomorphic (HGM) class was used for rating. According to the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Rating System), Wetland A is a Category III depressional wetland scoring a total of 19 points: 7 points for water quality functions, 5 points for hydrologic functions, and 7 points for habitat functions (Hruby 2014). According to *Table 18.300.090(6)(h)(i)-2* of the LCMC, designated buffer widths for a Category III wetland with a moderate habitat function and a moderate intensity land use is 110 feet.

Wetland Buffers

The buffer of Wetland A and uplands on the Neighborhood Park property are actively mowed and consist of pasture grasses and forbs including hairy cat's ear, sweet vernalgrass (*Anthoxanthum odoratum*), sheep sorrel (*Rumex acetosella*), velvetgrass (*Holcus lanatus*), red fescue (*Festuca rubra*), and bentgrass (*Agrostis* species) providing limited refuge, screening, and habitat opportunity functions. The buffers do allow wildlife movement (although not under cover) and provide forage. Those portions of the buffers uphill from the wetlands provide sediment trapping, nutrient uptake, and slow runoff, although these functions are also limited because of annual mowing.

Jurisdictional Ditch

A man-made, jurisdictional ditch averaging 3-feet-wide flows west along the southern boundary of Wetland A along the southern property boundary. The ditch continues offsite in a southwesterly direction to a farm pond adjacent to the north side of NW Hunter Lane. A stream appears to form south of NW Hunter Lane based on topography. This stream flows into the East Fork of the Lewis River and is mapped as a Type N Stream by the Department of Natural Resources (DNR) Forest Practices Application Mapping Tool (2018). The ditch is jurisdictional and is exempt from buffer requirements.

Oregon white oak

One 36-inch diameter at breast height (DBH) Oregon white oak (*Quercus garryana*) tree was mapped in the western portion of Wetland A. The isolated oak is not surrounded by other trees and is within a pasture that is regularly mowed. No project work will occur near the oak. According to *LCMC 18.300.090(2)(iv)*, Oregon white oak trees are considered priority habitat and species by the Washington Department of Fish and Wildlife (WDFW) therefore the City shall defer to WDFW in regards to classification, mapping, and interpretation of priority habitat species, and regulations.

Table 1 below summarized the critical area onsite.

Table 1. Summary of Critical Areas.

Critical Area	Category[1]/Cowardin Class[2]/HGM Class[3]	Size Onsite	Buffer Width[4]
Wetland A	III/Emergent, Scrub-Shrub/Slope and Depressional	2.14 acres	110 feet
Jurisdictional Ditch	Seasonal	3 ft. wide	None
Oregon White Oak	N/A	36 inches DBH	None

[1]Hruby 2014
[2]Cowardin et al. 1979
[3]NRCS 2008
[4]LCMC 18.300.090(6)(h)(i)-2

AVOIDANCE AND MINIMIZATION OF IMPACTS

The preferred mitigation sequencing of first avoidance, then minimization, and finally compensation for unavoidable wetland impacts was taken into consideration during the project design process. The proposed development has been designed to avoid direct impacts to Wetland A. Due to site constraints from the wetland and topography, there is not enough room to avoid the buffer of Wetland A. The ditch crossing will be constructed in the dry to prevent sedimentation and an 18-inch culvert will be used to maintain adequate water flow. The trail will be constructed as far away as possible from with wetland boundaries in the southeastern portion of the site given the proximity to the property lines and the ditch. Grading is needed to ensure the trail slopes are ADA compliant. Silt fencing will be installed at the edge of grading to prevent sedimentation and inadvertent intrusion in the wetland. Parking and sport court areas are located on the north/northeast side of the trail, away from the wetland and where topography is less sloped. Stormwater facilities will capture runoff and it will discharge to flow spreaders located within the buffer. The flow spreaders will prevent erosion and scour within the buffer and the discharged water will help maintain wetland hydrology. One construction entrance will be installed off of Old Pacific Highway and staging areas will be designated in upland areas outside of critical area buffers. Signage will be installed every 200 feet along the remaining buffer adjacent to the trail that reads "The area beyond this sign is a critical area or buffer. Alteration or disturbance is prohibited by law. Please call the City of La Center for more information." Signs will be affixed to wood treated or metal posts.

UNAVOIDABLE WETLAND IMPACT ACREAGE

All direct wetland impacts have been avoided; however due to site constraints from the wetland and topography, trail construction will indirectly impact 0.41 acres of Wetland A due to

insufficient buffer. In accordance with Nationwide Permit NWS-2018-167 issued on December 20, 2018 for the Riverside Estates subdivision being constructed to the south, 1.29 acres of indirect impacts to a portion of Wetland A were approved and mitigated at EFLMB. Only new indirect impacts outside of the previously approved and mitigated indirect impacts are being calculated for the park project. The buffer areas consist of regularly mowed herbaceous native and non-native species. Project impacts are summarized in Table 2 below.

Table 2. Summary of Wetland Impacts.

Impact Area	Category[1]	Cowardin Class[2]	HGM Class[3]	Impact Type	Impact Amount
Wetland A	III	Scrub-shrub/ Emergent	Slope/ Depressional	Indirect (insufficient buffer)	0.41 acres

[1]Hruby 2004
[2]Cowardin et al. 1979
[3]NRCS 2008

TEMPORARY IMPACT RESTORATION

Grading and trenching will temporarily impact 0.29 acres of Wetland A's buffer. These areas consist of non-native and native grasses and forbs that are regularly mowed. Following grading activities and pipeline installation, disturbed areas will be seeded with the native seed mix described in Table 3 restoring the area to pre-project condition.

Table 3. Native Seed Mix

Sunmark Seeds Stream Bank Plus Mix			
Species	**Composition**	**Spacing**	**Quantity**
Native red fescue (*Festuca rubra*, FAC)	50%	2 lb/ 1,000 sq. ft	37.2 lbs (for 0.29 ac. or 18,590 sq. ft.)
California brome (*Bromus carinatus*, NI)	20%		
Blue wildrye (*Elymus glaucus*)	20%		
Large leaf lupine (*Lupinus polyphyllus*, FAC)	10%		
Total	100%		

IMPACTED WETLAND FUNCTIONS

WETLANDS A

No direct impacts will occur to Wetlands A; however, the wetland will be indirectly impacted due to insufficient buffer. Wetland buffers can reduce adverse impacts to wetland functions and values from adjacent development by moderating the effects of stormwater runoff including stabilizing soil to prevent erosion, filtering runoff, and moderating water level fluctuations. Buffers also provide habitat opportunity for forage, refuge, mobility, and thermal protection.

Additionally, buffers help screen the wetland from adjacent developments, blocking noise, providing visual separation, and providing protection from other human disturbances (Castelle et al 1992). Because the buffer area consists of annually mowed herbaceous vegetation it does not provide visual separation, noise, or other screening functions, or thermal protection and refuge. Other habitat functions including forage areas and wildlife movement may be affected. Stormwater facilities will treat and detain water before dispersing it into the remaining wetland buffer. Flow spreaders will be used to prevent erosion and scour of the discharged water.

MITIGATION SITE SELECTION RATIONALE

Wetland A is located within the service area for the EFLMB (Bank; Figure 4). The project site is located approximately 8 miles west of the Bank within the western portion of the service area. Recent wetland science from Ecology, the Corps, and the U.S. Environmental Protection Agency states that they promote mitigation that is:

> "…located appropriately on the landscape, addresses restoration of watershed processes, is sustainable, and has a high likelihood of ecological success. Onsite mitigation may achieve these goals in many circumstances. However, we should not risk mitigation success or bypass opportunities for improving ecological processes in a watershed by unnecessarily prioritizing onsite mitigation over more effective and sustainable offsite options (Hruby *et al.* 2009)."

Additionally, the 2008 *Compensatory Mitigation for Losses of Aquatic Resources, Final Rule* recommends purchasing mitigation bank credits for ecological considerations (lower risk of failure and lower temporal loss of resources and services) and to avoid the maintenance and contingency issues and outright failures that often accompany permittee-responsible mitigation sites. Use of the Bank substantially lowers the risk of failure and temporal loss of resource. Mitigating the impacts offsite at EFLMB will be more meaningful and beneficial to the overall watershed as the goals and objectives for the establishment and success of EFLMB directly address watershed concerns and priorities and correspond in-kind with the mitigation needs of the proposed project. Additionally, habitat function provided at the Bank is far greater than habitat functions provided by the regularly mowed pasture grasses being impacted. ELS therefore selected to mitigate offsite at EFLMB. As described below, the functional lift anticipated by the Bank will adequately compensate for wetland functions impacted by the proposed project.

WETLAND FUNCTIONS PROVIDED AT MITIGATION BANK

The following is excerpted or paraphrased from the East Fork Lewis Mitigation Banking Instrument (MBI):

> Prior to establishment of the Bank, the site consisted of intensely farmed agricultural fields bisected by a series of ditches with groundwater was controlled by an extensive ditch and drain tile system. A Type F stream (tributary to Rock Creek) was historically

diverted across (east) the northern portion of the Bank site, then turns to flow south along the eastern boundary. The onsite ditches and stream were considered Category IV, riverine flow-through wetlands. A Category III, slope/depressional forested wetland is also located within the narrow strip of land along the western Bank boundary that continues offsite to the west.

The primary ecological goals of the East Fork Lewis Wetland Mitigation Bank are as follows:

- Restore wetland hydrology by disabling the extensive ditch and drain tile system currently used to convey water off of the site.
- Establish a variety of native wetland habitat types, comparable to pre-agricultural conditions and in accordance with targeted hydrologic regimes and elevations across the site.
- Control invasive species, including but not limited to, reed canarygrass (*Phalaris arundinacea*) and Himalayan blackberry (*Rubus armeniacus*) across the site.
- Create and enhance wildlife habitat, structure and function of the site.

Grading activities and installation of large woody material and other habitat features at the Bank were completed in 2013 and 2014, and plant installation was completed in March 2014.

HYDROLOGY

Prior to Bank construction, groundwater, runoff, and flood water from the tributary to Rock Creek entering the Bank site was quickly and effectively conveyed downstream through the extensive drain tile and ditch system. Disabling drain tiles and plugging ditches will allow the site to saturate, creating new wetland area (108+ acres), which will significantly increase flood water storage within the watershed. This reduces peak flows downstream of the Bank, decreases downstream erosion, and provides groundwater recharge that helps to alleviate low flows downstream of the Bank site during the dry season.

WATER QUALITY

The Bank's contributing basin includes rural residences and paved roads that contribute untreated stormwater runoff to the Bank site. Because the contributing basin is largely undeveloped, it is expected that future land use in the surrounding area will only increase the level of sediments, nutrients, and toxics that could potentially enter the site. Post-construction wetland functions related to water quality, such as removing sediments, nutrients, metals, and toxic organic substances will significantly increase as vegetation establishes. Specifically, the wetland will store water seasonally and during flood events, slowing and reducing sediment transport, and multiple vegetative classes will filter metals and toxic organic substances and remove nutrients in the increased aerobic conditions. Furthermore, trees and shrubs planted along the tributary to Rock Creek will help keep the stream temperature cooler during the hot summer months.

WILDLIFE HABITAT

Overall habitat suitability for invertebrates, amphibians, wetland-associated birds, and wetland-associated mammals will improve tremendously over existing conditions of the Bank site, specifically because of the increase in wetland area containing a variety of hydroperiods (permanent, seasonal, and occasional inundation and/or saturation), vegetative species richness, habitat interspersion, the habitat features (large woody debris and bird nesting boxes), eventual canopy closure of forested wetland areas, and corridors to adjacent upland areas. Although the site has been designed to exclude resident and anadromous fish to prevent stranding, fish habitat in the onsite ditches and downstream is enhanced because plantings along the tributary to Rock Creek will provide temperature regulation and leaf litter. The wetlands will also increase groundwater recharge that will supplement low flows during the dry season, and the wetland vegetation will improve water quality entering the stream.

ANTICIPATED FUNCTIONAL LIFT

The goal of the Bank site is to re-establish high quality wetland and associated wildlife habitat providing for significant overall functional lift. The Bank site location within the landscape and its overall design will provide a significant ecological benefit to not only the immediate surrounding area, but throughout a large portion of the watershed. The Bank is currently in the establishment period having been planted in spring of 2014. The post-construction Bank site will consist of a forested, scrub-shrub, and emergent depressional flow-through wetland system that will contain a seasonal stream and a fish-bearing, perennial stream. A variety of water regimes, vegetation interspersion, and habitat features will provide diverse habitat opportunity for wildlife. The re-established wetlands will also increase flood storage, improve water quality, help prevent downstream erosion, recharge groundwater to supplement low summer flows and keep summer water temperatures cooler, similar to pre-agricultural conditions. The anticipated functional lift post-construction of the Bank consists of an overall increase in functions related to habitat, water quality and water quantity.

WETLAND FUNCTIONS NOT MITIGATED AT MITIGATION BANK

Onsite stormwater detention and treatment will mitigate water quality and water quantity functions that may be indirectly impacted by the project. Runoff generated from the new imperious surfaces will be collected and conveyed to stormwater facilities for detention and treatment, which will help to recharge groundwater and will provide water quality treatment. All other impacted functions will be compensated at the mitigation bank.

PROPOSED MITIGATION CREDITS

Table 3 below is taken from the East Fork Lewis MBI and lists the recommended credit ratios for purchasing credits based on the impacted resource category.

Table 4. Credits Recommended for Wetland and Buffer Impacts at East Fork Lewis Mitigation Bank.

Resource Impact	Bank Credits:Impact Area
Category I Wetland	Case-by-case
Category II Wetland	1.2:1
Category III Wetland	1:1
Category IV Wetland	0.85:1
Critical Area Buffer	Case-by-case

This bank use plan proposes to purchase a total of 0.21 credits to compensate for 0.41 acres of indirect impact. Bank credits will be purchased from EFLMB at a 1:1 Category III ratio with a 0.50 multiplier. The 0.50 (50 percent) multiplier is based on the rationale that indirect impacts can be adequately compensated for by using 50 percent of the Bank's required ratio for direct wetland impacts. Indirect impacts adversely affect the ability of the wetland to provide functions and values which the wetland provided prior to disturbance over time. Examples are changes in drainage characteristics, changes in water levels, and changes in wetland characteristics. Direct impacts result in immediate changes of hydrological characteristics of a wetland, loss of habitat, loss of flood storage, and loss of nutrient removal or retention. Because indirect impacts do not result in these immediate changes, mitigating at 50 percent of the Bank's required ratio for direct wetland impacts is reasonable and scientifically sound. In addition, the 50 percent multiplier for indirect wetland impacts has been used on previous projects that were approved by both the Corps and Ecology. Purchasing 0.21 credits at the Bank will fully compensate for the quality of habitat lost and ensure there is no net loss of ecological function. Table 4 below details the mitigation ratios used to calculate the total number of ank credits needed to compensate for the project impacts.

Table 5. Mitigation Bank Credits Proposed for Project Impacts.

Impacted Resource	Impact Type	Impact Area Acres	Bank Ratio	Indirect Impact Multiplier	Credit Purchase
Category III Wetland A	Indirect	0.41	1:1	0.50	0.21
				Total Credit Purchase	**0.21**

CREDIT PURCHASE OR TRANSFER TIMING

ECM Riverside LLC will enter into a Buy/Sell Agreement with EFL Mitigation Partners for purchasing mitigation credits as specified in Table 4 above to appropriately mitigate for the proposed project impacts. The actual purchase of credits will occur following permit issuance, and prior to project impacts from the development. In no case shall credits be applied (e.g. debited from the bank) to a receiving (impact) project unless and until permits have been issued for the underlying activity by the agencies with jurisdiction. Nothing in the mitigation credit Purchase Agreement shall be interpreted or construed to permit any activity that otherwise requires a federal, state, and/or local permit.

CONFIRMATION OF MITIGATION CREDIT AVAILABILITY

EFL Mitigation Partners, LLC, the Bank Sponsor, has met all the required terms and conditions for the release of mitigation credits from the East Fork Lewis Mitigation Bank. Proof of the current number of available mitigation credits at the East Fork Lewis Mitigation Bank site can be confirmed by approving agency(s) through the Interagency Review Team (see contact information of the following page.

Interagency Review Team contact information:

Kate Thompson
Washington Department of Ecology
Shorelands and Environmental Assistance Program
P.O. Box 47600
Olympia, WA 98504
(360) 407-6749
kate.thompson@ecy.wa.gov

Suzanne Anderson
US Army Corps of Engineers
Regulatory Branch, Seattle District
PO Box 3755
Seattle, WA 98124
206-764-3708
Suzanne.L.Anderson@usace.army.mil

REFERENCES

Castelle, A.J., C. Conolly, M. Emers, E.D. Metz, S. Meyer, M. Witter, S. Mauermann, T. Erickson, S.S. Cooke. 1992. *Wetland Buffers: Use and Effectiveness*. Adolfson Associates, Inc., Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Pub. No. 92-10.

City of La Center. 2018. *La Center Municipal Code, Chapter 18.300.090. Critical Lands.* March

Cowardin, L.M., C. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-78/31. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services, Washington D.C.

Ecological Land Services, Inc. (ELS). 2020. *Addendum to the Critical Areas Report Riverside Estates, La Center, Washington*. July 23.

Ecological Land Services, Inc. (ELS). 2018. *Critical Areas Report Riverside Estates, La Center, Washington*. September 11.

EFL Mitigation Partners, LLC & Ecological Land Services, Inc. March 2011. *East Fork Lewis Mitigation Bank Mitigation Banking Instrument*, Available at http://www.ecy.wa.gov/programs/sea/wetlands/mitigation/banking/pdf/MBI/eastforklewis.pdf. Accessed August 2017.

Hruby, T. 2014. *Washington State Wetlands Rating System for Western Washington –2014 Update*. Washington State Department of Ecology Publication #93-74. Olympia, Washington.

Hruby, T., Harper, K., Stanley, S. 2009. *Selecting Wetland Mitigation Sites Using a Watershed Approach*. Washington State Department of Ecology Publication #09-06-032. Olympia, Washington.

Interagency Review Team for Washington State. February 19, 2009. *Using Credits from Wetland Mitigation Banks: Guidance to Applicants on Submittal Contents for Bank Use Plans*. Online <http://www.ecy.wa.gov/programs/sea/wetlands/mitigation/banking/pdf/mitig_ plan_guidance.pdf> Accessed January 2016.

Loowit Consulting Group, LLC. 2018. *Critical Areas Report for Riverside Estates Project, La Center, Washington.* June 29.

Natural Resource Conservation Service (NRCS). 2008. *Hydrogeomorphic Wetland Classification System: An Overview and Modification to Better Meet the Needs of the Natural Resources Conservation Service.* United States Department of Agriculture Technical Note, #190-8-76.

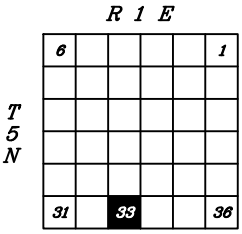
U.S. Army Corps of Engineers (Corps). 2008. *Compensatory Mitigation for Losses of Aquatic Resources.* Corps and Environmental Protection Agency (EPA). Available at: http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/final_mitig_rule.pdf.

FIGURES

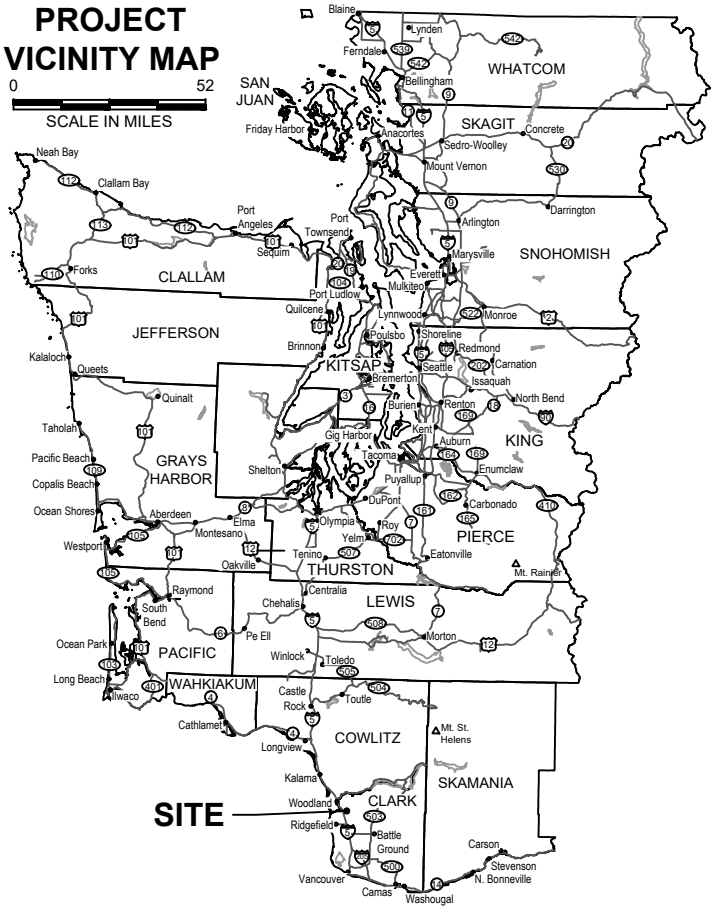
WASHINGTON

45.8704° Latitude
-122.6888° Longitude

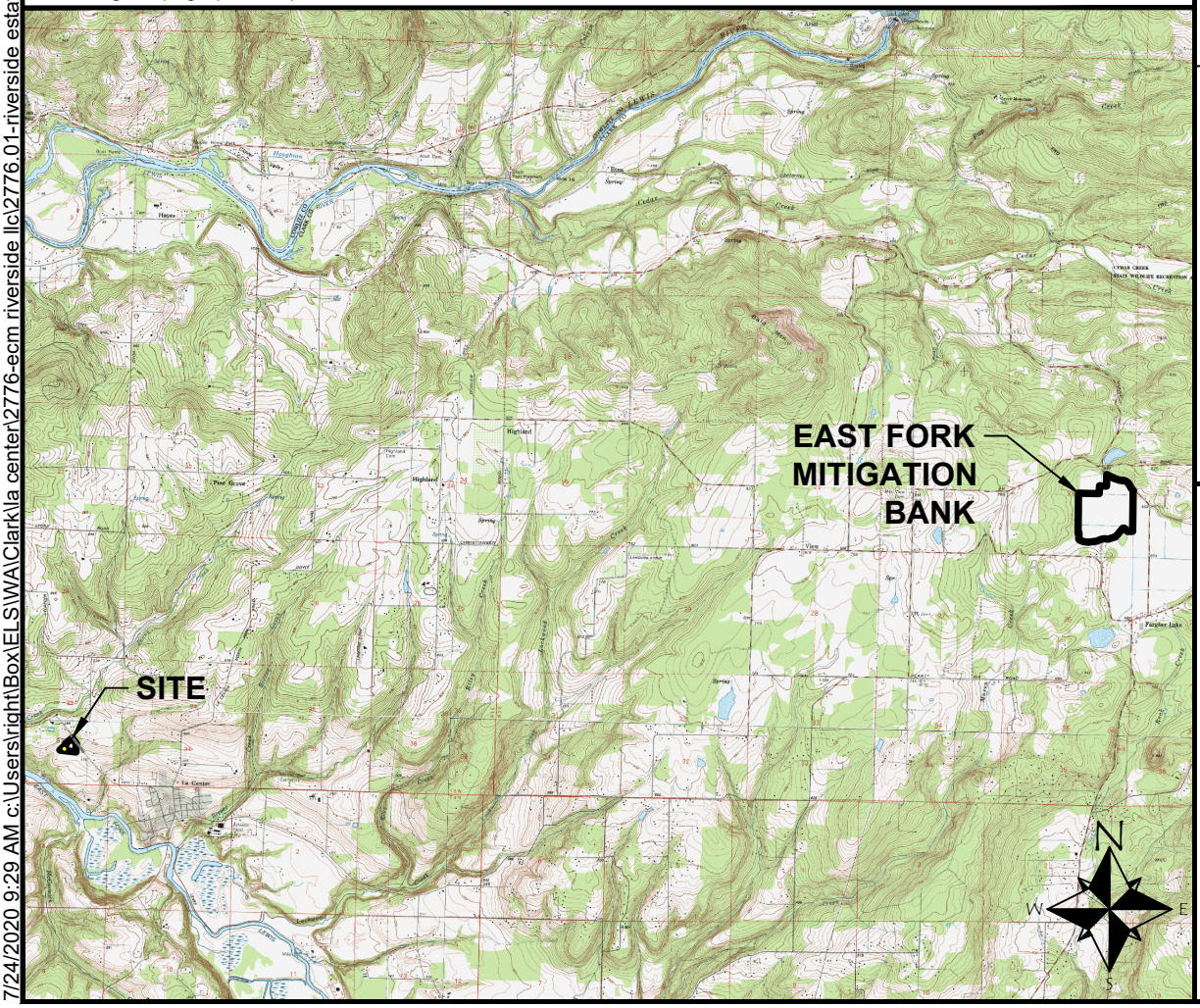
LOCATION MAP



PROJECT VICINITY MAP



NOTE:
Quadrangle topographic map from USGS.



PROPOSED: Indirect Wetland Impacts

VICINITY MAP
APPLICANT: ECM Riverside LLC
PROJECT NAME: Riverside Estates Neighborhood Park
REFERENCE #:
SITE LOCATION ADDRESS: 34506 Old Pacific Highway
La Center, WA
ADJACENT PROPERTY OWNERS:

IN Onsite Wetlands
NEAR: La Center
COUNTY: Clark **STATE:** WA
SHEET 1 **OF** 5
DATE: 7/24/20

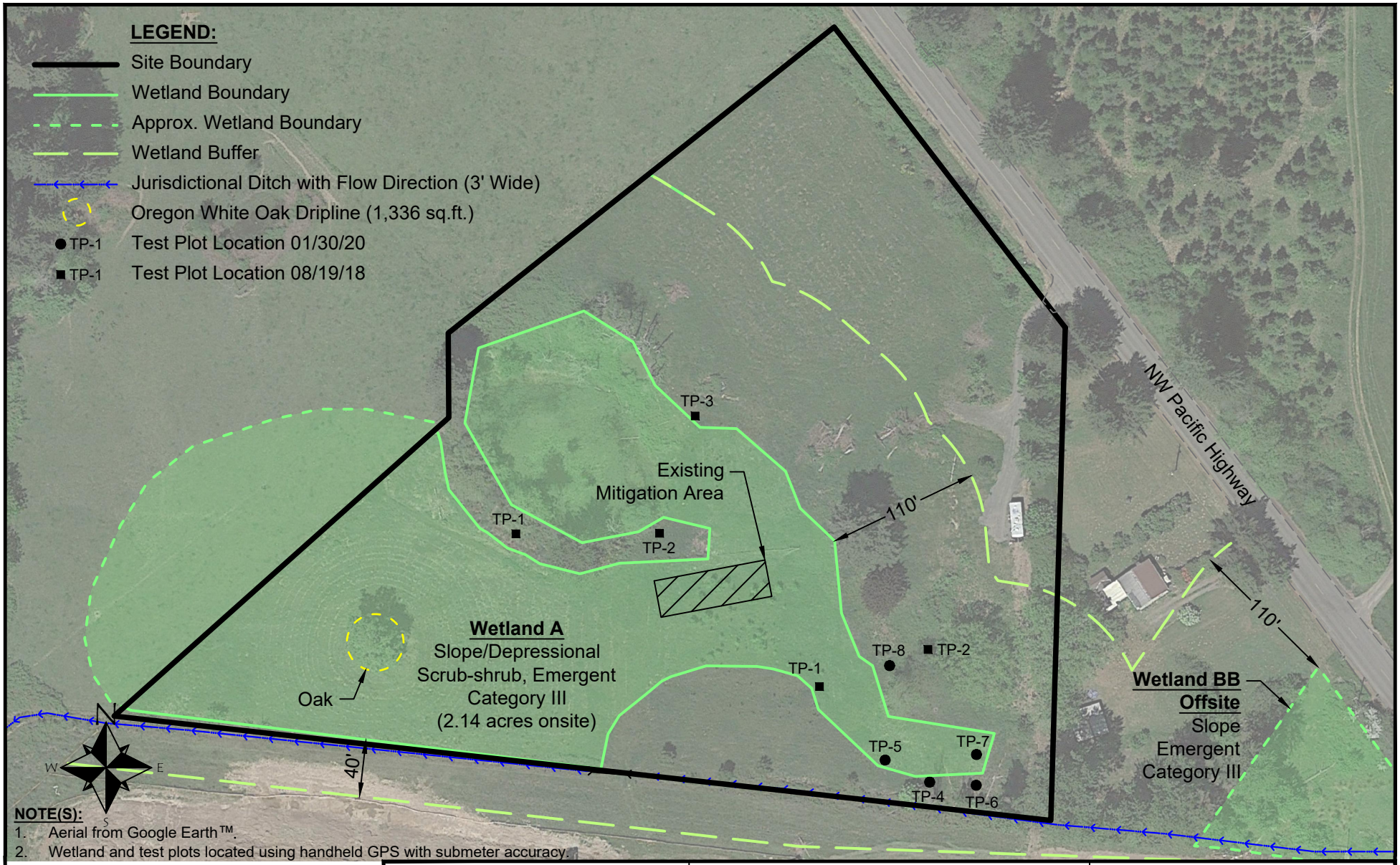
PURPOSE:
Development of
Neighborhood Park
DATUM: NAD83

0 1.5 miles 3 miles
SCALE IN FEET

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

Ecological Land Services

7/24/2020 9:29 AM c:\Users\right\Box\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\2776.01_DL.dwg right



0 100 200
SCALE IN FEET

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

PURPOSE: Development of Neighborhood Park
DATUM: NAD83
ADJACENT PROPERTY OWNERS:

EXISTING CONDITIONS SITE MAP
APPLICANT: ECM Riverside LLC
PROJECT NAME: Riverside Estates Neighborhood Park
REFERENCE #:
SITE LOCATION ADDRESS: 34506 Old Pacific Highway
La Center, WA

PROPOSED: Indirect Wetland Impacts
IN Onsite Wetlands
NEAR: La Center
COUNTY: Clark **STATE:** WA
SHEET 2 **OF** 5
DATE: 7/24/20

LEGEND:

- Site Boundary
- Wetland Boundary
- Approx. Wetland Boundary
- Wetland Buffer
- Jurisdictional Ditch with Flow Direction (3' Wide)
- Silt Fence
- Water Supply
- Sanitary Supply
- Wetland/Buffer Sign (200')
- Temporary Impacts to Wetland Buffer (Restore With Native Seed Mix) (0.29 acres)
- Indirect Impacts Mitigated per NWS-2018-167
  - Wetland A (1.29 acres)
  - Wetland BB (0.33 acres)
- New Indirect Impacts (0.41 acres)

Signage Detail

The area beyond this sign is a wetland or wetland buffer. Alteration or disturbance is prohibited by law. Please call the City of La Center for more information.

Table 1: Native Seed Mix for Temporary Impact Areas

BUFFER IMPACT AREAS – Sunmark Seeds Stream Bank Plus			
Species	**Composition**	**Spacing**	**Quantity**
Native red fescue (*Festuca rubra*, FAC)	50%	2 lb/ 1,000 sq. ft	37.2 lbs (for 18,590 sq. ft.)
California brome (*Bromus carinatus*, NI)	20%		
Blue wildrye (*Elymus glaucus*)	20%		
Large leaf lupine (*Lupinus polyphyllus*, FAC)	10%		
Total	100%		

Flow Spreader
110'
Sports Court
Construction Entrance
NW Pacific Highway
Staging Area
Stormwater Facility
Wetland A
Slope/Depressional
Scrub-shrub, Emergent
Category III
(2.14 acres onsite)
Oak
40'
Flow Spreader
18" Culvert
Wetland BB
Offsite
Slope
Emergent
Category III
Riverside Estates Subdivision
(under construction)
NWS-2018-167

N
W
E
S

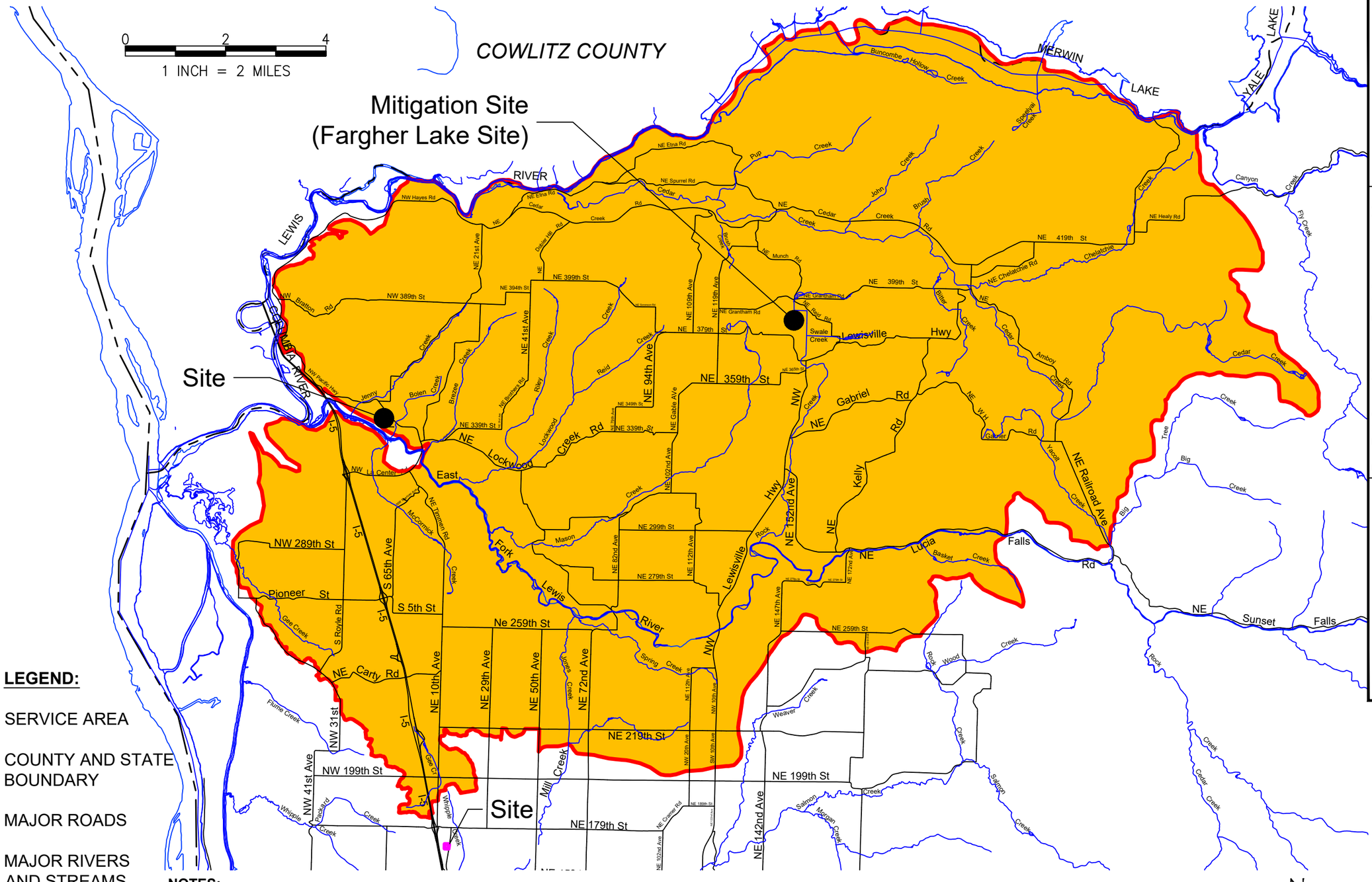
0 80 160
SCALE IN FEET

PROPOSED: Indirect Wetland Impacts
IN Onsite Wetlands
NEAR: La Center **STATE:** WA
COUNTY: Clark
SHEET 3 **OF** 5
DATE: 7/24/20

Proposed Conditions Site Map
APPLICANT: ECM Riverside LLC
PROJECT NAME: Riverside Estates Neighborhood Park
REFERENCE #:
OWNERS:
SITE LOCATION ADDRESS:
34506 Old Pacific Highway
La Center, WA

PURPOSE:
Development of
Neighborhood Park
DATUM: NAD83
ADJACENT PROPERTY OWNERS

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Ecological Land Services



LEGEND:

- SERVICE AREA
- COUNTY AND STATE BOUNDARY
- MAJOR ROADS
- MAJOR RIVERS AND STREAMS

NOTES:

1. STATE, COUNTY, ROADS, RIVERS AND STREAM BOUNDARIES FROM ECOLOGY WEBSITE: http://www.wsdot.wa.gov/mapsdata/geodatacatalog/default.htm
2. SERVICE AREA BOUNDARY BASED ON MAP PREPARED BY STEPHEN STANLEY WETLAND RESTORATION BIOLOGIST WASHINGTON DEPARTMENT OF ECOLOGY SEA PROGRAM.
3. MAP PREPARED BY ECOLOGICAL LAND SERVICES, INC., DECEMBER, 2007 AND JANUARY, 2010.

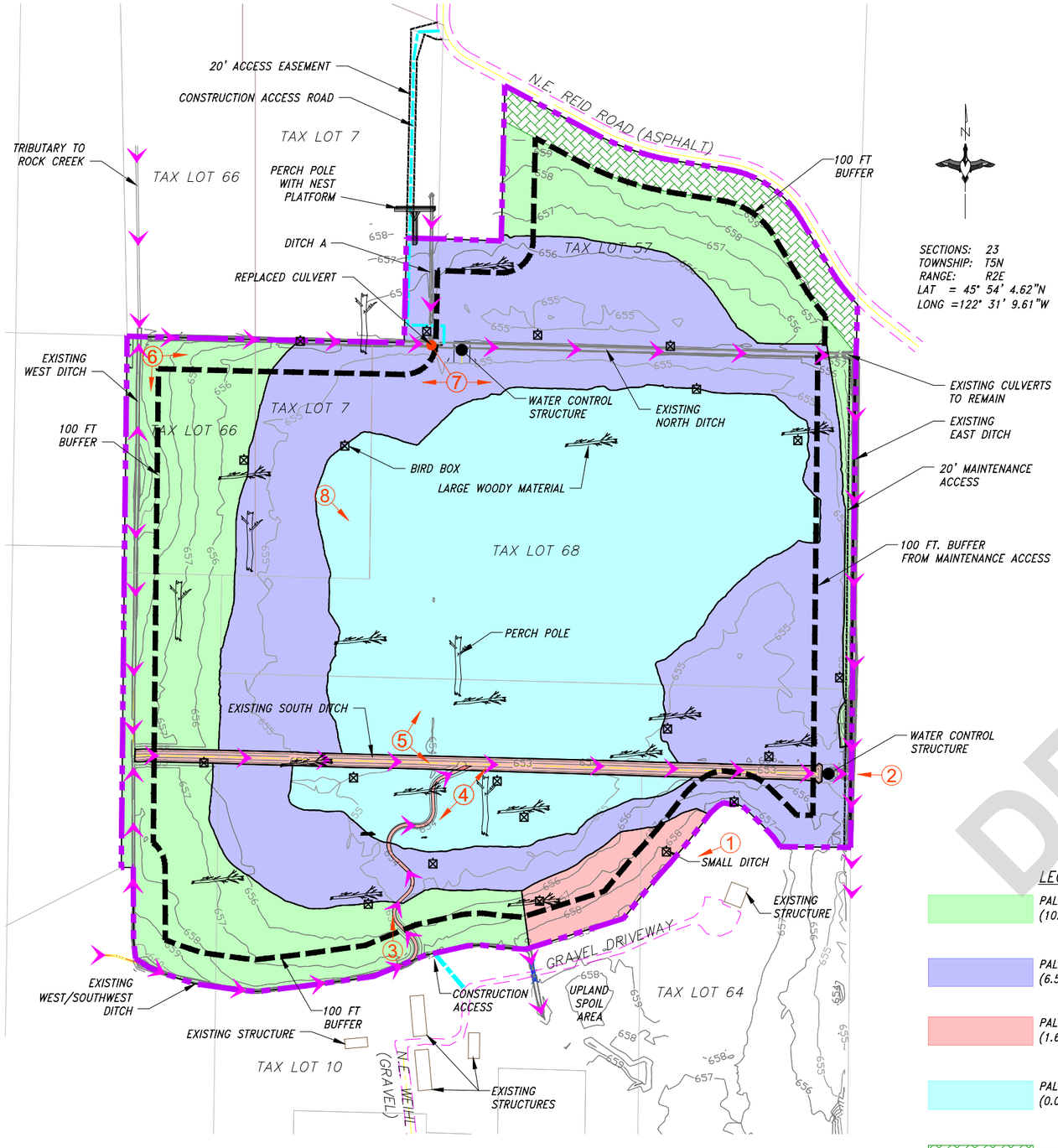
East Fork Lewis Mitigation Bank Service Area Map
APPLICANT: ECM Riverside LLC
PROJECT NAME: Riverside Estates Neighborhood Park
REFERENCE #:

PROPOSED: Indirect Wetland Impacts
IN Onsite Wetlands
NEAR: La Center **STATE:** WA
COUNTY: Clark
SHEET 4 **OF** 5
DATE: 2/6/20

PURPOSE: Development of Neighborhood Park
DATUM: NAD83
ADJACENT PROPERTY OWNERS:
SITE LOCATION ADDRESS: 34506 Old Pacific Highway La Center, WA

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Ecological Land Services

3/12/2008 11:48 AM c:\Users\rightBox\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\EFLRMB service area.dwg right



Habitat Features	
Type	*Amount*
Large woody material assemblage/root wad/downed log/perch pole	15
Standard nest box/nest platform/wood duck nest box/purple martin next house/bat box	21

Existing Conditions	Mitigation Bank Site Total (acres)	Area in Bank Buffer (acres)	Creditable Area (acres)
Upland Ag	107.96	16.65	--
Forested Upland	3.63	3.63	--
Palustrine Forested Wetland	0.39	0.39	--
Palustrine Emergent Wetland (includes all existing ditches on site)	1.28	0.28	--
Total Existing Conditions	**113.26**	**20.95**	--

Proposed Conditions	Mitigation Bank Site Total (acres)	Area in Bank Buffer (acres)	Creditable Area (acres)
Palustrine Forested Wetland (reestablishment)	27.80	10.09	17.71
Palustrine Scrub-Shrub Wetland (reestablishment)	17.86	2.70	15.16
Palustrine Scrub Shrub/Emergent Transition Wetland (reestablishment)	22.55	1.89	20.66
Palustrine Emergent Wetland Variant (reestablishment)	3.09	1.57	1.52
Palustrine Emergent Wetland (reestablishment)	36.90	0.81	36.09
South Ditch Palustrine Emergent Wetland (enhancement)	0.29	0	0.29
North Ditch Non-Creditable Area	0.43	0.26	0
East Ditch/Maintenance Access Non-Creditable Area	0.71	0	0
Upland Forest	3.63	3.63	0
Total Bank Site Area 113.26	**113.26**	**20.95***	**91.43****

*Does not include 0.71 acres of East Ditch/maintenance access which is considered non-creditable and not part of the buffer.

**Does not include 0.17 acres of the North Ditch which is considered non-creditable.

LEGEND

- PALUSTRINE FORESTED WETLAND (27.93 AC) (10.15 AC IN BANK BUFFER)
- PALUSTRINE SCRUB-SHRUB WETLAND (39.23 AC) (6.59 AC IN BANK BUFFER)
- PALUSTRINE EMERGENT WETLAND VARIANT (4.61 AC) (1.66 AC IN BANK BUFFER)
- PALUSTRINE EMERGENT WETLAND REESTABLISHMENT (38.32 AC) (0.00 AC IN BANK BUFFER)
- FORESTED UPLAND (3.63 AC) (3.63 AC IN BANK BUFFER)
- PHOTO LOCATION
- SITE BOUNDARY (113.26 AC)
- LOT BOUNDARY
- BUFFER (20.95 AC)
- EXISTING CULVERTS
- DESIGN WATER SURFACE ELEVATION = 654.8
- MAJOR CONTOURS
- MINOR CONTOURS
- FLOW ARROWS
- SWALE

NOTES:

1. Base map prepared by Ducks Unlimited.
2. Planting area boundaries mapped with a hand-held GPS unit with ≥ 3-foot accuracy.
3. Plants were installed in Spring 2014 by Tree Management Plus.

PROPOSED: Indirect Wetland Impacts

IN Onsite Wetlands
NEAR: La Center **STATE:** WA
COUNTY: Clark **SHEET** 5 **OF** 5
DATE: 2/6/20

APPLICANT: Bank Site Design
ECM Riverside LLC
PROJECT NAME: Riverside Estates Neighborhood Park
REFERENCE #:
SITE LOCATION ADDRESS:
34506 Old Pacific Highway
La Center, WA

PURPOSE:
Development of
Neighborhood Park
DATUM: NAD83
ADJACENT PROPERTY OWNERS:

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

SCALE IN FEET 0 400 800

Ecological Land Services

APPENDIX A

Ecological Land Services

July 23, 2020

City of La Center, Planning Services
Senior Planner – Ethan Spoo, AICP
305 NW Pacific Highway
La Center, WA 98629

Subject: *Addendum to the Critical Areas Report for Riverside Estates*

Dear Mr. Spoo:

Ecological Land Services, Inc. (ELS) has prepared this *Addendum to the Critical Areas Report for Riverside Estates* to address changes to the boundary of Wetland A, which was originally delineated in August 2018 as part of the Riverside Estates subdivision located on the adjoining property to the south. The Riverside Estates subdivision property included Clark County Parcel Number 986028825, on which the majority of Wetland A lies. The U.S. Army Corps of Engineers issued a Section 404 Nationwide Permit (NWS-2018-167) on December 20, 2018 for Riverside Estates for direct and indirect wetland impacts associated with the subdivision. The eastern boundary of Wetland A was reevaluated by ELS on January 30, 2020 in preparation for development of the Neighborhood Park project on Parcel Number 986028825. The proposed park includes a paved trail along the eastern boundary of the wetland, as well as parking and sport courts. During the reevaluation, it was determined that the eastern wetland boundary inadvertently included some upland areas in the southeastern corner. The remaining eastern boundary was consistent with the 2018 delineation. Five additional test plots were taken to confirm the southeastern boundary changes, and several wetland flags delineating the wetland boundary were moved at this time (Figure 2). Most of these flags were moved based on lack of hydrology indicators and lack of hydric soil.

Test Plots 4, 6, and 8 were taken on January 30, 2020 in areas previously mapped as wetland in the 2018 delineation. Test plot data sheets are attached. None of these test plots contained hydric soils because the matrix chromas were too high. Additionally, despite the winter conditions, none of these test plots met wetland hydrology criteria. Test Plot 4 contained surface saturation; however, there was no water table associated with saturation so hydrology indicator A3 (Saturation) was not met. Surface saturation was likely due to recent rainfall. Test Plot 4 also did not meet the hydrophytic vegetation dominance test. Test Plot 6 did not contain any hydrology indicators. Test Plot 8 contained saturation at 14 inches depth, therefore did not meet hydrology indicator A3. Overall, the wetland test plots taken during the visit (Test Plots 5 and 7) contained surface saturation with associated water table, oxidized rhizospheres, stronger hydrophytic vegetation, and

contained hydric soils, whereas the newly included upland areas did not. For these reasons, the wetland boundary was revised as shown on Figure 1.

Following the wetland boundary verification site visit with the Corps and Ecology in 2018, the water quality function score of Wetland A was raised from 6 to 7 points. This did not change the overall wetland rating and it remains a Category III. The *Bank Use Plan for Riverside Estates* (ELS November 2018) reflects this change but the original critical areas report was not updated. The wetland score change included with this addendum and the updated rating form is attached. Wetland A remains a Category III emergent, scrub-shrub, slope and depressional wetland and now totals 2.14 acres onsite (original size was 2.18 acres). The park is considered a moderate intensity use, not high intensity like the subdivision. According to the *La Center Municipal Code (LCMC) Chapter 18.300 Table 18.300.090(5)(i)(i)-2*, Category III wetlands with an adjacent moderate intensity land use and a habitat score of 7 require a buffer of 110 feet.

During the wetland boundary verification visit, it was also determined that the farm ditch extending along the southern boundary of Parcel Number 986028825 was a jurisdictional ditch. The critical areas summary table below has been revised to reflect that change, as well as summarizes the revisions to Wetland A (acreage change and buffer width change). There have been no changes to the onsite oak habitat.

Table 1. Revised Critical Area Summary

Critical Area	Category[1]/Cowardin Class[2]/HGM Class[3]	Size Onsite	Buffer Width[4]
Wetland A	III/Emergent, Scrub-Shrub/Slope and Depressional	2.14 acres	110 feet
Jurisdictional Ditch	Seasonal	3 ft. wide	None
Oregon White Oak	N/A	36 inches DBH	None

[1]Hruby 2014
[2]Cowardin et al. 1979
[3]NRCS 2008
[4]*LCMC 18.300.090(6)(h)(i)-2*

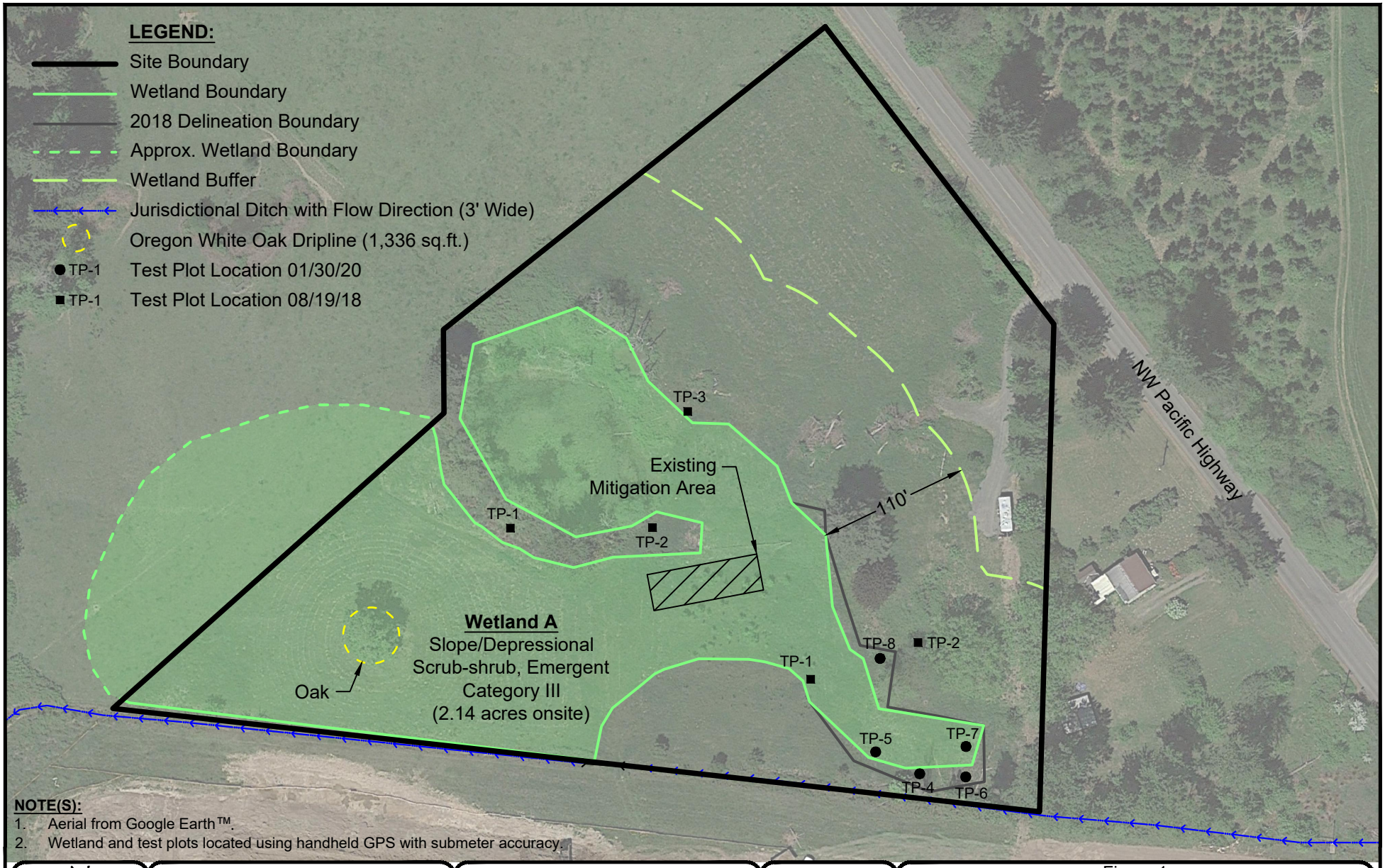
We believe this letter serves as an adequate addendum to the original *Critical Areas Report for Riverside Estates, La Center, Washington* (ELS 2018) to address the small changes made in the boundary of Wetland A and its rating form, and the change in the ditch categorization to jurisdictional. If you need any additional information or have any questions, please contact me at (360) 578-1371 or by email at steff@eco-land.com.

Best regards,

Steffanie Taylor
Senior Biologist/Principal

Attachments: Figure 1: Site Map (7/23/20)
Wetland Determination Data Forms for Test Plots 4 through 8 (1/30/20)
Revised Wetland Rating Form for Wetland A

7/24/2020 9:29 AM C:\Users\right\Box\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\2776.01_ADD.dwg right



NOTE(S):
1. Aerial from Google Earth™.
2. Wetland and test plots located using handheld GPS with submeter accuracy.

N W E S

0 100 200
SCALE IN FEET

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com

DATE: 7/24/20
DWN: JLL
REQ. BY:
PRJ. MGR: KL
CHK:
PROJECT NO: 2776.01

Figure 1
SITE MAP
Riverside Estates Neighborhood Park
ECM Riverside LLC
City of La Center, Clark County, WA
Section 33, Township 5N, Range 1E, W.M.

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

Project/Site: Riverside Estates Neighborhood Park City/County: La Center/Clark Sampling Date: 01/30/20
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP-4
Investigator(s): F. Naglich, K. Lacey, J. Bartlett Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): hillslope Local relief: (concave, convex, none): convex Slope (%): <5%
Subregion (LRR): A Lat: 45.869931466091 Long: -122.688226204245 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes (OdB) NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** **Yes☐ No☒**
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: Test Plot 4 was conducted at the southeast corner of Wetland A to confirm the wetland boundary. This test plot was very close to the wetland boundary, so wetland hydrology was present, however hydric soils and hydrophytic vegetation were absent so this area was determined to be upland. The 2018 wetland boundary was adjusted slightly north of Test Plot 4.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 20 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 10 ft radius)			
1. *Schedonorus arundinaceus*	50%	yes	FAC
2. *Dactylis glomerata*	50%	yes	FACU
3. *Vicia americana*	5%	yes	FAC
4. *Galium aparine*	5%	no	FACU
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 55 20% = 22	110%	=Total Cover	
Woody Vine Stratum (Plot size: _____ ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC 50 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	55	x 3=	165
FACU species	55	x 4=	220
UPL species		x 5=	
Column Totals:	110 (A)		385 (B)

Prevalence Index = B/A=3.5

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes☐ No☒**

Remarks:Hydrophytic vegetation criteria is not met because the dominance test was not met and the prevalence index is greater than 3.0.

SOIL

Sampling Point: TP-4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100%		%			silt loam	
16-18	10YR 4/3	90%	10YR 4/6	10%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes**☐ **No**☒

Remarks: No hydric soil indicators are met because the matrix chroma is too high to meet hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☒	No ☐	Depth (Inches): surface

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:Wetland hydrology criteria is met because there is no water table associated with the saturation.

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

Project/Site: Riverside Estates Neighborhood Park City/County: La Center/Clark Sampling Date: 01/30/20
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP-5
Investigator(s): F. Naglich, K. Lacey, J. Bartlett Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): hillslope Local relief: (concave, convex, none): convex Slope (%): <5%
Subregion (LRR): A Lat: 45.8699730008622 Long: -122.688355000192 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes (OdB) NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** **Yes☒ No☐**
Hydric Soils Present?	Yes ☒ No ☐	
Wetland Hydrology Present?	Yes ☒ No ☐	

Remarks: Test Plot 5 was conducted just west of Test Plot 4 at the southeast corner of Wetland A. This area met all three wetland parameters so was determined to be wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 20 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 10 ft radius)			
1. *Phalaris arundinacea*	100%	yes	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 55 20% = 22	110%	=Total Cover	
Woody Vine Stratum (Plot size: _____ ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 100 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes☐ No☐**

Remarks:Hydrophytic vegetation criteria is met because there is greater than 50 percent dominance by FACW specis.

SOIL

Sampling Point: TP-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	95%	7.5YR 4/6	5%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes☒ No☐**

Remarks: Hydric soil indicator F6: Redox Dark Surface because ther is a dark layer with a matrix value of 3 or less and chroma of 2 or less with at least 5 percent redox concentrations.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☒	No ☐	Depth (Inches): surface

Wetland Hydrology Present? **Yes ☒ No ☐**

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

Remarks:Wetland hydrology criteria is met because there is saturation to the soil surface. Groundwater anticipated to fill test hole if left open long enough.

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

Project/Site: Riverside Estates Neighborhood Park City/County: La Center/Clark Sampling Date: 01/30/20
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP-6
Investigator(s): F. Naglich, K. Lacey, J. Bartlett Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): hillslope Local relief: (concave, convex, none): convex Slope (%): <5%
Subregion (LRR): A Lat: 45.86990600097149 Long: -122.688088999929 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes (OdB) NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes☐ No☒
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: Test Plot 6 was conducted near the southeast corner of Wetland A. This area was determined to be non-wetland because hydric soils and wetland hydrology were both absent. The 2018 wetland boundary was adjusted slightly to by moving it to the north.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 20 ft. radius)			
1. *Rubus spectabilis*	20%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
50% = 10 20% = 4	20%	=Total Cover	
Herb Stratum (Plot size: 10 ft radius)			
1. *Schedonorus arundinaceus*	50%	yes	FAC
2. *Dactylis glomerata*	50%	yes	FACU
3. *Vicia americana*	15%	yes	FAC
4. *Poa sp.**	15%	yes	FAC
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 65 20% = 26	130%	=Total Cover	
Woody Vine Stratum (Plot size: _____ ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 80 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks:Hydrophytic vegetation criteria is met because there is greater than 50 percent dominance by FAC species. *Poa sp. assumed FAC.

SOIL

Sampling Point: TP-6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/3	100%		%			silt loam	
8-16	10YR 4/3	100%		%			gravelly silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes**☐ **No**☒

Remarks: No hydric soil indicators are met because the matrix chroma is too high to meet the definition of a depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): ____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:No wetland hydrology indicators were present here.

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

Project/Site: Riverside Estates Neighborhood Park City/County: La Center/Clark Sampling Date: 01/30/20
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP-7
Investigator(s): F. Naglich, K. Lacey, J. Bartlett Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): hillslope Local relief: (concave, convex, none): concave Slope (%): <5%
Subregion (LRR): A Lat: 45.869989000878 Long: -122.68809499982 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes (OdB) NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soils Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?**	**Yes☒ No☐**

Remarks: Test Plot 7 was conducted north of Test Plot 6 to confirm this area was wetland. All three wetland parameters were present in this area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 20 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 10 ft radius)			
1. *Phalaris arundinacea*	100%	yes	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 55 20% = 22	110%	=Total Cover	
Woody Vine Stratum (Plot size: _____ ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 100 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks:Hydrophytic vegetation criteria is met because there is greater than 50 percent dominance by FACW specis.

SOIL

Sampling Point: TP-7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	95%	7.5YR 4/6	5%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes☒ No☐**

Remarks: Hydric soil indicator F6: Redox Dark Surface because ther is a dark layer with a matrix value of 3 or less and chroma of 2 or less with at least 5 percent redox concentrations.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): ____

Wetland Hydrology Present? **Yes ☒ No ☐**

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

Remarks:Wetland hydrology criteria is met because oxidized rhizospheres were present along living roots.

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

Project/Site: Riverside Estates Neighborhood Park City/County: La Center/Clark Sampling Date: 01/30/20
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP-8
Investigator(s): F. Naglich, K. Lacey, J. Bartlett Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): hillslope Local relief: (concave, convex, none): convex Slope (%): <5%
Subregion (LRR): A Lat: 45.8702020010705 Long: -122.688279000082 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes (OdB) NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** **Yes☐ No☒**
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: Test Plot 8 was conducted north of Test Plots 5 through 7. This area was determined to be upland because hydric soils and wetland hydrology were absent and the boundary of the wetland was adjusted slightly west from the 2018 delineation

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 20 ft. radius)			
1. *Rubus spectabilis*	50%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
50% = 25 20% = 10	50%	=Total Cover	
Herb Stratum (Plot size: 10 ft radius)			
1. *Ranunculus repens*	60%	yes	FAC
2. *Phalaris arundinacea*	50%	yes	FACW
3. *Poa sp.**	40%	yes	FAC
4. *Cirsium vulgare*	10%	no	FAC
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 80 20% = 32	160%	=Total Cover	
Woody Vine Stratum (Plot size: _____ ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC 100 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks:Hydrophytic vegetation criteria is met because there is greater than 50 percent dominance by FAC and FACW species. *Poa sp. assumed FAC.

SOIL

Sampling Point: TP-8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/3	100%		%			silty clay loam	
10-16	10YR 4/3	100%		%			silty clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes**☐ **No**☒

Remarks: No hydric soil indicators are met because the matrix chroma is too high to meet the definition of a depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☒	No ☐	Depth (Inches): 14

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:No primary or secondary wetland hydrology indicators were present here. Saturation was present too low in the soil profile to meet A3.

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 8/8/2018

Rated by KT Wills Trained by Ecology? Yes X No Date of training 9/2016

HGM Class used for rating Depressional Wetland has multiple HGM classes? X Y N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY III (based on functions X or special characteristics)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 – 27

_____**Category II** – Total score = 20 – 22

X **Category III** – Total score = 16 – 19

_____**Category IV** – Total score = 9 – 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the appropriate ratings		
Site Potential	H (M) L	H (M) L	H (M) L	
Landscape Potential	H (M) L	H (M) L	(H) M L	
Value	(H) M L	H M (L)	H (M) L	**TOTAL**
Score Based on Ratings	7	5	7	19

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	**(N/A)**

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	5
Hydroperiods	D 1.4, H 1.2	5
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	5
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	5
Map of the contributing basin	D 4.3, D 5.3	6
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   NO – go to 2 **YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   NO – Saltwater Tidal Fringe (Estuarine) **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   NO – go to 3 **YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ___The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ___At least 30% of the open water area is deeper than 6.6 ft (2 m).

   NO – go to 4 **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   _X_ The wetland is on a slope (*slope can be very gradual*),
   _X_ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   _X_ The water leaves the wetland **without being impounded**.

   NO – go to 5 **YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ___The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ___The overbank flooding occurs at least once every 2 years.

Wetland name or number A

NO – go to 6 **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7 **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8 **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	**2**
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*. Yes = 4 No = 0	**0**
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	**3**
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	**0**
Total for D 1 Add the points in the boxes above	**7**

Rating of Site Potential If score is: ___ **12-16 = H** __**X**__ **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	**0**
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	**1**
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	**1**
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0	**0**
Total for D 2 Add the points in the boxes above	**2**

Rating of Landscape Potential If score is: ___ **3 or 4 = H** __**X**__ **1 or 2 = M** ___ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	**1**
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	**1**
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	**2**
Total for D 3 Add the points in the boxes above	**4**

Rating of Value If score is: __**X**__ **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	**2**
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	**3**
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	**3**
Total for D 4 Add the points in the boxes above	**8**

Rating of Site Potential If score is: ___ **12-16 = H** **X** **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	**0**
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	**1**
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	**1**
Total for D 5 Add the points in the boxes above	**2**

Rating of Landscape Potential If score is: ___ **3 = H** **X** **1 or 2 = M** ___ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0 There are no problems with flooding downstream of the wetland. points = 0 No flooding problems based on personal knowledge as well as multiple dams on the mainstem Lewis River and levees near the mouth of mainstem Lewis River. No flooding on the EFL between site and confluence of mainstem a short distance downstream.	**0**
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	**0**
Total for D 6 Add the points in the boxes above	**0**

Rating of Value If score is: ___ **2-4 = H** ___ **1 = M** **X** **0 = L** *Record the rating on the first page*

Wetland name or number A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

_X_ Aquatic bed	4 structures or more: points = 4
_X_ Emergent	3 structures: points = 2
_X_ Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1
____ Forested (areas where trees have > 30% cover)	1 structure: points = 0

If the unit has a Forested class, check if:

____ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

2

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

_X_ Permanently flooded or inundated	4 or more types present: points = 3
_X_ Seasonally flooded or inundated	3 types present: points = 2
____ Occasionally flooded or inundated	2 types present: points = 1
_X_ Saturated only	1 type present: points = 0
____ Permanently flowing stream or river in, or adjacent to, the wetland	
____ Seasonally flowing stream in, or adjacent to, the wetland	
____ **Lake Fringe wetland**	**2 points**
____ **Freshwater tidal wetland**	**2 points**

2

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

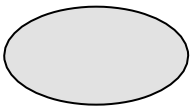
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: > 19 species	points = 2
5 - 19 species	points = 1
< 5 species	points = 0

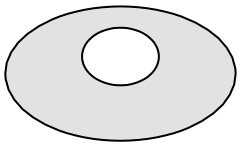
1

H 1.4. Interspersion of habitats

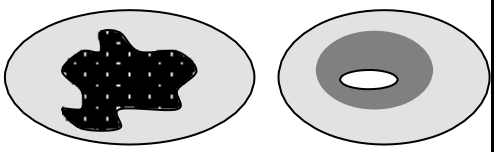
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



None = 0 points

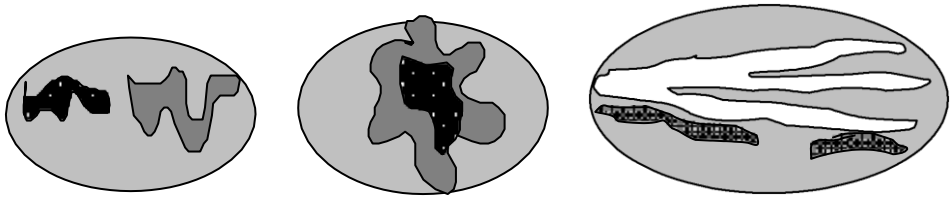


Low = 1 point



Moderate = 2 points

All three diagrams in this row are **HIGH** = 3points



2

Wetland name or number A

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* __X__Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). __X__Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	**2**
Total for H 1 Add the points in the boxes above	**9**

Rating of Site Potential If score is:___**15-18 = H** __**X**__**7-14 = M** ___**0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat 16.8**+** [(% moderate and low intensity land uses)/2]14.4 **= 31.2**% If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	**2**
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 32.6**+** [(% moderate and low intensity land uses)/2]29.3 **= 61.9**% Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	**3**
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	**0**
Total for H 2 Add the points in the boxes above	**5**

Rating of Landscape Potential If score is**:** __**X**__**4-6 = H** ___**1-3 = M** ___**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.*

Site meets ANY of the following criteria: points = 2

- It has 3 or more priority habitats within 100 m (see next page)
- It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)
- It is mapped as a location for an individual WDFW priority species
- It is a Wetland of High Conservation Value as determined by the Department of Natural Resources
- It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan

Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 **1**

Site does not meet any of the criteria above points = 0

Rating of Value If score is:___**2 = H** __**X**__**1 = M** ___**0 = L** *Record the rating on the first page*

Wetland name or number A

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

X **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

— **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

— **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt Yes –Go to **SC 1.1** (No= **Not an estuarine wetland**)	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = **Category I** No - Go to **SC 1.2**	**Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = **Category I** No = **Category II**	**Cat. I** **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes **–** Go to **SC 2.2** (No – Go to **SC 2.3**) SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes **= Category I** No **= Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes **– Contact WNHP/WDNR and go to SC 2.4** (No **= Not a WHCV**) SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes **= Category I** No **= Not a WHCV**	**Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to **SC 3.3** (No – Go to **SC 3.2**) SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to **SC 3.3** (No = **Is not a bog**) SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = **Is a Category I bog** No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = **Is a Category I bog** No **= Is not a bog**	**Cat. I**

Wetland name or number A

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** — **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). Yes = **Category I** No = **Not a forested wetland for this section**	**Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* Yes – Go to **SC 5.1** No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) Yes = **Category I** No = **Category II**	**Cat. I** **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to **SC 6.1** No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = **Category I** No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = **Category II** No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = **Category III** No = **Category IV**	**Cat I** **Cat. II** **Cat. III** **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	**N/A**

This page left blank intentionally

APPENDIX B

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

Regulatory Branch December 20, 2018

Mr. Peter Ettro
ECM Riverside LLC
340 Oswego Pointe Drive, Suite 208
Lake Oswego, Oregon 97034

Reference: NWS-2018-167
ECM Riverside LLC

Dear Mr. Ettro:

We have reviewed your application to place fill in 0.35 of an acre of wetlands to construct a residential development near La Center, Clark County, Washington. Based on the information you provided to us, Nationwide Permit (NWP) 29, Residential Developments (Federal Register January 6, 2017, Vol. 82, No. 4), authorizes your proposal as depicted on the enclosed drawings dated April 18, 2018.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 29, Terms and Conditions* and the following special conditions:

a. You shall implement and abide by the *Bank Use Plan, Riverside Estates* dated, November 6, 2018 and obtain mitigation bank credits from the East Fork Lewis Mitigation Bank in accordance with Table 4 of the Bank Use Plan.

b. You shall obtain from the East Fork Lewis Mitigation Bank sponsor documentation of the completed mitigation bank transaction. You shall submit to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch documentation on the completed mitigation bank transaction prior to performing work in waters of the U.S. authorized by this permit. All submittals must prominently display the reference number NWS-2016-167.

c. Your responsibility to complete the required compensatory mitigation as set forth in Special Conditions “a” through “b” will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch.

d. The permittee must install and maintain sediment and erosion controls during construction at the site until all disturbed soils have been revegetated or otherwise stabilized.

e. You shall implement and abide by the *Archaeological Monitoring and Discovery Plan for Sites 45CL1234 and 45CL1235, La Center, Washington,* dated August 20, 2018. A professional archaeologist shall be on-site to monitor for the presence of archaeological resources during all ground disturbing activities.

f. You shall prepare and submit a summary report of the findings of the archaeological monitoring (positive or negative) to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch within 60 days after monitoring has been completed. The report must prominently display the reference number NWS-2016-167.

g. If human remains, historic resources, or archaeological resources are encountered during construction, all ground disturbing activities shall cease in the immediate area and you shall immediately (within one business day of discovery) notify the U.S. Army Corps of Engineers (Corps), Seattle District, Regulatory Branch. You shall perform any work required by the Corps in accordance with Section 106 of the National Historic Preservation Act and Corps regulations.

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act and the National Historic Preservation Act. We have determined this project complies with the requirements of these laws provided you comply with all of the permit general and special conditions.

Please note that National General Condition 21, *Discovery of Previously Unknown Remains and Artifacts,* found in the *Nationwide Permit Terms and Conditions* enclosure, details procedures that must be followed should an inadvertent discovery occur. You must ensure that you comply with this condition during the construction of your project.

We are unable to determine whether or not your project requires individual Water Quality Certification (WQC) from the Washington State Department of Ecology (Ecology). Before you may proceed with the work authorized by this NWP, you must contact Ecology regarding these requirements at: Washington Department of Ecology, Federal Permit Coordinator, P.O. Box 47600, Olympia, Washington 98504-7660; telephone: (360) 407-6076; or email: ecyrefedpermits@ecy.wa.gov.

If more than 180 days pass from when you provide Ecology a copy of this letter and request your individual WQC review and you have not heard from Ecology, your requirement to obtain an individual WQC becomes waived. You may then proceed to construction.

You have not requested a jurisdictional determination for this proposed project. If you believe the U.S. Army Corps of Engineers does not have jurisdiction over all or portions of your project you may request a preliminary or approved jurisdictional determination (JD). If one is requested, please be aware that we may require the submittal of additional information to complete the JD and work authorized in this letter may not occur until the JD has been completed.

Our verification of this NWP authorization is valid until March 18, 2022, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date and you have commenced or are under contract to commence this activity before March 18, 2022, you will have until March 18, 2023, to complete the activity under the enclosed terms and conditions of this NWP. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. You must also obtain all local, State, and other Federal permits that apply to this project.

You are cautioned that any change in project location or plans will require that you submit a copy of the revised plans to this office and obtain our approval before you begin work. Deviating from the approved plans could result in the assessment of criminal or civil penalties.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit*. Thank you for your cooperation during the permitting process. We are interested in your experience with our Regulatory Program and encourage you to complete a customer service survey. These documents and information about our program are available on our website at www.nws.usace.army.mil, select "Regulatory Branch, Permit Information" and then "Contact Us."

A copy of this letter with enclosures will be furnished to Ms. Steffanie Taylor of Ecological Land Services, Incorporated, 1157 3rd Avenue, Suite 220A, Vancouver, Washington 98632. If you have any questions, please contact me at (206) 316-3047 or james.h.carsner@usace.army.mil or.

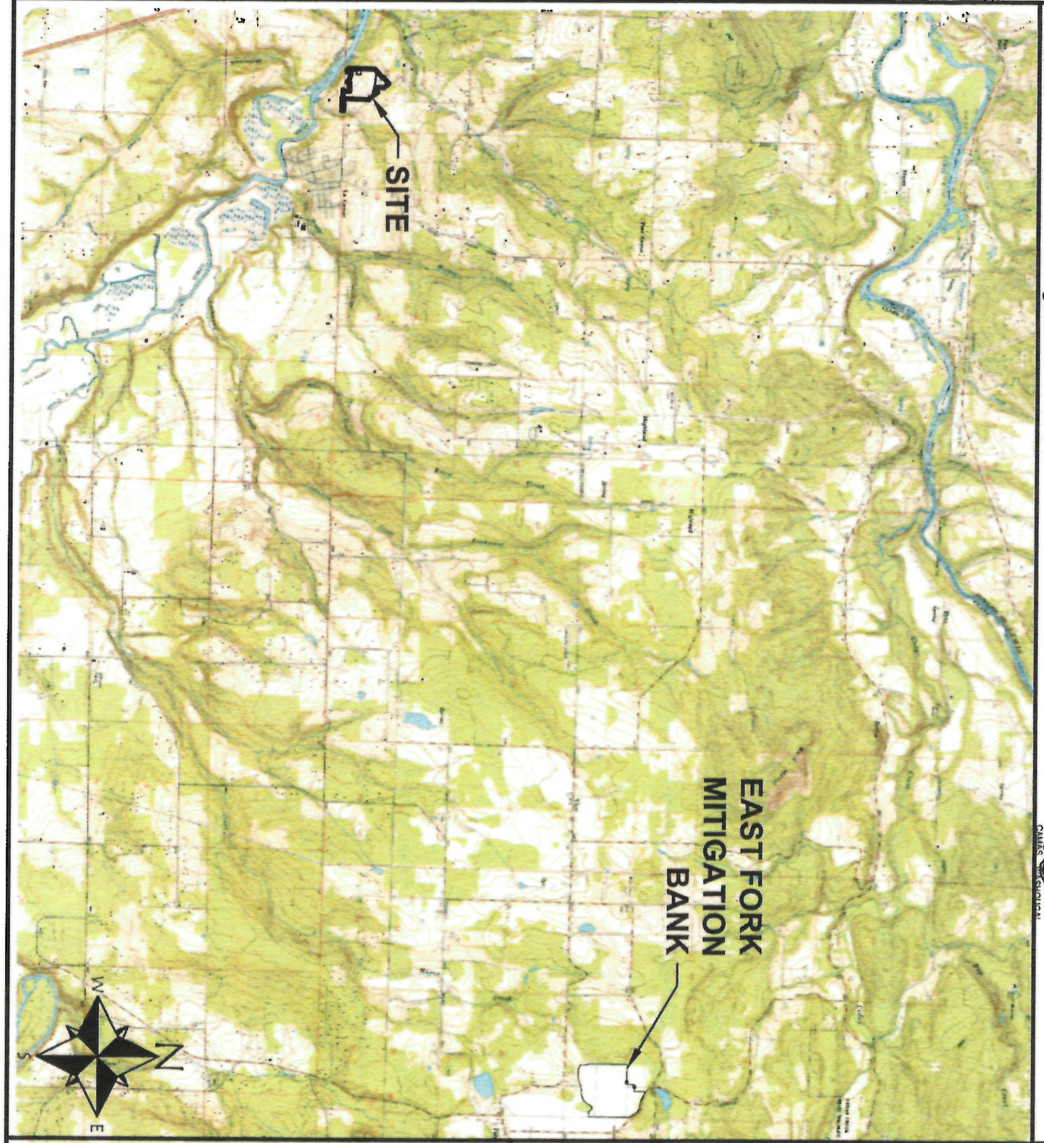
Sincerely,

James H. Carsner

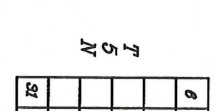
James H. Carsner, Project Manager
Regulatory Branch

Enclosures
cc: ecyrefedpermits@ecy.wa.gov

11/6/2018 10:49 AM s:\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\2776.01.dwg cpayne



NOTE:
USGS topographic quadrangle map reproduced using MAPTECH Inc., Terrain Navigator Pro software.

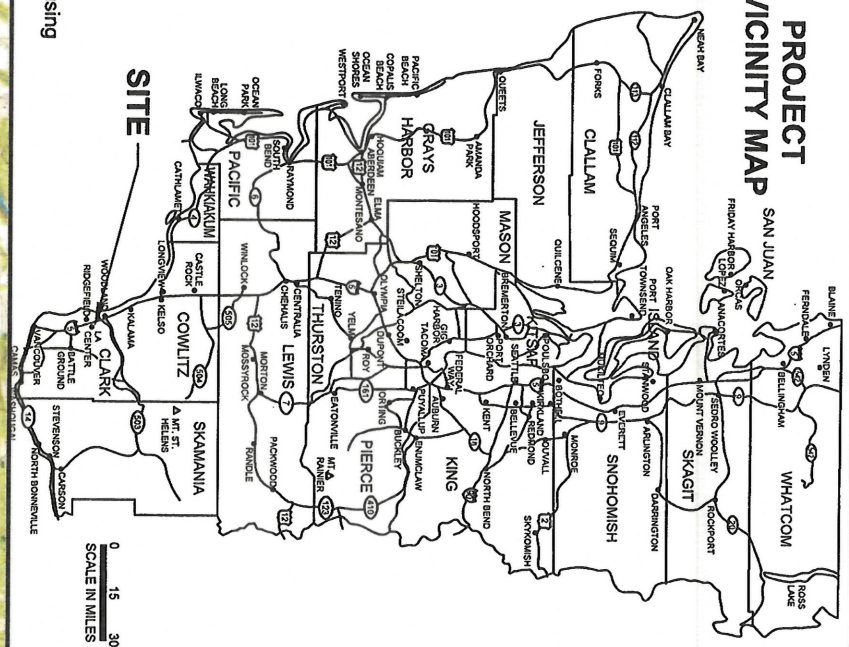


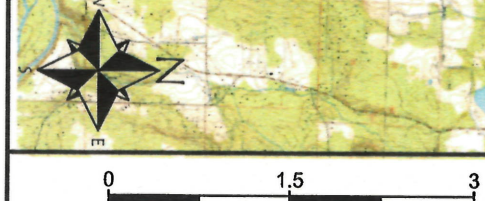
WASHINGTON

Latitude:45.8705°
Longitude:-122.6889°

LOCATION MAP

PROJECT VICINITY MAP





Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

PURPOSE:
Development of Subdivision

DATUM: NAD83
ADJACENT PROPERTY OWNERS:

SEE JARPA

VICINITY MAP
APPLICANT: ECM Riverside LLC
PROJECT NAME: Riverside Estates
REFERENCE #: Not yet assigned
SITE LOCATION ADDRESS:
34506 Old Pacific HWY
La Center, WA

NWS-2018-167

PROPOSED: Wetland fill

IN Onsite Wetlands
NEAR: La Center
COUNTY: Clark **STATE:** WA
SHEET 1 **OF** 4
DATE: 11/6/18

11/6/2018 10:49 AM s:\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\2776.01.dwg cpayne

0 150 300
SCALE IN FEET

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

PURPOSE: Development of Subdivision

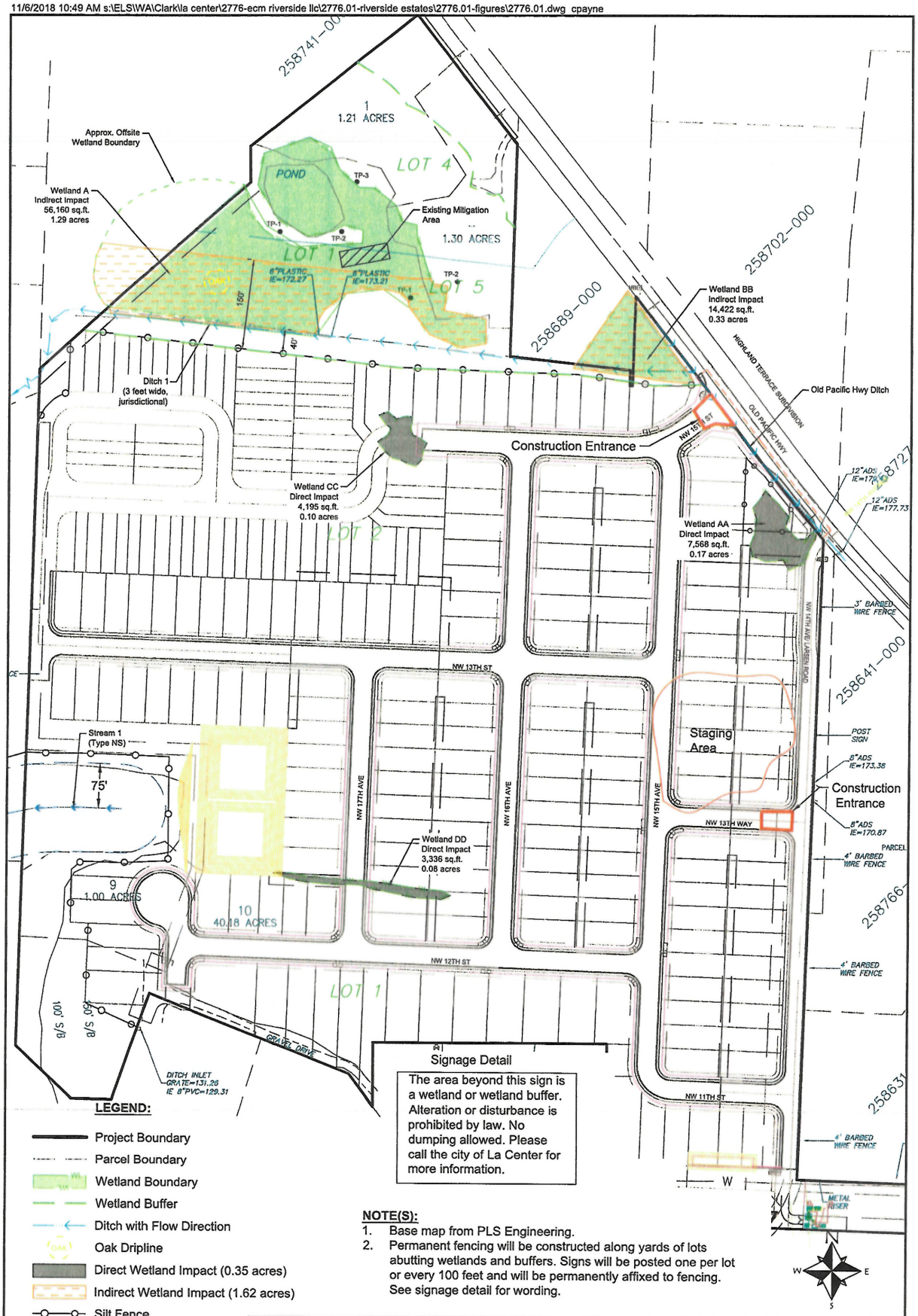
DATUM: NAD83
ADJACENT PROPERTY OWNERS:
SEE JARPA

EXISTING CONDITIONS SITE MAP
APPLICANT: ECM Riverside LLC
PROJECT NAME: Riverside Estates
REFERENCE #: Not yet assigned
SITE LOCATION ADDRESS:
34506 Old Pacific HWY
La Center, WA NWS-2018-167

PROPOSED: Wetland fill

IN Onsite Wetlands
NEAR: La Center
COUNTY: Clark **STATE:** WA
SHEET 2 **OF** 4
DATE: 11/6/18

11/6/2018 10:49 AM s:\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\2776.01.dwg cpayne



NOTE(S):

1. Base map from PLS Engineering.
2. Permanent fencing will be constructed along yards of lots abutting wetlands and buffers. Signs will be posted one per lot or every 100 feet and will be permanently affixed to fencing. See signage detail for wording.

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

PURPOSE: Development of Subdivision

DATUM: NAD83

ADJACENT PROPERTY OWNERS: SEE JARPA

PROPOSED CONDITIONS SITE MAP

APPLICANT: ECM Riverside LLC

PROJECT NAME: Riverside Estates

REFERENCE #: Not yet assigned

SITE LOCATION ADDRESS: 34506 Old Pacific HWY La Center, WA NWS-2018-167

PROPOSED: Wetland fill

IN Onsite Wetlands

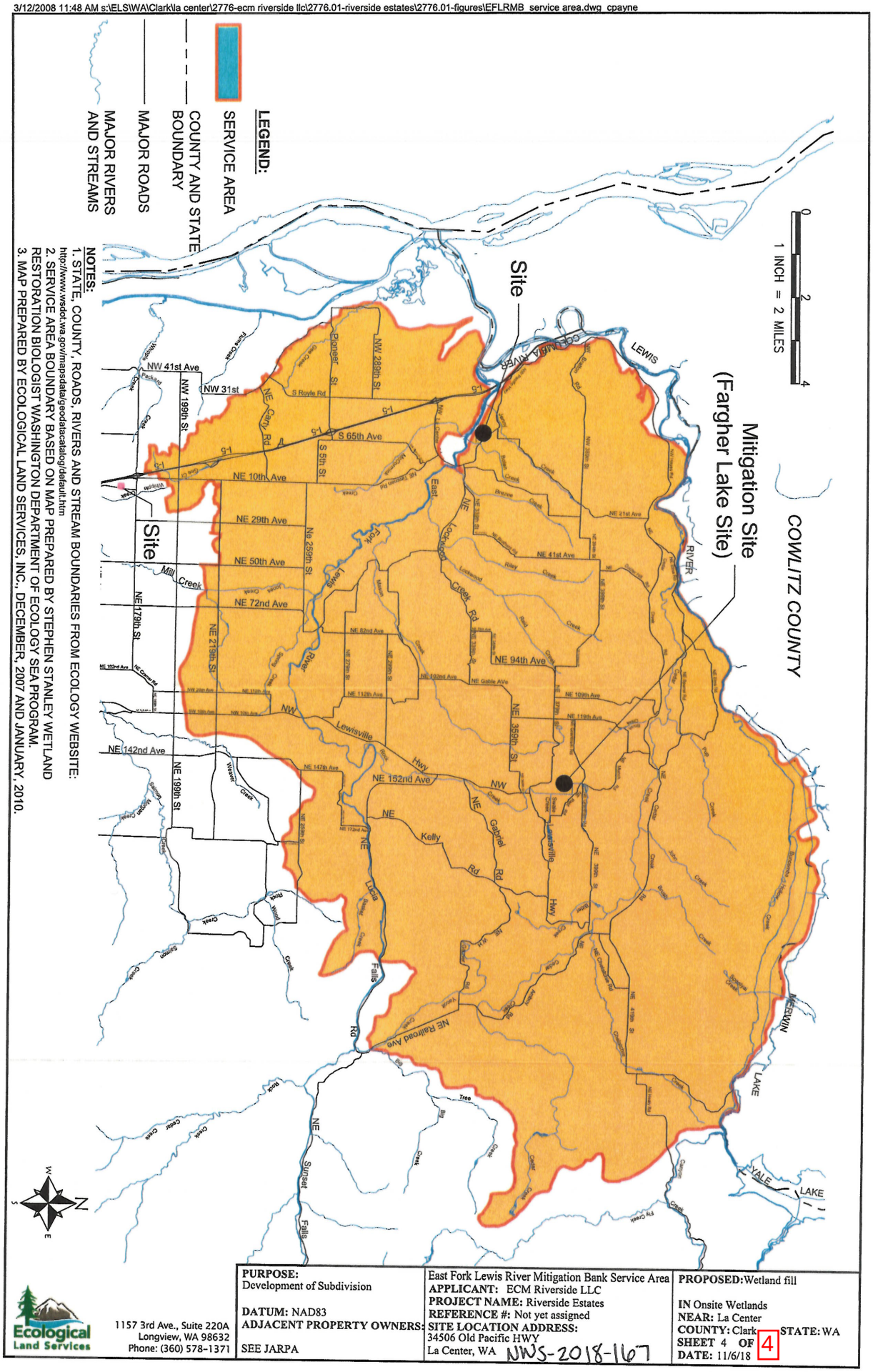
NEAR: La Center

COUNTY: Clark **STATE:** WA

SHEET 3 **OF** 4

DATE: 11/6/18

3/12/2008 11:48 AM s:\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\EFLRMB_service area.dwg cpayne



NOTES:
1. STATE, COUNTY, ROADS, RIVERS AND STREAM BOUNDARIES FROM ECOLOGY WEBSITE: http://www.wsdot.wa.gov/mapsdata/geodatacatalog/default.htm
2. SERVICE AREA BOUNDARY BASED ON MAP PREPARED BY STEPHEN STANLEY WETLAND RESTORATION BIOLOGIST WASHINGTON DEPARTMENT OF ECOLOGY SEA PROGRAM.
3. MAP PREPARED BY ECOLOGICAL LAND SERVICES, INC., DECEMBER, 2007 AND JANUARY, 2010.

Ecological Land Services

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

PURPOSE: Development of Subdivision

DATUM: NAD83

ADJACENT PROPERTY OWNERS: SEE JARPA

East Fork Lewis River Mitigation Bank Service Area
APPLICANT: ECM Riverside LLC
PROJECT NAME: Riverside Estates
REFERENCE #: Not yet assigned
SITE LOCATION ADDRESS: 34506 Old Pacific HWY La Center, WA

NWS-2018-167

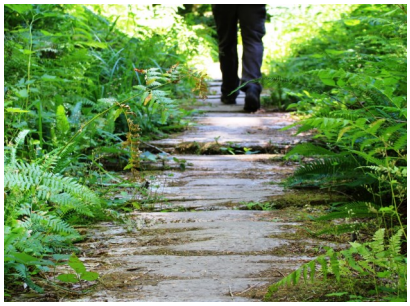
PROPOSED: Wetland fill

IN Onsite Wetlands
NEAR: La Center
COUNTY: Clark **STATE:** WA
SHEET 4 **OF** 4
DATE: 11/6/18

APPENDIX C

CRITICAL AREAS REPORT

September 11, 2018



Riverside Estates

La Center, Washington

Prepared for

ECM Riverside LLC.
340 Oswego Pointe Drive , Suite 208
Lake Oswego, Oregon 97034
(503) 454-6551

Prepared by

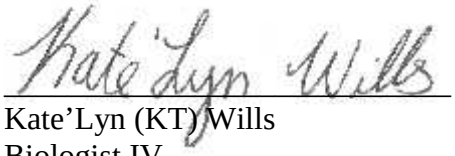
Ecological Land Services

1157 3rd Avenue, Suite 220A • Longview, WA 98632

(360) 578-1371 • Project Number 2776.01

SIGNATURES

The information and data in this report were compiled and prepared under the supervision and direction of the undersigned.



Kate'Lyn (KT) Wills
Biologist IV

TABLE OF CONTENTS

Figures and Photoplates:

Appendix A:

Appendix B:

INTRODUCTION

Ecological Land Services, Inc. (ELS) has completed the following critical areas report on behalf of the applicant, ECM Riverside, LLC, for the future development of the property. The study area consists of Clark County Tax Parcels 986028-825, 986030-202, and 986030-201 located in Section 33, Township 5 North, and Range 1 East of the Willamette Meridian (Figure 1). This report summarizes the findings of critical areas onsite in accordance with the City of La Center Municipal Code (LCMC), *Chapter 18.300.090, Critical Lands* (2018).

SITE DESCRIPTION

The approximately 5-acre study area is zoned Medium Density Residential (MDR-16), by Clark County. The site has historically been used for farming and raising of animals and is currently vacant apart from decaying fence lines. An approximately 0.25-acre area in the central southern portion of the study area was planted as mitigation for an earlier project. Properties to the east, west, and north consist similarly of multiple acre parcels consisting of single-family homes and farmland. The property directly south of the study area is currently in development for the purpose of a residential subdivision. NW Pacific Highway runs along the northeastern boundary of the study area (Figure 2, Photoplates).

METHODOLOGY

The wetland delineation followed the Routine Determination Method according to the U.S. Army Corps of Engineers, *Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Engineer Research and Development Center 2010).

The Routine Determination Method examines three parameters—vegetation, soils, and hydrology—to determine if wetlands exist in a given area. Hydrology is critical in determining what is wetland, but is often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are regulated as "Waters of the United States" by the U.S. Army Corps of Engineers (Corps), as "Waters of the State" by the Washington Department of Ecology (Ecology), and locally by *LCMC 18.300.090.*

ELS biologists conducted a reconnaissance of the property on August 8 and 19, 2018 to determine the presence or absence of any wetlands, streams, and other critical areas on the site and map their approximate locations. Prior to conducting the site visit, an ELS biologist reviewed current and historic aerial photographs dating back to 1990 and reviewed the Clark County GIS database information regarding soils, topography, wetlands, and habitat conservation areas. One depressional and slope wetland (Wetland A) was located within the central portion of the study area and continuing offsite to the east (Figure 2). Vegetation, soil,

and hydrology information was collected from five test plots to determine the location and extent of the wetland onsite (Appendix A). Wetland boundaries and test plot locations were flagged and recorded using a hand-held Trimble GPS unit with sub-meter accuracy. Additionally, the location, diameter at breast height (dbh) and dripline of one Oregon white oak (*Qurecus garryana*) was recorded using the hand-held GPS unit.

VEGETATION

Wetlands

Vegetation found in the wetland test plot consists primarily of **saplings/shrubs:** black hawthorn (*Crataegus douglasii*, FAC), red-osier dogwood (*Cornus sericea*, FACW), and an unknown willow (*Salix spp.*, FACW); **herbs:** reed canarygrass (*Phalaris arundinacea*, FACW), and tall fescue (*Festuca arundinaea*, FAC).

Uplands

Vegetation found in the upland test plots consists primarily of **trees:** weeping willow (*Salix sepulcralis*, FACW), water birch (*Betula occidentalis*, FACW); **saplings/shrubs:** scotch broom (*Cytisus scoparius*, FACU), Pacific willow (*Salix lucida*, FACW); **herbs:** velvetgrass (*Holcus lanatus*, FAC), red fescue (*Festuca rubra*, FAC), bentgrass species (*Agrostis spp.*, FAC), Canada thistle (*Cirsium arvense*, FAC), and reed canarygrass; and **woody vines:** Himalayan blackberry (*Rubus armeniacus*, FAC).

The indicator status, following the scientific names, indicates the likelihood of the species to be found in wetlands. Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

- **OBL** (obligate wetland) - occur almost always under natural conditions in wetlands.
- **FACW** (facultative wetland) - usually occur in wetlands, but occasionally found in non-wetlands.
- **FAC** (facultative) - equally likely to occur in wetlands or non-wetlands.
- **FACU** (facultative upland) - usually occur in non-wetlands, but occasionally found in wetlands.
- **UPL** (obligate upland) - occur almost always under natural conditions in non-wetlands.
- **NI** (no indicator) - insufficient data to assign to an indicator category.

SOILS

The Natural Resources Conservation Service (NRCS) designates soils within the study area as Gee silt loam, 8 to 20 percent slopes (GeD) and Odne silt loam, 0 to 5 percent slopes (OdB) (Figure 3). Gee silt loam is characterized as moderately well drained while Odne silt loam is characterized as poorly drained; both soils are found on terraces. Odne silt loam, 0 to 5 percent slopes is considered hydric (NRCS 2017).

Wetlands
Evaluated soil within Test Plot 1 consisted of silty clay loam (10YR 3/2) with redoximorphic features (5YR 4/6) observed from 0-12 inches BGS as concentrations found as soft masses. Test Plot 1 meets the hydric soil indicator Redox Dark Surface (F6).

Uplands
Evaluated soils within upland test plots consisted of silt loam (10YR 3/2, 3/3, 4/2, and 4/3) throughout the profile with redoximorphic features (7.5YR5/6, 10YR4/6) observed in the lower portions of the profiles.

Mapped hydric soil does not necessarily mean the area is a wetland- hydrology, wetland vegetation, and hydric soils must all be present to classify an area as a wetland. Conversely, wetlands may be found in areas where the soils are not mapped as hydric. Specific soil information is recorded on the attached wetland determination data forms (Appendix A).

HYDROLOGY

Wetland A is located along a slope containing the farm pond in the central portion of the study area. During high water events the farm pond spills over and drains downslope. Wetland hydrology likely comes from upslope runoff, a seasonally high groundwater table, and precipitation. Hydroperiods of Wetland A include permanently flooded, seasonally flooded, and saturated only. The wetland functions to slow surface flow and to recharge groundwater. The wetland test plot contained the primary hydrology indicator, Oxidized Rhizospheres along Living Roots (C3). The following secondary hydrology indicators were also present: Saturation Visible on Aerial Imagery (C9) and a positive FAC-Neutral Test (D5).

NATIONAL WETLANDS INVENTORY

The National Wetlands Inventory (NWI) map indicates a Palustrine, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded (PUBHh) wetland in the location of the farm pond (Figure 4). Observations made by ELS were consistent with NWI mapping of the farm pond, however, a slope wetland was also identified as extending from the farm pond to the south. NWI maps are typically used to gather wetland information about a region and due to the large scale necessary for regional mapping are limited in accuracy for localized analyses.

CRITICAL AREAS SUMMARY

Wetlands
One emergent, scrub/shrub, slope and depressional wetland (Wetland A) totaling 2.18 acres was delineated in the central portion of the study area. The majority of the wetland consists of a slope that was bordered by an obvious change in vegetation and hydrology. The farm pond comprises the depressional portion of the wetland which was bordered by a berm along the southern edge that was approximately five feet high. Vegetation found in the wetland test plot consists primarily of black hawthorn, red-osier dogwood, willow, reed canarygrass, and tall fescue. The wetland experiences yearly mowing. Wetland hydrology likely comes from upslope runoff, a seasonally high groundwater table, and precipitation. Hydroperiods of Wetland A include permanently flooded, seasonally flooded, and saturated only. The wetland functions to slow

surface flow and to recharge groundwater. The farm pond comprises at least ten percent of the total wetland area and therefore the depresssional HGM class was used for rating. According to the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Rating System), Wetland A is a Category III depressional wetland scoring a total of 18 points: 6 points for water quality functions, 5 points for hydrologic functions, and 7 points for habitat functions (Hruby 2014). A summary of Wetland A is shown in Table 1 below. According to *Table 18.300.090(6)(h)(i)*-2 of the LCMC, designated buffer widths for a Category III wetland with a moderate habitat function and a high intensity land use is 150 feet. The wetland rating form can be found in Appendix B.

Farm Ditch

An approximately 3-foot wide, 3-foot deep ditch was mapped flowing east to west along the southern boundary of the study area. A driveway crosses the ditch where it is conveyed via culvert. The ditch abuts Wetland A west of the culvert and driveway crossing. The ditch was dry at the time of the site visit. The dominant vegetation in the ditch was composed of reed canarygrass and bentgrass.

Priority Habitat and Species

Oregon White Oak

According to *LCMC 18.300.090(2)(iv)*, Oregon white oak trees are considered priority habitat and species by the Washington Department of Fish and Wildlife (WDFW) therefore the City shall defer to WDFW in regards to classification, mapping, and interpretation of priority habitat species, and regulations.

In urban or urbanizing areas west of the Cascades, WDFW defines priority oak habitat as single oaks, or stands of pure oak, or oak/conifer associations, 1 acre or greater in size. WDFW may also consider individual Oregon white oak trees a priority habitat when found to be particularly valuable to wildlife (i.e., contains many cavities, has a large DBH, is used by priority species, or has a large canopy) (Larsen and Morgan 1998). The project site is within an urban growth boundary. WDFW recommendation is that in urban and urbanizing areas, single trees should be maintained if they are deemed important to species highly associated with Oregon white oak. Oaks and their associated floras comprise distinct woodland ecosystems with various plant communities providing valuable habitat that contributes to wildlife diversity; Oak woodlands provide a mix of feeding, resting, and breeding habitat for many wildlife species (Larsen and Morgan 1998).

ELS observed a single, mature oak that was approximately 36-inches DBH in the southwestern portion of the study area within Wetland A (Figure 2).

Table 1. Critical Areas Summary

Wetland	Category[1]/Cowardin Class[2]/HGM Class[3]	Size	Buffer Width[4]
Wetland A	III/Emergent, Scrub-Shrub/Slope-Depressional	2.18 acres	150 feet
Farm Ditch	N/A	N/A	N/A
Oregon White Oak	N/A	36 inches DBH	N/A

[1]*Hruby 2014*
[2]*Cowardin et al. 1979*
[3]*NRCS 2008*
[4]*LCMC 18.300.090(6)(h)(i)-2*

LIMITATIONS

ELS bases the above listed determinations and conclusions on standard scientific methodology and best professional judgment. In our opinion, the conclusions should agree with local, state, and federal regulatory agencies. However, this should be considered a preliminary jurisdictional determination and should be used at your own risk until it has been reviewed and approved in writing by the appropriate regulatory agencies.

REFERENCES

City of La Center. March 2018. *La Center Municipal Code, Chapter 18.300.090. Critical Lands.*

Cowardin, L.M., C. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-78/31. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services, Washington D.C.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual,* Technical Report Y-87-1. U.S. Army Corps of Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Hruby, T. 2014. *Washington State Wetland Rating System for Western Washington – 2014 Update.* Washington State Department of Ecology Publication #04-06-025.

Larsen, E. M., and J. T. Morgan. 1998. *Management recommendations for Washington's priority habitats: Oregon white oak woodlands*. Washington Department of Fish and Wildlife, Olympia. 37pp.

Natural Resource Conservation Service (NRCS). 2008. *Hydrogeomorphic Wetland Classification System: An Overview and Modification to Better Meet the Needs of the Natural Resources Conservation Service.* United States Department of Agriculture Technical Note, #190-8-76.

Natural Resources Conservation Service (NRCS). 2018. Web Soil Survey. Available at: http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed May 2018.

U.S. Army Corps of Engineers. 2010. *Final Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-13. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Fish and Wildlife Service. 2018. *National Wetlands Inventory.* http://wetlandsfws.er.usgs.gov/wtlnds/launch.html. Accessed May 2018.

Washington Department of Fish and Wildlife (WDFW). 2018. PHS on the Web. http://apps.wdfw.wa.gov/phsontheweb/. Accessed August, 2018.

FIGURES & PHOTOPLATES

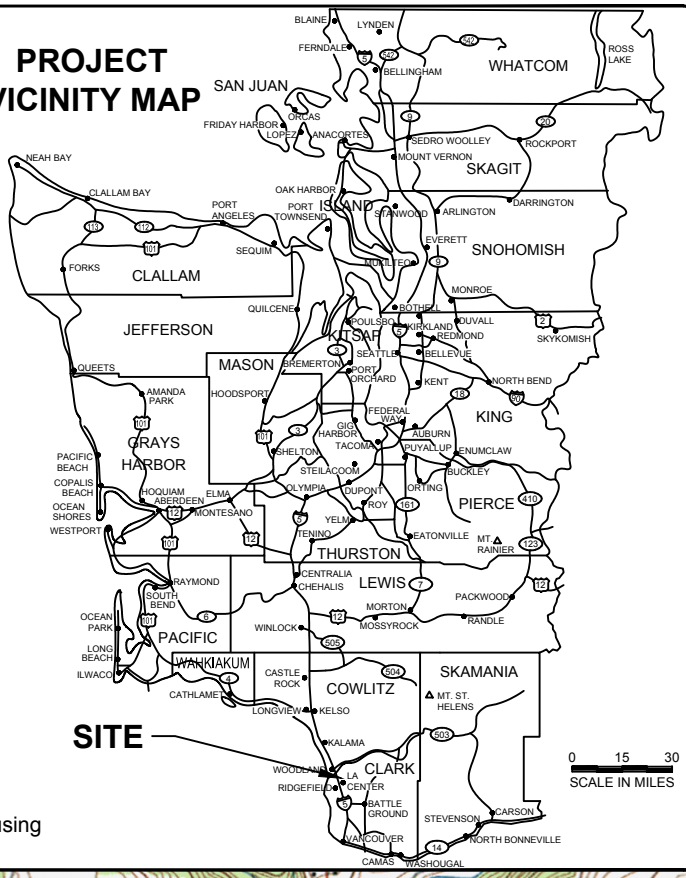
WASHINGTON

SITE

Latitude:45.8705°
Longitude:-122.6889°

LOCATION MAP

PROJECT VICINITY MAP



R 1 E

6					1
31					36

T 5 N

NOTE:
USGS topographic quadrangle map reproduced using MAPTECH Inc., Terrain Navigator Pro software.

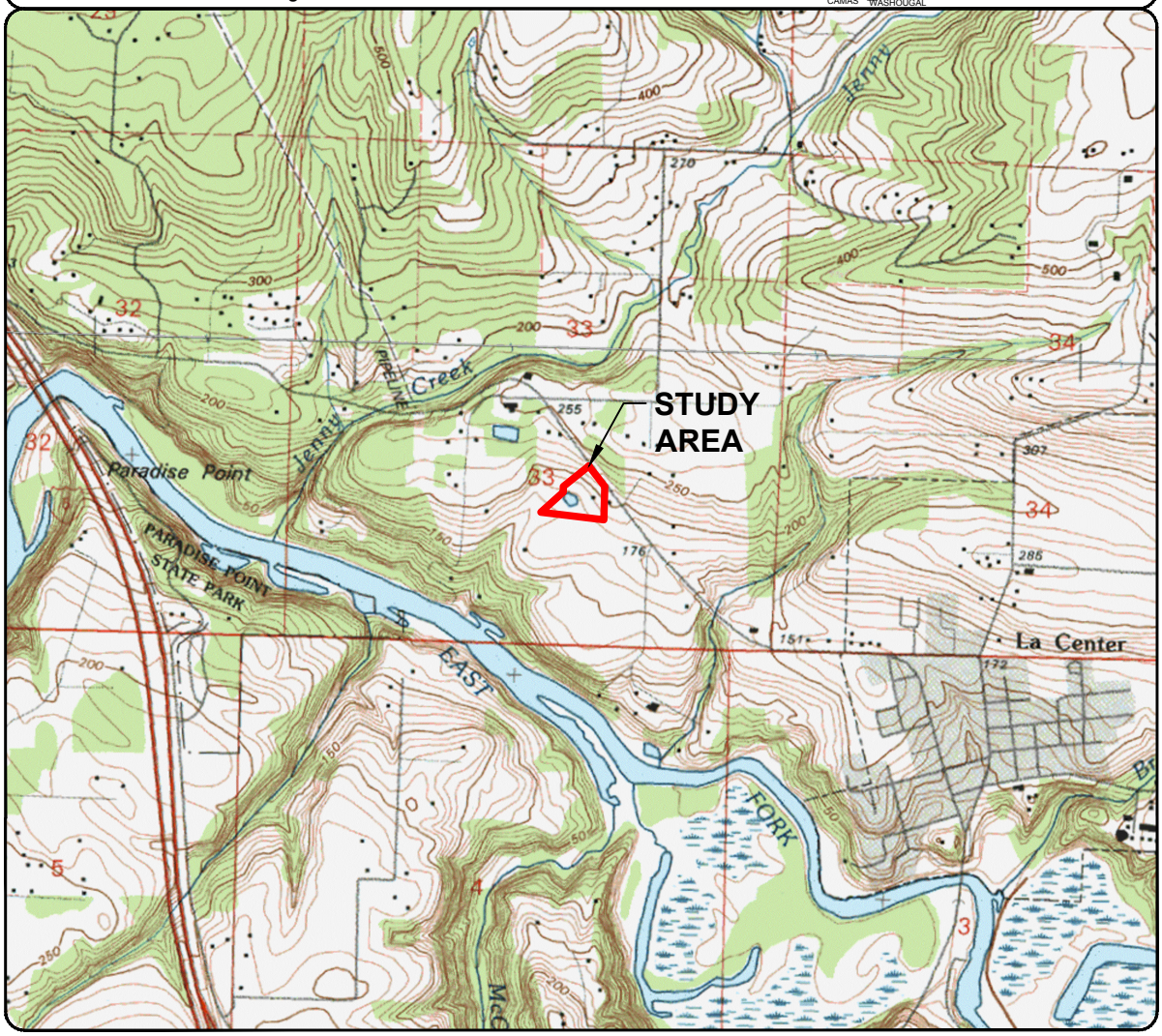


Figure 1
VICINITY MAP
Riverside Estates
ECM Riverside LLC
City of La Center, Clark County, Washington
Section 33, Township 5N, Range 1E, W.M.

DATE: 9/19/18
DWN: CDP
REQ. BY: KT
PRJ. MGR: FN
CHK: FN
PROJECT NO: 2776.01

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com

Ecological Land Services

0 2000 4000
SCALE IN FEET

N
W E
S

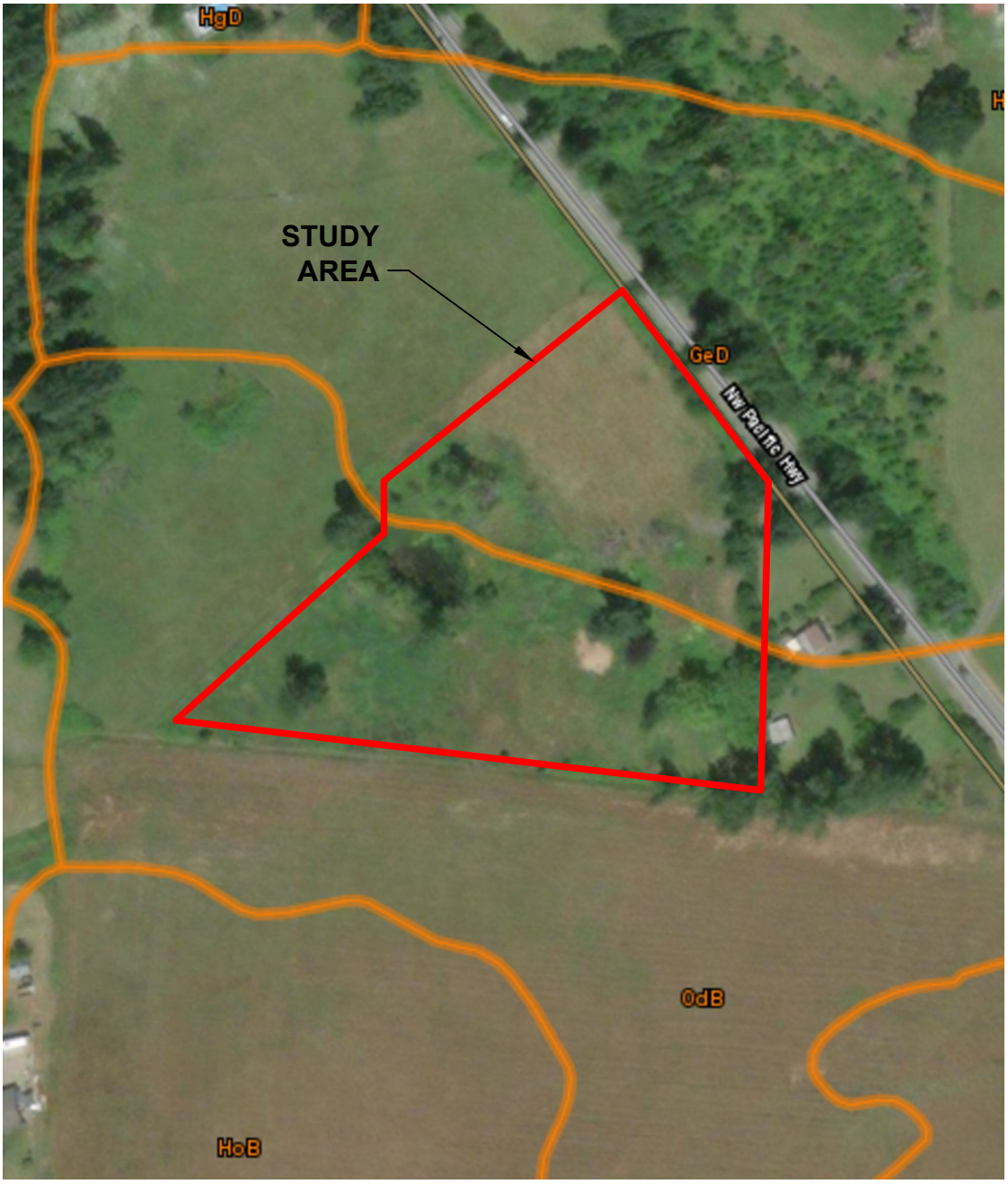
9/19/2018 9:44 AM s:\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\2776.01_CAR.dwg cpayne

Figure 2
SITE MAP
Riverside Estates
ECM Riverside LLC
City of La Center, Clark County, Washington
Section 33, Township 5N, Range 1E, W.M.

DATE: 9/19/18
DWN: CDP
REQ. BY: KT
PRJ. MGR: FN
CHK: FN
PROJECT NO: 2776.01

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com

9/19/2018 9:44 AM s:\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\2776.01_CAR.dwg cpayne



LEGEND:

OdB Odne silt loam, 0 to 5 percent slopes. **Hydric.**
GeD Gee silt loam, 8 to 20 percent slopes. Not hydric.

NOTE(S):

1. Map provided online by NRCS at web address: *http://websoilsurvey.nrcs.usda.gov/app/*

Figure 3
NRCS SOIL SURVEY MAP
Riverside Estates
ECM Riverside LLC
City of La Center, Clark County, Washington
Section 33, Township 5N, Range 1E, W.M.

DATE: 9/19/18
DWN: CDP
REQ. BY: KT
PRJ. MGR: FN
CHK: FN
PROJECT NO: 2776.01

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com
Ecological Land Services

0 200 400
SCALE IN FEET

N
W E
S

Mapped wetlands indicated onsite by US Fish & Wildlife Service.

LEGEND:

Freshwater Pond

PUBHh Palustrine, unconsolidated bottom, permanently flooded, diked/impounded.

NOTE(S):

1. Map provided online by US Fish & Wildlife Service at web address: *http://www.fws.gov/wetlands/data/index.html*

Figure 4
NATIONAL WETLANDS INVENTORY MAP
Riverside Estates
ECM Riverside LLC
City of La Center, Clark County, Washington
Section 33, Township 5N, Range 1E, W.M.

DATE: 9/19/18
DWN: CDP
REQ. BY: KT
PRJ. MGR: FN
CHK: FN
PROJECT NO: 2776.01

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com
Ecological Land Services

0 200 400
SCALE IN FEET

N
W E
S

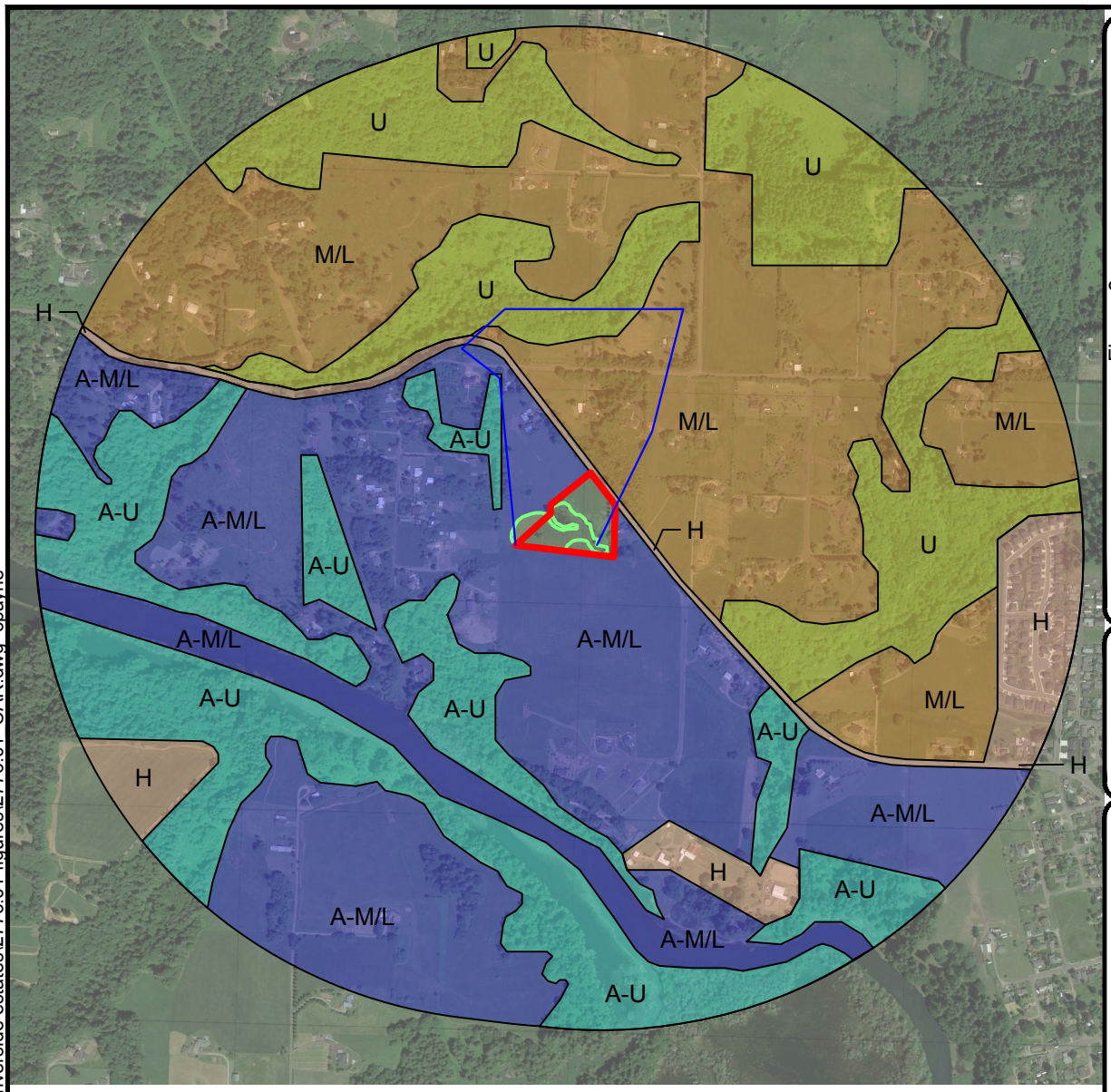
NOTE(S):

1. Aerial photo from Google Earth™.

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com

DATE: 9/19/18
DWN: CDP
REQ. BY: KT
PRJ. MGR: FN
CHK: FN
PROJECT NO: 2776.01

Figure 5
150' OFFSET WETLAND RATING FIGURE
Riverside Estates
ECM Riverside LLC
City of La Center, Clark County, Washington
Section 33, Township 5N, Range 1E, W.M.



LEGEND:

WL Wetland Unit Boundary

Contributing Basin (10x area of wetland)

H2.1 Accessible Habitat

A-U A-U (17%)

A-M/L A-M/L (32%)

H2.2 Undisturbed Habitat

U U (16%)

M/L M/L (30%)

H2.3 Land Use Intensity

H H (5%)

H 2.1 - Accessible habitat is 20-33% of 1 km Polygon (33%).
H 2.2 - Undisturbed habitat 10-50% and > 3 patches (64%).
H 2.3 - ≤ 50% of polygon is high land use intensity.

NOTE(S):

1. Aerial photo from Google Earth™.

Figure 6
1KM OFFSET WETLAND RATING FIGURE
Riverside Estates
ECM Riverside LLC
City of La Center, Clark County, Washington
Section 33, Township 5N, Range 1E, W.M.

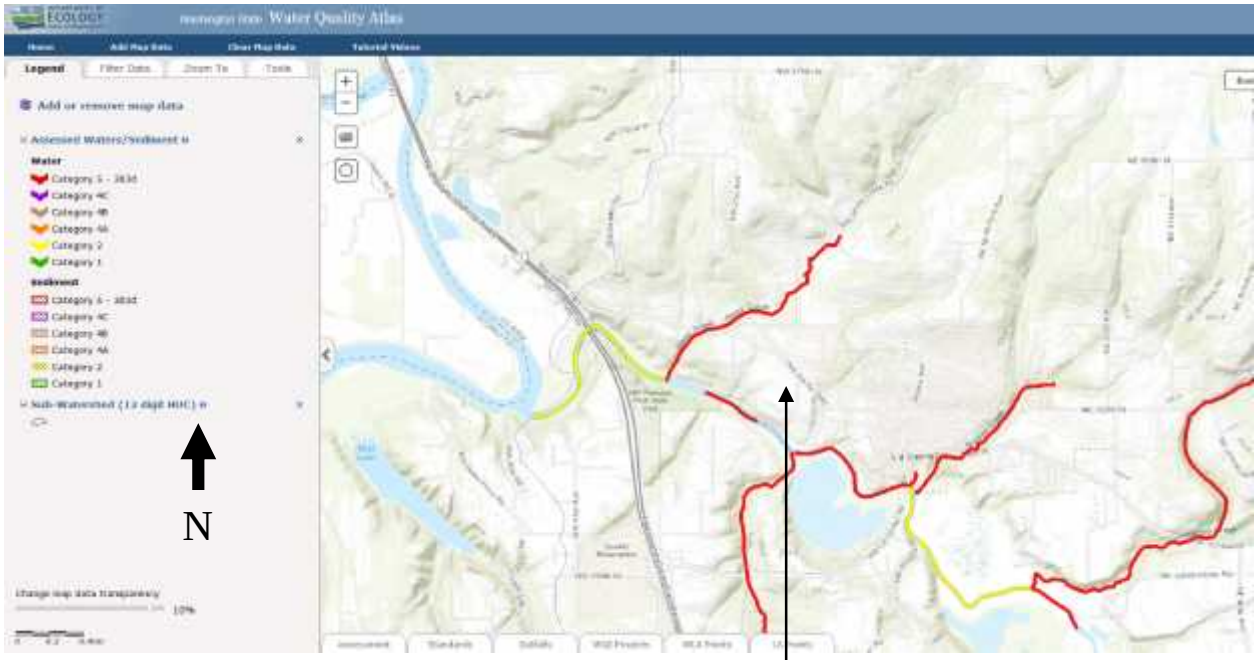
DATE: 9/19/18
DWN: CDP
REQ. BY: KT
PRJ. MGR: FN
CHK: FN
PROJECT NO: 2776.01

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com
Ecological Land Services

SCALE IN FEET
0
1200
2400

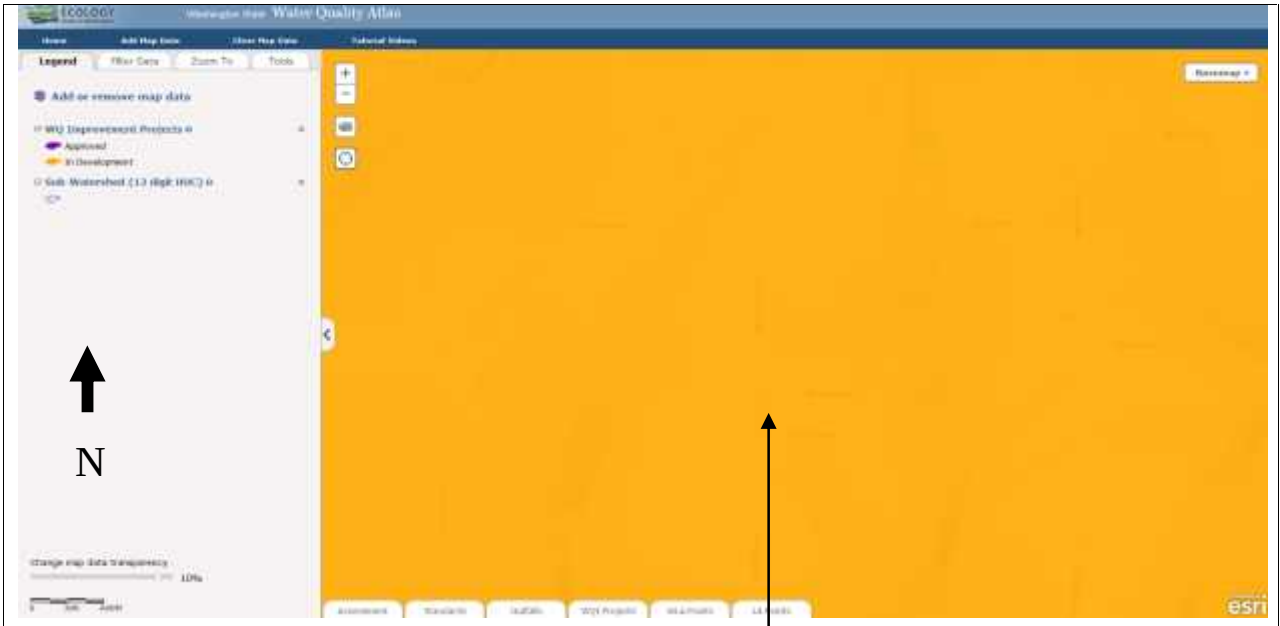
N
W
E
S

9/19/2018 9:44 AM s:\ELS\WA\Clark\la center\2776-ecm riverside llc\2776.01-riverside estates\2776.01-figures\2776.01 CAR.dwg cpayne



Study Area

Ecological Land Services	1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371 Fax: (360) 414-9305	DATE: 08/14/18 DWN: KT PRJ. MGR: KT PROJ.#: 2776.01	Figure 7 303(d) Listed Waters



Study Area

Ecological Land Services	1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371 Fax: (360) 414-9305	DATE: 8/14/18 DWN: KT PRJ. MGR: KT PROJ.#: 2776.01	Figure 8 TMDLs

Photo 1: This photo was taken from the top of the berm on the southeastern corner facing northwest across the farm pond.

Photo 2: This photo was taken from south of the farm pond facing west. The orange construction fencing surrounds the farm pond.

Photo 3: This photo was taken from the eastern site boundary facing southwest along the fence line.

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305

DATE: 9/6/18
DWN: KT
PRJ. MGR: FN
PROJ.#:
2667.01

Photoplate 1
Site Photos
Riverside Estates
ECM Riverside LLC.
La Center, Washington

Photo 4: This photo was taken from the farm drive crossing facing east along the ditch. The oak tree can be seen in the background in the right of the frame.

Photo 5: This photo was taken from just south of the farm drive crossing facing north. The orange construction fencing in the background surrounds the farm pond.

Photo 6: This photo was taken from east of the existing mitigation plantings facing northwest towards the farm pond.

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305

DATE: 9/6/18
DWN: KT
PRJ. MGR: FN
PROJ.#: 2776.01

Photoplate 2
Site Photos
Riverside Estates
ECM Riverside LLC.
La Center, Washington

APPENDIX A: WETLAND DETERMINATION DATA FORMS

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

Project/Site: Riverside Estates City/County: La Center/Clark Sampling Date: 8/19/18
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP1
Investigator(s): Naglich, Francis and Rendleman, Annie Jean Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): Drainageways, terraces Local relief: (concave, convex, none): Concave Slope (%): <5%
Subregion (LRR): A Lat: 45.87008 Long: -122.6885 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** **Yes☒ No☐**
Hydric Soils Present?	Yes ☒ No ☐	
Wetland Hydrology Present?	Yes ☒ No ☐	

Remarks: This test plot was located in Parcel # 986028825, within the southeast portion. The vegetation in this test plot consisted mostly of grasses, with trace amounts of shrubs and trees. This test plot met all three wetland indicators with 100% hydrophytic vegetation, soils with redox dark surface, and the presence of the following hydrology indicators; Oxidized Rhizospheres along Living Roots (C3), Saturation Visible on Aerial Imagery (C9), and a positive FAC Neutral Test (D5)).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Crataegus douglasii*	5%	yes	FAC
2. *Cornus sericea*	5%	yes	FACW
3. *Salix spp*	5%	yes	FACW
4.	%		
5.	%		
50% = 7 20% = 1	15%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	70%	yes	FACW
2. *Festuca arundinacea*	20%	yes	FAC
3. *Lotus corniculatus*	10%	no	FAC
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 100 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR3/2	85%	5YR4/6	15%	C	M	Silty Clay	
12-16	10YR4/2	95%	10YR4/6	5%	C	M	Silty Clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes☒ No☐**

Remarks: The hydric soil indicator Redox Dark Surface (F6) was met due to a matrix value of 3 and a chroma of 2 with more than 5 percent redox concentrations found as soft masses.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches):

Wetland Hydrology Present? **Yes ☒ No ☐**

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

Remarks:The following hydrology indicators were found within the test plot: Oxidized Rhizospheres along Living Roots (C3), Saturation Visible on Aerial Imagery (C9), and a positive FAC Neutral Test (D5).

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

Project/Site: Riverside Estates City/County: La Center/Clark Sampling Date: 8/19/18
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP2
Investigator(s): Naglich, Francis and Rendleman, Annie Jean Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): Drainageways, terraces Local relief: (concave, convex, none): Convex Slope (%): <5%
Subregion (LRR): A Lat: 45.8702 Long: -122.6882 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☐ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes☐ No☒
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: This test plot was located in Parcel # 986030202. This test plot exhibited hydrophytic vegetation, but did not meet the criterion for hydric soils or wetland hydrology, and is therefore not considered a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Betula occidentalis*	30%	yes	FACW
2. *Acer macrophyllum*	10%	yes	FACU
3.	%		
4.	%		
50% = 20 20% = 8	40%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Festuca rubra*	65%	yes	FAC
2. *Polygonum cuspidatum*	5%	no	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 35 20% = 14	70%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1. *Rubus armeniacus*	40%	yes	FAC
2.	%		
50% = 20 20% = 8	40%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC 75 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: The hydrophytic vegetation criterion is met due to 75% of the dominant species had either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR3/3	100%		%			Silt Loam	
12-16	10YR4/3	100%		%			Silt Loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes**☐ **No**☒

Remarks: There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches):

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:There was no evidence of hydrology within this test plot.

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

Project/Site: Riverside Estates City/County: La Center/Clark Sampling Date: 8/8/18
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP3
Investigator(s): Naglich, Francis and Wills, KT Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): Drainageways, terraces Local relief: (concave, convex, none): Convex Slope (%): <5%
Subregion (LRR): A Lat: 45.8703 Long: -122.6893 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes☐ No☒
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: This test plot was located in parcel # 986030202.This test plot exhibited hydrophytic vegetation, but did not meet the criterion for hydric soils or wetland hydrology, and is therefore not considered a wetland.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft radius)			
1. *Salix sepulcralis*	30%	yes	FACW
2.	%		
3.	%		
4.	%		
50% = 15 20% = 6	30%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Cytisus scoparius*	5%	yes	FACU
2.	%		
3.	%		
4.	%		
5.	%		
50% = 2 20% = 1	5%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	20%	yes	FACW
2. *Cirsium arvense*	15%	yes	FAC
3. *Lotus corniculatus*	10%	no	FAC
4. *Holcus lanatus*	10%	no	FAC
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 27 20% = 11	55%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1. *Rubus armeniacus*	30%	yes	FAC
2.	%		
50% = 15 20% = 6	30%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 80 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: The hydrophytic vegetation criterion is met due to 80% of the dominant species had either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR4/3	93%	10YR4/6	7%	C	M	Silt Loam	
14-16	10YR4/2	93%	10YR4/6	7%	C	M	Silt Loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? Yes☐ No☒

Remarks: Soil appears to be castoff from the creation of the farm pond. There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches):

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:There was no evidence of hydrology within this test plot.

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

Project/Site: Riverside Estates City/County: La Center/Clark Sampling Date: 8/8/18
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP4
Investigator(s): Naglich, Francis and Wills, KT Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): Drainageways, terraces Local relief: (concave, convex, none): Convex Slope (%): <5%
Subregion (LRR): A Lat: 45.8704 Long: -122.6890 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes☐ No☒
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: This test plot was located in Parcel # 986030202. This test plot exhibited hydrophytic vegetation, but did not meet the criterion for hydric soils or wetland hydrology, and is therefore not considered a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Cytisus scoparius*	10%	yes	FACU
2. *Salix lacida*	10%	yes	FACW
3.	%		
4.	%		
5.	%		
50% = 10 20% = 4	20%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Holcus lanatus*	30%	yes	FAC
2. **Agrostis spp.*	30%	yes	FAC
3. *Lotus corniculatus*	5%	no	FAC
4. *Rumex obtusifolius*	5%	no	FAC
5. *Parentucellia viscosa*	5%	no	FAC
6. *Phalaris arundinacea*	5%	no	FACW
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 40 20% = 16	80%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1. *Rubus armeniacus*	35%	yes	FAC
2.	%		
50% = 17 20% = 7	35%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 80 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: * Assumed FAC indicator status. The hydrophytic vegetation criterion is met due to 80% of the dominant species had either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR4/3	85%	7.5YR5/6	15%	C	M	Silt Loam	
10-16	10YR4/2	85%	7.5YR5/6	15%	C	M	Silt Loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes☐ No☒**

Remarks: There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches):

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:There was no evidence of hydrology within this test plot.

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

Project/Site: Riverside Estates City/County: La Center/Clark Sampling Date: 8/8/18
Applicant/Owner: ECM Riverside LLC State: WA Sampling Point: TP5
Investigator(s): Naglich, Francis and Wills, KT Section, Township, Range: 33, 5N, 1E
Landform (hillslope, terrace, etc.): Drainageways, terraces Local relief: (concave, convex, none): Convex Slope (%): <5%
Subregion (LRR): A Lat: 45.8706 Long: -122.6889 Datum: NAD83
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes☐ No☒
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: This test plot was located in Parcel # 986030202. This test plot exhibited hydrophytic vegetation, but did not meet the criterion for hydric soils or wetland hydrology, and is therefore not considered a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Holcus lanatus*	55%	yes	FAC
2. **Agrostis spp.*	20%	yes	FAC
3. *Phalaris arundinacea*	10%	no	FACW
4. *Cirsium arvense*	5%	no	FAC
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 45 20% = 18	90%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1. *Rubus armeniacus*	15%	yes	FAC
2.	%		
50% = 7 20% = 3	15%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 100 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A= ___

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: * Assumed FAC indicator status. The hydrophytic vegetation criterion is met due to 100% of the dominant species had either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR4/2	100%		%			Silt Loam	
14-16	10YR5/7	100%		%			Silt Loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes**☐ **No**☒

Remarks: There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches):

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:There was no evidence of hydrology within this test plot.

APPENDIX B: WETLAND RATING FORM

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 8/8/2018

Rated by KT Wills Trained by Ecology? Yes X No Date of training 9/2016

HGM Class used for rating Depressional Wetland has multiple HGM classes? X Y N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY III (based on functions X or special characteristics)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 – 27

_____**Category II** – Total score = 20 – 22

X **Category III** – Total score = 16 – 19

_____**Category IV** – Total score = 9 – 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the appropriate ratings		
Site Potential	H M (L)	H (M) L	H (M) L	
Landscape Potential	H (M) L	H (M) L	(H) M L	
Value	(H) M L	H M (L)	H (M) L	**TOTAL**
Score Based on Ratings	6	5	7	18

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	**(N/A)**

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	5
Hydroperiods	D 1.4, H 1.2	5
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	5
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	5
Map of the contributing basin	D 4.3, D 5.3	6
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   NO – go to 2 **YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   NO – Saltwater Tidal Fringe (Estuarine) **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   NO – go to 3 **YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ___The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ___At least 30% of the open water area is deeper than 6.6 ft (2 m).

   NO – go to 4 **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   _X_ The wetland is on a slope (*slope can be very gradual*),
   _X_ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   _X_ The water leaves the wetland **without being impounded**.

   NO – go to 5 **YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ___The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ___The overbank flooding occurs at least once every 2 years.

Wetland name or number A

NO – go to 6 **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7 **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8 **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	**2**
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* Yes = 4 No = 0	**0**
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	**1**
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	**2**
Total for D 1 Add the points in the boxes above	**5**

Rating of Site Potential If score is: ___ **12-16 = H** ___ **6-11 = M** __X__ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	**0**
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	**1**
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	**1**
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0	**0**
Total for D 2 Add the points in the boxes above	**2**

Rating of Landscape Potential If score is: ___ **3 or 4 = H** __X__ **1 or 2 = M** ___ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	**1**
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	**1**
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	**2**
Total for D 3 Add the points in the boxes above	**4**

Rating of Value If score is: __X__ **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	**2**
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	**3**
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	**3**
Total for D 4 Add the points in the boxes above	**8**

Rating of Site Potential If score is: ___**12-16 = H** **_X_**__**6-11 = M** ___**0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	**0**
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	**1**
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	**1**
Total for D 5 Add the points in the boxes above	**2**

Rating of Landscape Potential If score is: ___**3 = H** **_X_**__**1 or 2 = M** ___**0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0 There are no problems with flooding downstream of the wetland. points = 0	**0**
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	**0**
Total for D 6 Add the points in the boxes above	**0**

Rating of Value If score is: ___**2-4 = H** ___**1 = M** **_X_**__**0 = L** *Record the rating on the first page*

Wetland name or number A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

____Aquatic bed	4 structures or more: points = 4
__X__Emergent	3 structures: points = 2
__X__Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1
____Forested (areas where trees have > 30% cover)	1 structure: points = 0

If the unit has a Forested class, check if:

____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

1

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

__X__Permanently flooded or inundated	4 or more types present: points = 3
__X__Seasonally flooded or inundated	3 types present: points = 2
____Occasionally flooded or inundated	2 types present: points = 1
__X__Saturated only	1 type present: points = 0
____Permanently flowing stream or river in, or adjacent to, the wetland	
____Seasonally flowing stream in, or adjacent to, the wetland	
____**Lake Fringe wetland**	**2 points**
____**Freshwater tidal wetland**	**2 points**

2

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

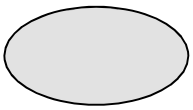
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: > 19 species	points = 2
5 - 19 species	points = 1
< 5 species	points = 0

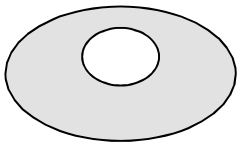
1

H 1.4. Interspersion of habitats

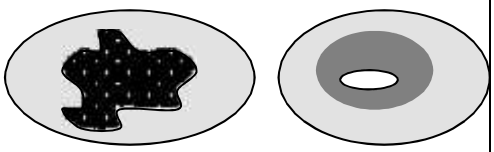
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



None = 0 points

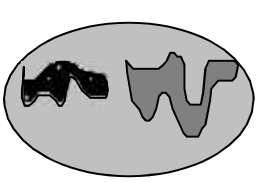


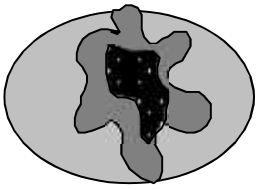
Low = 1 point

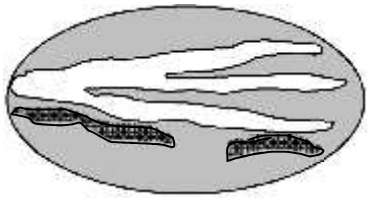


Moderate = 2 points

All three diagrams in this row are **HIGH** = 3points







1

Wetland name or number A

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* __X__Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). __X__Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	**2**
Total for H 1 Add the points in the boxes above	**7**

Rating of Site Potential If score is:___**15-18 = H** __**X**__**7-14 = M** ___**0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?

H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat 17**+** [(% moderate and low intensity land uses)/2]16 **=** **33**% If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	**2**
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 33**+** [(% moderate and low intensity land uses)/2]31 **=** **64**% Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	**3**
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	**0**
Total for H 2 Add the points in the boxes above	**5**

Rating of Landscape Potential If score is**:** __**X**__**4-6 = H** ___**1-3 = M** ___**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.*

Site meets ANY of the following criteria:	points = 2	
— It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan		
~~Site has 1 or 2 priority habitats (listed on next page) within 100 m~~	~~points = 1~~	**1**
Site does not meet any of the criteria above	points = 0	

Rating of Value If score is:___**2 = H** __**X**__**1 = M** ___**0 = L** *Record the rating on the first page*

Wetland name or number A

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

X **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

— **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

— **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt Yes –Go to **SC 1.1** (No= **Not an estuarine wetland**)	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = **Category I** No - Go to **SC 1.2**	**Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = **Category I** No = **Category II**	**Cat. I** **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes **–** Go to **SC 2.2** (No – Go to **SC 2.3**) SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes **= Category I** No **= Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes **– Contact WNHP/WDNR and go to SC 2.4** (No **= Not a WHCV**) SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes **= Category I** No **= Not a WHCV**	**Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to **SC 3.3** (No – Go to **SC 3.2**) SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to **SC 3.3** (No = **Is not a bog**) SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = **Is a Category I bog** No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = **Is a Category I bog** No **= Is not a bog**	**Cat. I**

Wetland name or number A

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** — **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). Yes = **Category I** (No = **Not a forested wetland for this section**)	**Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* Yes – Go to **SC 5.1** (No = **Not a wetland in a coastal lagoon**) SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) Yes = **Category I** No = **Category II**	**Cat. I** **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to **SC 6.1** (No = **not an interdunal wetland for rating**) SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = **Category I** No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = **Category II** No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = **Category III** No = **Category IV**	**Cat I** **Cat. II** **Cat. III** **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	N/A

This page left blank intentionally

Exhibit 4

March 5, 2021

City of La Center, Planning Services
Senior Planner – Ethan Spoo, AICP
305 NW Pacific Highway
La Center, WA 98629

RE: Addendum to the *Bank Use Plan for the Neighborhood Park Project*

Dear Mr. Spoo:

Ecological Land Services, Inc. (ELS) has prepared this addendum *to* the *Bank Use Plan for the Neighborhood Park Project* (ELS July 2020) to further demonstrate compliance with *City of La Center Municipal Code, Chapter 18.300 Critical Areas*, specifically sections *18.300.050(4), 18.300.110(2)(a-g),* and *18.300.120.* The code section is listed below in italics, followed by our response in regular font.

18.300.050(4) *Allowed Uses. The city may allow the following uses on critical areas and within buffer areas subject to the development standards of LCMC 18.300.110 and appropriate mitigation standards as described in LCMC 18.300.120:*
(a) Walkways and trails. Walkways and trails may be permitted in a wetland or riparian buffer with review; provided, that they are generally parallel to the perimeter of the wetland or stream, are located in the outer 25 percent of the buffer area, are constructed with a surface that does not interfere with soil permeability, and their surface is no more than five feet wide. The design and construction of walkways and trails shall avoid impacts to established native woody vegetation. Raised boardwalks using nontreated materials are acceptable. Walkways and trails may be located in the inner 75 percent of a wetland or riparian buffer or crossing a stream or wetland, provided there is no alternative location in the outer buffer area, and shall be minor crossings that minimize impact with approval of a critical areas permit. Wetland or riparian buffer widths shall be increased to compensate for the loss due to the width of the trail.

Due to site topography, the wetland location, and property boundary constraints, it is not possible to construct the trail within the outer 25 percent of the wetland buffer, particularly in the southeastern corner of the site where the buffer extends off the property. The property contains moderate slopes and will require grading to create level areas for parking, sport courts, and a play field. The parking and sport court areas have been sighted in the more level areas of the property to limit grading activities. It is preferred to locate the trail away from traffic areas along the eastern portion of the site. The trail follows the proposed grade and must be ADA compliant so cannot have significant slopes. For these reasons, the trail is located around the perimeter of the park and subsequently closer to the wetland.

Two trees and several shrubs will be removed during grading, as avoidance is not possible due to required grading activities. Removed trees will be placed in the wetland as habitat features.

The trail will be located within the inner 75 percent of the buffer as there is no other onsite alternative. It is not possible to increase the buffer onsite and maintain the park features. The paved trail functionally isolates or disconnects area opposite the trail; therefore, the buffer cannot extend across the trail preventing it from serving as wetland buffer according to Department of Ecology (Ecology) guidance. Mitigation in the form of purchasing credits from East Fork Lewis Mitigation Bank (EFLMB) is proposed for indirect wetland impacts due to insufficient buffer in accordance with Ecology and U.S. Army Corps of Engineers (Corps) accepted ratios. Graded buffer areas will be seeded with a native upland seed mix, which will improve native species diversity and restore the areas to near pre-project condition. The current buffer is mainly dominated by non-native pasture grasses.

18.300.110(2)(a-g)

(2) In order to approve application for development on lands subject to this chapter, the mayor or his or her designee shall find that the following standards have been met:

(a) All reasonable alternatives for locating the development activity in such a way so as to avoid critical areas have been considered and the development activity will be located in the least environmentally sensitive area as practicable and the purpose of this chapter, as described in LCMC 18.300.010, is fulfilled. If avoidance is not practicable, as determined by the city, development shall minimize adverse impacts to critical areas and buffers consistent with the mitigation sequencing measures and mitigation and enhancement measures prescribed in this chapter.

All activities will be located outside the wetland. As described above, park amenities cannot avoid the wetland buffer. Impacts will be minimized through the use of best management practices (BMPs) including silt fencing at the edge of disturbance, designating staging areas outside of critical areas, seeding disturbed areas with a native seed mix, fencing the remaining buffer, posting informational signage along the fencing, and ensuring the paved trail sheds water away from the wetland.

(b) The city has approved the vegetation removal methods and the removal of native plants has been avoided.

Two trees and several shrubs will be removed during grading. Removed trees will be placed in the wetland as habitat features. The existing herbaceous buffer vegetation is currently dominated by non-native pasture grasses. Following grading, disturbed areas will be seeded with a native upland seed mix which will improve native species diversity.

(c) All adverse impacts to all affected critical areas and buffers are either avoided or fully mitigated.

As described in the bank use plan, indirect wetland impacts due to insufficient buffer will be fully mitigated by purchasing credits from EFLMB. Temporary impacts from grading will be

restored by seeding with a native upland seed mix which will improve native species diversity. The code section below further addresses mitigation sequencing.

(d) The plan minimizes cuts and fills.

Cut and fills have been minimized to the extent practical.

(e) Soils are not exposed during the rainy season (November 1st through April 30th) and construction activity is limited to the dry season (May 1st through October 31st).

Construction will be completed in the dry season. Exposed soils will be covered and/or seeded in accordance with recommendations in Ecology's most recent stormwater manual.

(f) The mayor or his or her designee has reviewed and approved an erosion control plan, grading plan, and vegetation removal and replanting plan prior to construction activity.

In progress.

(g) All activities have received applicable state and federal permits, and comply with SEPA requirements if the lead agency makes a threshold determination of significance (DS), or a mitigated determination of nonsignificance (MDNS).

No state or federal permits are required. Local permits are in progress.

18.300.120

(2) Mitigation Sequencing.

(a) Prior to authorizing impacts to critical areas or their buffers, the applicant shall demonstrate and the city shall verify that the applicant has met the following sequence in order of priority:

(i) Avoidance. Avoid the impact altogether by not taking a certain action or parts of an action;

It is not possible for the trail to completely avoid the wetland buffer along the southeast 'foot' of the wetland where property boundaries are between 20 and 40 feet from the edge of the wetland. The trail could be eliminated from the park, but it is necessary to meet open space requirements for the Riverside Estates subdivision to the south.

(ii) Minimization. Minimize the impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;

Trail impacts have been minimized to the greatest extent possible. The property contains moderate slopes and will require grading to create level areas for parking, sport courts, and play field. The trail follows the proposed grade and must be ADA compliant. The following will minimize impacts from the project:

- Trail design meets the minimum requirements to be considered ADA compliant regarding slope and width.
- The trail will be designed to shed water away from the wetland.

- BMPs including silt fencing the edge of disturbance, seeding disturbed areas with a native seed mix, and designating staging areas in upland areas outside of critical area buffers will be implemented.
- The remaining buffer area will be fenced and signage will be posted every 200 feet along the fence stating "The area beyond this sign is a critical area or buffer. Alteration or disturbance is prohibited by law. Please call the City of La Center for more information."
- The ditch crossing will be constructed in the dry to prevent sedimentation and an 18-inch culvert will be used to maintain adequate water flow.

(iii) Rectification. Rectify the impact by repairing, rehabilitating, or restoring the affected environment to the conditions existing at the time of the initiation of the project or activity;

Measures to rectify impacts include:

- Placing trees removed during grading in the wetland as habitat features.
- Restoring temporary impacts from grading by seeding disturbed areas with a native seed mix to improve native species diversity. The native seed mix is detailed in the bank use plan and on Sheet 3, attached.

(iv) Reduction or elimination. Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action;

The following measures will occur to reduce or eliminate impact over time:

- Fencing will be placed along the edge of the trail, which coincides with the remaining wetland buffer boundary.
- Signs will be posted every 200 feet along the fencing stating, "The area beyond this sign is a critical area or buffer. Alteration or disturbance is prohibited by law. Please call the City of La Center for more information."
- An 18-inch culvert will be used to maintain adequate water flow with the ditch crossing.
- Stormwater facilities will treat runoff and discharge to flow spreaders located within the buffer. The flow spreaders will prevent erosion and scour within the buffer and the clean discharged water will help maintain wetland hydrology.

(v) Compensation. Compensate for the impact by replacing, enhancing, or providing substitute resources or environments; and

Mitigation in the form of purchasing credits from EFLMB is proposed for indirect impacts due to insufficient buffer in accordance with Ecology and U.S. Army Corps of Engineers (Corps) accepted ratios.

(vi) Monitoring. Monitor the impact and the compensation projects and take appropriate corrective measures.

Seeded areas will be monitored for vegetation establishment for two years by the applicant. Additional seed will be applied as needed and watering will occur as needed to

facilitate establishment. Following the two-year establishment period, the City will assume responsibility if further monitoring is deemed necessary.

The EFLMB is monitored in accordance with the protocols established in the Mitigation Banking Instrument.

(3) No Net Loss.

(a) Mitigation efforts, when allowed, shall ensure that development activity does not yield a net loss of the area or function of the critical areas. No net loss shall be measured by:

(i) Avoidance or mitigation of adverse impacts to fish life; or

(ii) Avoidance or mitigation of net loss of habitat functions necessary to sustain fish life; or

(iii) Avoidance or mitigation of loss of area by habitat type.

There are no impacts to fish or fish habitat. As described in the bank use plan, the goals and objectives for the establishment and success of EFLMB directly address watershed concerns and priorities and correspond in-kind (same habitat type) with the mitigation needs of the proposed project.

(b) Mitigation to achieve no net loss should benefit those organisms being impacted.

No impacts to state or federally listed fish and wildlife species will occur.

(c) Where development results in a loss of wetland area, the mitigation plan shall demonstrate that wetland area is replaced consistent with the ratios described in Table 18.300.090(5)(l), Wetland Mitigation Ratios. The created or enhanced wetland shall be, acre for acre, of equal or greater biological values, including habitat value, and with equal or greater hydrological values including storage capacity.

As described in the bank use plan, all direct wetland impacts have been avoided. Trail construction will indirectly impact 0.41 acres of Wetland A due to insufficient buffer. Impacts are fully described in the *Impacted Wetland Functions* section of the bank use plan. Only new indirect impacts from the park project outside of the previously approved and mitigated indirect impacts associated with the Riverside Estates subdivision (NWS-2018-167) to the south are being calculated for the park project.

Contrary to Ecology's SEPA comment for the park project "…this project presents new impacts to the same wetland (but from the north) and should be treated as a separate and distinct project," ELS believes that the indirect impact overlap area (southeastern 'foot' of the wetland) has been adequately mitigated by the purchase of the credits at EFLMB in early 2019 for the subdivision project. The park project is directly associated with the subdivision, as the park is being constructed as part of the open space requirements of the subdivision so should not be considered a separate and distinct project. Had the park been able to be incorporated into the subdivision application, the overlap of indirect impacts would not be considered. Furthermore, the area at EFLMB compensating for the indirectly impacted wetland from the subdivision will not be impacted by the park features. The functions of this area at EFLMB have continued to

improve since the credit purchase in early 2019. Because the credit purchase area is continuing to develop into a high functioning forested, scrub-shrub, and emergent wetland system containing a fish-bearing stream, various water regimes, high vegetation interspersion, and abundant habitat features that will increase flood storage, improve water quality, and recharge groundwater, there will be no net loss of wetland function from construction of the park features.

Bank credits will be purchased from EFLMB at the established 1:1 ratio for Category III wetland impacts with a 0.50 multiplier applied. The 0.50 (50 percent) multiplier is based on the rationale that indirect impacts can be adequately compensated for by using 50 percent of the Bank's required ratio for direct wetland impacts. Indirect impacts may adversely affect the ability of the wetland to provide functions and values which the wetland provided prior to disturbance over time. Because indirect impacts do not result in immediate changes, mitigating at 50 percent of the Bank's required ratio for direct wetland impacts is reasonable and scientifically sound. In addition, the 50 percent multiplier for indirect wetland impacts has been used on previous projects that were approved by both the Corps and Ecology (more information on using the 0.50 multiplier is located in the *Proposed Mitigation Credits* section of the bank use plan). A total of 0.21 credits will be purchased to compensate for 0.41 acres of indirect impact.

(i) Wherever possible, mitigation, replacement or enhancement shall occur on site.
(ii) However, where the applicant can demonstrate that an off-site location is in the same drainage basin, and that equal or greater biological and hydrological values will be achieved, the city may approve such off-site mitigation.

Wetland A is located within the service area for the EFLMB. Mitigating the impacts offsite at EFLMB will be more meaningful and beneficial to the overall watershed as the goals and objectives for the establishment and success of EFLMB directly address watershed concerns and priorities and correspond in-kind with the mitigation needs of the proposed project. Additionally, habitat function provided at the Bank is far greater than habitat functions provided by the regularly mowed pasture grasses being impacted. ELS therefore selected to mitigate offsite at EFLMB. The functional lift anticipated by the Bank will adequately compensate for wetland functions indirectly impacted by the proposed project. Additional justification for offsite mitigation is located in the *Mitigation Site Selection Rationale* section of the bank use plan.

Temporarily impacted buffer areas will be reseeded with a native seed mix, trees requiring removal will be placed in the wetland as habitat features, and the final wetland buffer will be fenced with informational signage posted every 200 feet.

(iii) Wetponds established and maintained for control of surface water shall not constitute mitigation for wetland alterations.

Not applicable.

(iv) Where there is a wetland within 25 feet of the toe of a slope equal to or greater than 25 percent, the buffer shall be a minimum of 25 feet beyond the toe of the slope.

Not applicable.

(4) Mitigation Plan. A mitigation plan shall provide for the design, implementation, maintenance, and monitoring of mitigation measures. A mitigation plan shall include but is not limited to the following:

(a) Methods and techniques to be used to mitigate impacts to critical areas;
(b) Explanation of methods and techniques, such as construction practices to be used to implement the identified mitigation methods;
(c) Methods and techniques for monitoring said mitigation and a proposed time frame for such monitoring.

The bank use plan fully describes all mitigation measures.

(5) Stormwater Management. Any development on critical areas shall be consistent with either Chapter 18.320 LCMC, Stormwater and Erosion Control, or the most recent version of the "Stormwater Management Manual for Western Washington," Washington State Department of Ecology, at the discretion of the public works director.

Stormwater management is consistent with the LCMC requirements.

If you need any additional information or have any questions, please contact me at (360) 578-1371 or by email at steff@eco-land.com.

Sincerely,

Steffanie Taylor
Senior Biologist/Principal

Attachment:
Bank Use Plan Sheet 3 – Proposed Conditions Site Map

LEGEND:

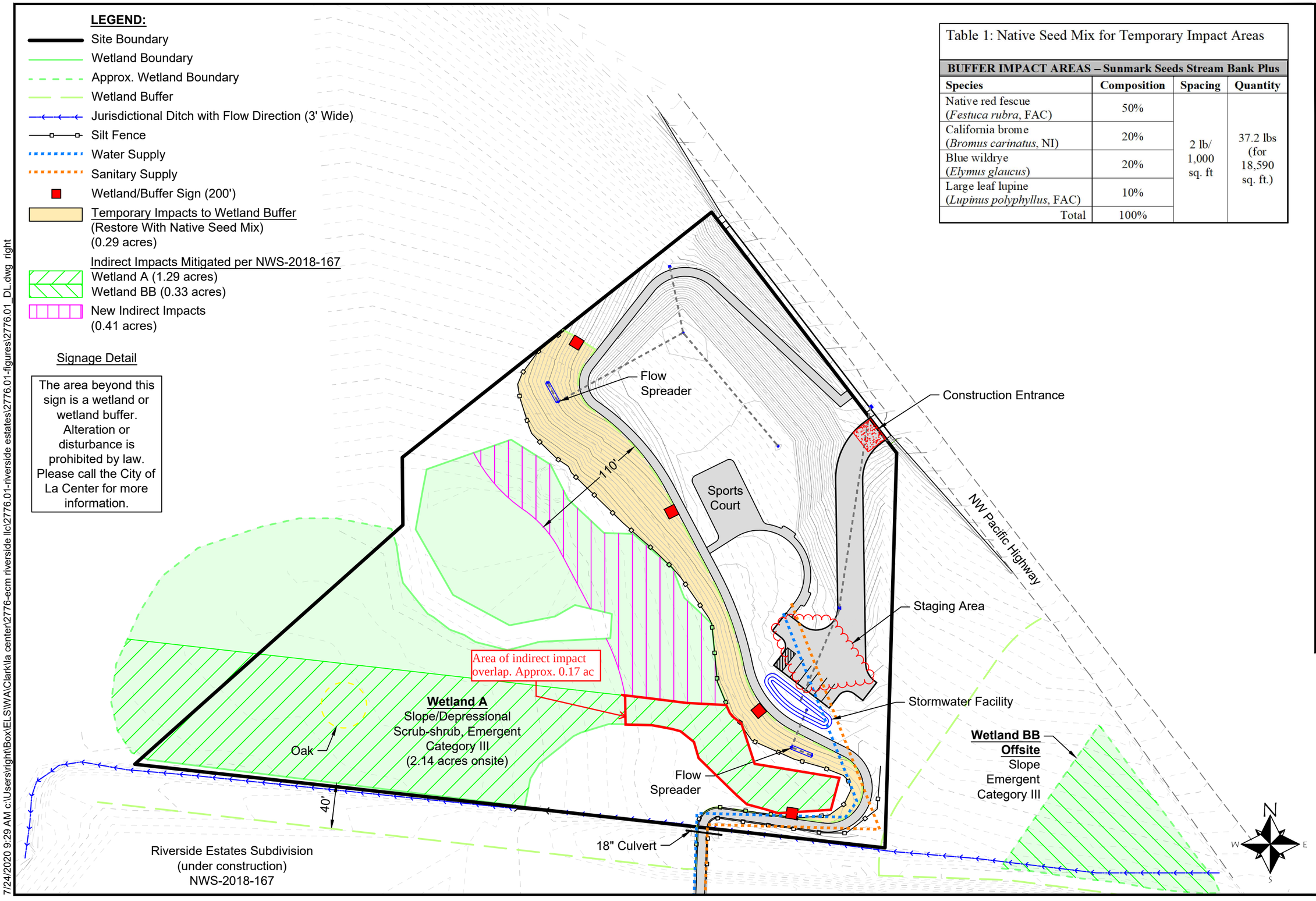
- Site Boundary
- Wetland Boundary
- Approx. Wetland Boundary
- Wetland Buffer
- Jurisdictional Ditch with Flow Direction (3' Wide)
- Silt Fence
- Water Supply
- Sanitary Supply
- Wetland/Buffer Sign (200')
- Temporary Impacts to Wetland Buffer (Restore With Native Seed Mix) (0.29 acres)
- Indirect Impacts Mitigated per NWS-2018-167
  - Wetland A (1.29 acres)
  - Wetland BB (0.33 acres)
- New Indirect Impacts (0.41 acres)

Signage Detail

The area beyond this sign is a wetland or wetland buffer. Alteration or disturbance is prohibited by law. Please call the City of La Center for more information.

Table 1: Native Seed Mix for Temporary Impact Areas

BUFFER IMPACT AREAS – Sunmark Seeds Stream Bank Plus			
Species	**Composition**	**Spacing**	**Quantity**
Native red fescue (*Festuca rubra*, FAC)	50%	2 lb/ 1,000 sq. ft	37.2 lbs (for 18,590 sq. ft.)
California brome (*Bromus carinatus*, NI)	20%		
Blue wildrye (*Elymus glaucus*)	20%		
Large leaf lupine (*Lupinus polyphyllus*, FAC)	10%		
Total	100%		



PROPOSED: Indirect Wetland Impacts
IN Onsite Wetlands
NEAR: La Center **STATE:** WA
COUNTY: Clark
SHEET 3 **OF** 5
DATE: 7/24/20

Proposed Conditions Site Map
APPLICANT: ECM Riverside LLC
PROJECT NAME: Riverside Estates Neighborhood Park
REFERENCE #:
SITE LOCATION ADDRESS: 34506 Old Pacific Highway La Center, WA
OWNERS:

PURPOSE: Development of Neighborhood Park
DATUM: NAD83
ADJACENT PROPERTY OWNERS

0 80 160
SCALE IN FEET

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Ecological Land Services

Exhibit 5

Carlson Geotechnical

A Division of Carlson Testing, Inc.
Phone: (503) 601-8250
www.carlsontesting.com

Bend Office	**(541) 330-9155**
Eugene Office	**(541) 345-0289**
Salem Office	**(503) 589-1252**
Tigard Office	**(503) 684-3460**

Engineering Geologic Report
Riverside Estates Subdivision
Ridgeline Park
34512 NW Pacific Highway
La Center, Washington

CGT Project Number G2005322

Prepared for

Peter Ettro
Ettro Capital
340 Oswego Point Drive #208
Lake Oswego, Oregon 97034

July 22, 2020

Carlson Geotechnical

A Division of Carlson Testing, Inc.
Phone: (503) 601-8250
www.carlsontesting.com

Bend Office	**(541) 330-9155**
Eugene Office	**(541) 345-0289**
Salem Office	**(503) 589-1252**
Tigard Office	**(503) 684-3460**

July 22, 2020

Peter Ettro
Ettro Capital
340 Oswego Point Drive #208
Lake Oswego, Oregon 97034

Engineering Geologic Report
Riverside Estates Subdivision
Ridgeline Park
34512 NW Pacific Highway
La Center, Washington

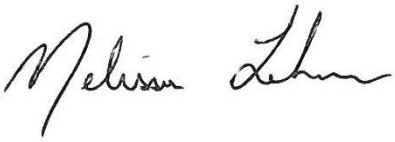
CGT Project Number G2005322

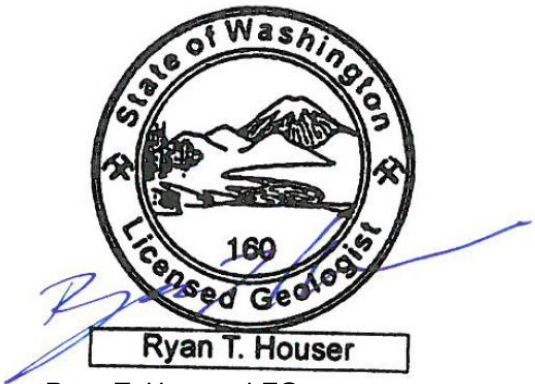
Dear Mr. Ettro:

Carlson Geotechnical (CGT), a division of Carlson Testing, Inc. (CTI), is pleased to submit this engineering geologic report for the proposed Ridgeline Park project at the Riverside Estates Subdivision. The site is located at 34512 NW Pacific Highway in La Center, Washington. We performed our work in general accordance with CGT Proposal GP9004, dated July 8, 2020. Written authorization for our services was received on July 17, 2020.

We appreciate the opportunity to work with you on this project. Please contact us at 503.601.8250 if you have any questions regarding this report.

Respectfully Submitted,
CARLSON GEOTECHNICAL





Melissa L. Lehman
Geotechnical Project Manager
mlehman@carlsontesting.com

Ryan T. Houser, LEG
Senior Engineering Geologist
rhouser@carlsontesting.com

Doc ID: G:\GEOTECH\PROJECTS\2020 Projects\G2005322 - Ridgeline Park - Geologic Hazard\G2005322 - GEO\008 - Deliverables\Report\Engineering Geologic Report.docx

TABLE OF CONTENTS

ATTACHMENTS

1.0 INTRODUCTION

Carlson Geotechnical (CGT), a division of Carlson Testing, Inc. (CTI), is pleased to submit this engineering geologic report for the proposed Ridgeline Park project at the Riverside Estates Subdivision. The site is located at 34512 NW Pacific Highway in La Center, Washington, as shown on the attached Site Location, Figure 1.

1.1 Project Information

CGT developed an understanding of the proposed project based on our correspondence with you and the following project documents provided to us:

- "Geotechnical Site Investigation, Goode Property, La Center, Washington," prepared by Columbia West Engineering, Inc., (CWE), dated January 31, 2008.
- "Site Plan for Ridgeline Park," prepared by PLS Engineering, not dated.

CGT was previously retained to prepare the following report:

- "Report of Site-Specific Pavement Design Services, Riverside Estates Subdivision, NW Pacific Highway & NW Larson Drive, La Center, Washington," CGT Project Number G1804931.A

In addition, CGT performed construction observations during the mass grading of the subdivision in 2018.

Based on our review of the site plan, we understand this portion of the project will include development of a new park at the north end of the residential subdivision. Ridgeline Park will include:

- Construction of an access road and parking area to serve the new park. We assume new pavements will be surfaced with asphalt concrete (AC).
- A new sports court.
- A new, 8-foot-wide, ADA-compliant path.
- The site plan indicates stormwater collected from new hardscaped areas will be disposed of in on-site biofiltration facilities and through the use of level spreaders. Design of infiltration facilities rests with others.
- The site plan indicates grading will include the placement of up to about 7 feet of structural fill in the area of the proposed roadway and ADA path to reach finished grades. New fill slopes will have finished gradients up to 2 horizontal to 1 vertical (2H:1V).

We understand that the site is located in a landslide hazard overlay zone, indicating it contains slopes in excess of 15 percent, and that the City of La Center requires an engineering geologic report be completed for the project prior to issuance of a building permit.

1.2 Scope of Services

The purpose of our work will be to identify geologic hazards that may affect the property. Our specific scope of services will include the following:

- Review available literature for geologic hazards in the vicinity of the site. Specific hazards to be addressed by this study include:
  - Erosion potential
  - Landslide potential / Slope stability
  - Seismic potential
  - Flood potential
  - Volcanic hazards potential
- Review readily available historical aerial photographs of the site.
- Review available topographic, geologic, and geologic hazard maps for the area.
- Perform a surface reconnaissance of the site.
- Explore subsurface conditions at the site by advancing three hand auger borings to depths of up to about 5½ feet below ground surface (bgs). Details of the subsurface investigation are presented in Appendix A.
- Provide **qualitative** conclusions regarding the potential impacts of geologic hazards on the proposed development, and vice versa.
- Provide a written report summarizing the results of our study in general accordance with Clark County Code Chapter 40.430.030(C)(5) and the 2006 Washington State Geologist Licensing Board Guidelines for Preparing Engineering Geology Reports in Washington.

2.0 GEOLOGY

2.1 Regional Geology

The project site is located within the eastern edge of the Portland-Vancouver Basin. Regional geologic maps indicate that the majority of the basin is underlain by Pleistocene Missoula Lake flood deposits. Approximately 18,000 to 15,000 years ago[1], large periodic glacial flooding occurred in the Portland-Vancouver Basin, depositing boulders, sands, and silts throughout the area.

2.2 Site Geology

The geologic map[2] for the area indicates that the site is primarily mapped as underlain by Pleistocene catastrophic flood deposits (Qfs) originating from glacial outburst floods of Lake Missoula (Figure 2) and Pleistocene and/or Pliocene conglomerate (QTc). The flood deposits (Qfs) are mapped along the southern portion of the site and were produced by the periodic failure of glacial ice dams that impounded Lake Missoula in present day Montana between 18,000 to 15,000 years ago[3]. Floodwaters raged through Idaho, eastern Washington, and through the Columbia River Gorge. Near Rainier, Oregon, the river channel was restricted, causing floodwaters to back up the Willamette Valley as far south as Eugene. Floodwaters throughout the quadrangle mantle low-relief surfaces below 300 feet in elevation with deposit thickness greater than 100 feet. The flood deposits are typically split into three different facies: the coarse-grained facies, the fine-grained facies, and the channel facies. The southern portion of the site is mapped as fine-grained Missoula flood deposits, which typically consist of silt, clay, and fine-grained sand. Beds are generally poorly defined and thin (less than 3 feet thick).

---

1 Allen, John Eliot, Burns, Marjorie, and Burns, Scott, 2009. Cataclysms on the Columbia, The Great Missoula Floods, Revised Second Edition: Ooligan Press, Portland State University.

2 Evarts, R.C, Philip Dinterman, and Jessica Block, 2004, Geologic Map of the Ridgefield Quadrangle, Clark and Cowlitz Counties, Washington, SIM-2844.

3 Allen, John Eliot, et al., 2009. Cataclysms on the Columbia, The Great Missoula Floods, Revised Second Edition: Ooligan Press, Portland State University.

The northern half of the site is mapped as underlain by Pleistocene and/or Pliocene conglomerate (QTc) that consist of semi-consolidated pebble, cobble, and gravel. This unit is well exposed in scattered outcrops that demonstrate the unit forms a continuous stratum of 65 to 130 feet in thickness beneath the cataclysmic flood deposits (Qfs) mapped throughout the area.

3.0 SEISMICITY

The site is located in a tectonically and seismically active area that may be affected by earthquakes generated by crustal and subduction zone sources.

3.1 Earthquake Sources

3.1.1 Crustal Sources

Crustal earthquakes typically occur at depths ranging from 15 to 40 kilometers bgs[4]. According to the United States Geological Survey Quaternary fault and fold database[5], nearby seismic sources capable of producing damaging earthquakes in this region include Portland Hills fault and the Lacamas Lake fault (Figure 3). Distances from the site to the nearest mapped strands of these known active or potentially active faults are summarized in the following table.

Table 1 Known Active or Potentially Active Crustal Faults in the Vicinity of the Site

USGS Fault No.	Fault Name	Distance and Direction from Site	USGS Fault Class[1]
877	Portland Hills fault	20 km SW	A
880	Lacamas Lake fault	25 km SE	A

1 USGS Fault Classes from USGS Earthquake Hazards Program, 2008 National Seismic Hazard Maps
Class A: Fault with convincing evidence of Quaternary activity (ACTIVE)
Class B: Fault that requires further study in order to confidently define their potential as possible sources of earthquake-induced ground motion (POTENTIALLY ACTIVE)
Class C: Fault with insufficient evidence for Quaternary activity (LOW POTENTIAL FOR ACTIVITY)

3.1.1.1 Portland Hills fault (USGS 877)

The Portland Hills fault zone is a series of northwest-trending faults forming the northeastern margin of the Tualatin Mountains. The faults associated with this structural zone vertically displace the Columbia River Basalt Group by 1,130 feet, and appear to control thickness changes in late Pleistocene sediment[6]. Geomorphic lineaments suggestive of Pleistocene deformation have been identified within the fault zone, but none of the fault segments has been shown to cut Holocene deposits[7,8]. The fact that the faults do not cut Holocene sediments is most likely a result of the faulting being related to a time of intense uplift of the Oregon Coast Range during the Miocene, and little to no movement along the faults during the Holocene.

---

4 Geomatrix Consultants, 1995. Seismic Design Mapping, State of Oregon: unpublished report prepared for Oregon Department of Transportation, Personal Services Contract 11688, January 1995.

5 U.S. Geological Survey, 2020. Quaternary fault and fold database for the United States, *accessed July 2020*, from USGS web site: http://earthquakes.usgs.gov/regional/qfaults/.

6 Mabey, M.A., Madin, I.P., Youd, T.L., Jones, C.F., 1993, Earthquake hazard maps of the Portland quadrangle, Multnomah and Washington Counties, Oregon, and Clark County, Washington: Oregon Department of Geology and Mineral Industries Geological Map Series GMS-79, Plate 2, 1:24,000.

7 Conforth and Geomatrix Consultants, 1992. Seismic hazard evaluation, Bull Run dam sites near Sandy, Oregon: unpublished report to City of Portland Bureau of Water Works.

8 Balsillie, J.J. and Benson, G.T., 1971. Evidence for the Portland Hills fault: The Ore Bin, Oregon Dept. of Geology and Mineral Industries, v. 33, p. 109-118.

3.1.1.2 Lacamas Lake fault (USGS 880)

The Lacamas Lake fault is a northwest-trending structure located in the vicinity of Lacamas Lake, near Camas, Washington, at the northeastern margin of the Portland basin. This fault was originally identified by well-expressed lineaments defined by the relatively steep linear valley margins along both sides of Lacamas Lake[9]. Although recent activity on the Lacamas Lake fault is uncertain, the fault is considered active based on possible displacement of Troutdale sediments, prominent topographic lineaments associated with the fault, and possible associated seismicity. The fault is buried by Pleistocene Missoula flood deposits, suggesting a long recurrence interval.

3.1.2 Cascadia Subduction Zone Seismic Sources

The Cascadia Subduction Zone (CSZ) is a 1,100-kilometer-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continental plate at a rate of about 3 to 4 centimeters per year[10]. The fault trace is located off of the coast of southern British Columbia, Washington, Oregon, and northern California; approximately 229 kilometers west of the site (see attached Figure 4).

Two primary sources of seismicity are associated with the CSZ: relatively shallow earthquakes that occur on the interface between the two plates (Subduction Zone earthquakes), and deep earthquakes that occur along faults within the subducting Juan de Fuca plate (intraplate earthquakes).

3.1.2.1 Subduction Zone Earthquakes

Large subduction zone (megathrust) earthquakes occur within the upper approximate 30 kilometers of the contact between the two plates[11]. As the Juan de Fuca Plate subducts beneath the North American Plate through this zone, the plates are locked together by friction[12]. Stress slowly builds as the plates converge until the frictional resistance is exceeded, and the plates rapidly slip past each other resulting in a "megathrust" earthquake. The United States Geologic Survey estimates megathrust earthquakes on the CSZ may have magnitudes up to M9.2.

Geologic evidence indicates a recurrence interval for major subduction zone earthquakes of 250 to 650 years, with the last major event occurring in 1700[13,14]. The eastern margin of the seismogenic portion of the Cascadia Subduction zone is located approximately 90 kilometers west of the site, as shown on Figure 4.

3.1.2.2 Intraplate Earthquakes

Below about 30 kilometers, the plate interface does not appear to be locked by friction, and the plates slowly slide past each other. The curvature of the subducted plate increases as the advancing edge moves east, creating extensional forces within the plate. Normal faulting occurs in response to these extensional forces.

---

9 Madin and Hemphill-Haley, 2001: The Portland Hills Fault at Rowe Middle School. Oregon Geology V63 p47.

10 DeMets, C., Gordon, R.G., Argus, D.F., Stein, S., 1990. Current plate motions: Geophysical Journal International, v. 101, p. 425-478.

11 Pacific Northwest Seismic Network, 2020. Pacific Northwest Earthquake Sources Overview, *accessed July 2020,* from PNSN web site, http://pnsn.org/outreach/earthquakesources/.

12 Pacific Northwest Seismic Network, 2020. Pacific Northwest Earthquake Sources Overview, *accessed July 2020,* from PNSN web site, http://pnsn.org/outreach/earthquakesources/.

13 Atwater, B.F., 1992. Geologic evidence for earthquakes during the past 2,000 years along the Copalis River, southern coastal Washington: Journal of Geophysical Research, v. 97, p. 1901-1919.

14 Peterson, C.D., Darienzo, M.E., Burns, S.F., and Burris, W.K., 1993. Field trip guide to Cascadia paleoseismic evidence along the northern California coast: evidence of subduction zone seismicity in the central Cascadia margin. Oregon Department of Geology and Mineral Industries, Oregon Geology, Vol. 55, p. 99-144.

This region of maximum curvature and faulting of the subducting plate is where large intraplate earthquakes are expected to occur, and is located at depths ranging from 30 to 60 kilometers[15,16,17]. Intraplate earthquakes within the Juan de Fuca plate generally have magnitudes less than M7.5[18].

The 2001 M6.8 Nisqually earthquake near Olympia, Washington, occurred within this seismogenic zone at a depth of 52 kilometers. The site is located within the intraplate seismogenic zone, as shown on Figure 4.

3.2 Historic Seismicity

The Pacific Northwest is a seismically active area. Epicenters for historic earthquakes[19] in western Washington from 1904 to 2020 are shown on Figure 5. The majority of these earthquakes are shallow (crustal) in nature, with a lesser amount of intraplate sources. No large-scale subduction-zone earthquakes occurred during this period.

4.0 LOCAL TOPOGRAPHY

Topography in the vicinity of the site is shown on the attached Figures 1 and 6. The site is located along a dissected high terrace above the East Fork Lewis River Valley located approximately 0.40 mile to the southwest. The terrace is bisected by NW Pacific Highway, which borders the site to the north-northeast. North of the highway the topography ascends to the northeast at a gradient of 9½ horizontal to 1 vertical (9½H:1V). To the south of the site, the terrain consists of a relatively level bench that steepens near the East Fork Lewis River to a gradient of about 4½H:1V.

5.0 HAZARDS

5.1 Flooding

The Federal Emergency Management Agency (FEMA) publishes the Flood Insurance Rate Maps (FIRM) for flood insurance purposes[20]. The mapping indicates that the site is not located within a regulatory flood hazard zone.

5.2 Landslides

Landsliding is a common hazard in the Pacific Northwest that can be initiated on marginally stable slopes by human disturbances such as grading and deforestation, and by natural processes including earthquake shaking, volcanism, heavy rainfalls, and rapid snow melt. Recent studies indicate that the most common causes for slope failures are intense rainfall and human alteration, including the placement of building loads on slopes, excavating or over-steepening slopes, and the infiltration or diversion of storm water runoff. For example, excavation into the base of marginally stable slopes may reduce forces resisting failure on those

---

15 Geomatrix Consultants, 1995. Seismic Design Mapping, State of Oregon: unpublished report prepared for Oregon Department of Transportation, Personal Services Contract 11688, January 1995.

16 Geomatrix Consultants, 1993. Seismic margin Earthquake For the Trojan Site: Final Unpublished Report For Portland General Electric Trojan Nuclear Plant, Rainier, Oregon, May 1993.

17 Kirby, Stephen H., Wang, Kelin, Dunlop, Susan, 2002, The Cascadia Subduction Zone and Related Subduction Systems—Seismic Structure, Intraslab Earthquakes and Processes, and Earthquake Hazards: U.S. Geological Survey Open-File Report 02-328, 182 pp.

18 Cascadia Region Earthquake Workshop, 2008. Cascadia Deep Earthquakes. Washington Division of Geology and Earth Resources, Open File Report 2008-1.

19 Niewendorp, Clark A., and Neuhaus, Mark E. , Map of Selected Earthquakes for Oregon,1841 through 2002 by Oregon Department of Geology and Mineral Industries, OFR O-03-02.

20 Federal Emergency Management Agency, 2020. FEMA Map Service Center, *accessed July 2020,* from FEMA web site: https://msc.fema.gov/portal.

slopes, thus causing movement. Adding fill and/or a structure to the top or mid portion of a slope increases the driving forces on a slope and may contribute to failure. Redirecting water onto or into slopes may exploit existing planes of weakness within those slopes, causing failure.

5.2.1 Regional Mapping

The Clark Regional Emergency Services Agency (CRESA)[21] shows a small portion of the northeast portion of the site within a landslide hazard area (Figure 7). Another landslide hazard area is mapped northwest of the site alongside NW Pacific Highway. This map is based on topography, and indicates areas with slope gradients in excess of 15 percent.

Review of the Washington State Geologic Information Portal[22], indicates that no landslides are mapped on the site or in the immediate vicinity of the site. Two small landslide masses are located about 1½ miles and ¾ mile to the northwest and southeast, respectively. These landslide masses are located on slopes adjacent to the North Fork Lewis River.

We also reviewed Light Detection and Ranging (lidar) data and imagery available from the Washington State Department of Natural Resources Division of Geology and Earth Resources on the Washington Lidar Portal (WLP). WLP provides contours and bare earth imagery, which has been filtered to remove foliage and buildings. The lidar data portray the topography at a much greater level of detail than traditional mapping methods, and can reveal features that are otherwise difficult to ascertain. In areas where human activity has modified the topography extensively, such as through road-building and general grading, the resulting "background noise" can mask features that might otherwise be apparent. Based on our review of the lidar data, we did not observe any obvious signs of previous landslides at or in the immediate vicinity of the site. A portion of the lidar map showing the area of the site is presented as Figure 6.

5.3 Seismic Hazards

5.3.1 Liquefaction

A wide variety of slope and ground failures can occur in response to intense seismic shaking during large magnitude earthquakes. These failures are often related to the phenomenon of liquefaction, the process by which water-saturated sediment changes from a solid to a liquid state. Since liquefied sediment may not support the overlying ground, or any structure built thereon, a variety of failures may occur, including lateral spreading, landslides, ground settlement and cracking, sand boils, oscillation lurching, etc. The conditions necessary for liquefaction to occur are: (1) the presence of poorly consolidated, generally cohesionless sediment; (2) saturation of the sediment by groundwater; and (3) an earthquake that produces intense seismic shaking (generally a moment magnitude greater than M5.0). In general, older, more consolidated sediment, and sediment above the water table will not liquefy[23]. Field performance data and laboratory tests

[21] Clark Regional Emergency Services Agency, *2020*, Hazard Maps, Clark County, Washington, *accessed July 2020*, from CRESA website: http://cresa911.org/emergency-management/mitigation/hazard-maps/

[22] Washington State Department of Natural Resources, 2020. Washington State Geologic Information Portal, *accessed July 2020,* from Washington State DNR website: https://geologyportal-ga.dnr.wa.gov/.

[23] Youd, T.L. and Hoose, S.N. 1978. Historic ground failures in Northern California triggered by earthquakes: U.S. Geological Survey Professional Paper 993, p.117.

indicate that liquefaction occurs predominantly in well-sorted, loose to medium dense sand or silty sand, but can also occur in lean clays and silts[24].

The liquefaction hazard mapping available via WPL[25] indicates the site has a very low susceptibility for liquefaction.

5.3.2 Expected Ground Shaking

The CRESA[26] website includes a map indicating the expected earthquake shaking felt at a site for a magnitude 9.0 Cascadia Subduction Zone earthquake. The map indicates a "light potential damage, strong perceived shaking" level anticipated at the site during a design-level earthquake.

5.3.3 Surface Rupture

5.3.3.1 Faulting

As discussed above, the site is situated in a region of the country characterized by extensive faulting and known for seismic activity. However, no known faults are mapped on or immediately adjacent to the site, the risk of surface rupture impacting the proposed development at the site due to faulting is considered very low.

5.3.3.2 Lateral Spread

Surface rupture due to lateral spread can occur on sites underlain by liquefiable soils that are located on or immediately adjacent to slopes steeper than about 3 degrees (20H:1V), and/or adjacent to a free face, such as a stream bank or the shore of an open body of water. During lateral spread, the materials overlying the liquefied soils are subject to lateral movement downslope or toward the free face. Recognizing the lack of liquefiable soils, we characterize the risk of lateral spread to be negligible.

6.0 SITE RECONNAISSANCE

Melissa Lehman, GIT, under supervision of CGT Senior Engineering Geologist Ryan Houser, LG, LEG, performed a reconnaissance of the site on July 16, 2020.

6.1 Surface Conditions

6.1.1 On Site

The proposed site layout and site conditions during our reconnaissance are shown on the attached Site Plan (Figure 8) and Site Photographs (Figure 9). The existing topography shown on the Site Plan is consistent with that observed during the reconnaissance.

The approximate 5.19-acre irregular-shaped site was bordered by a rural residential property to the east, NW Pacific Highway to the northeast, the Riverside Estates subdivision to the south, and undeveloped land to the northwest. The site descended to the southwest below NW Pacific Highway at gradients up to about 3H:1V with an average gradient of about 6H:1V. A wetland area occupied the southern approximate half of the site. Total relief across the site was about 50 feet.

---

[24] Seed, R.B., et al. 2003. Recent Advances In Soil Liquefaction Engineering: A Unified And Consistent Framework. Earthquake Engineering Research Center College Of Engineering University Of California, Berkeley.

[25] Washington State Department of Natural Resources, 2020. Washington State Geologic Information Portal, *accessed July 2020,* from Washington State DNR website: https://geologyportal-ga.dnr.wa.gov/.

[26] Clark Regional Emergency Services Agency, 2020, Hazard Maps, Clark County, Washington, *accessed July 2020*, from CRESA website: https:// http://cresa911.org/emergency-management/mitigation/hazard-maps/

Development on the site consisted of a partially graveled driveway that provided access to the site from NW Pacific Highway. An approximate 10-foot tall, 100-foot long berm of undocumented fill paralleled south side of the gravel access road (see Figure 8). An agricultural pond/reservoir was located on the southwest corner of the site. The site was vegetated with tall grasses and sparse stands of coniferous and deciduous trees that were located around the pond.

No indicators of recent or ongoing slope instability were observed on the site during the reconnaissance.

6.1.2 Area Conditions

The areas to the north and northeast of the site beyond NW Pacific Highway were densely wooded with overstory, and in terms of terrain, moderately ascended to the northeast. The area to the immediate south of the site was relatively flat and was undergoing active development (residential subdivision) at the time of the investigation. The area to the west of the site exhibited similar topography and consisted of an open grassy field.

6.2 Site Subsurface Conditions

6.2.1 Subsurface Investigation & Laboratory Testing

Our subsurface investigation consisted of three hand auger borings (HA-1 through HA-3) completed on July 16, 2020. The approximate exploration locations are shown on the Site Plan, attached as Figure 8. In summary, the borings were advanced to depths ranging from about 5 to 5½ feet bgs. Details regarding the subsurface investigation, logs of the explorations, and results of laboratory testing are presented in Appendix A. Subsurface conditions encountered during our investigation are summarized below.

6.2.2 Subsurface Materials

Logs of the explorations are presented in Appendix A. The following describes each of the subsurface materials encountered at the site.

Organic Soil (OL)
Organic soil was encountered at the surface of all three hand auger borings and extended to depths of ¼ to 1 foot bgs. This soil was generally dark brown, moist, exhibited low plasticity, and included abundant rootlets.

Lean Clay (CL)
Underlying the organic soil was native, lean clay that extended to the full depths explored in all three hand auger borings, approximately 5 to 5½ feet bgs. This soil was generally medium stiff to stiff, dark brown to brown, moist, and exhibited low plasticity.

The soils encountered during our subsurface investigation were consistent with the fine-grained catastrophic flood deposits described in Section 2.2 above, and are consistent to soils documented in the referenced reports.

6.2.3 Groundwater

We did not encounter groundwater within the depths explored at the site on July 16, 2020. To determine approximate regional groundwater levels in the area, we researched well logs available on the Washington

Department of Ecology (WDE)[27] website for wells located within 1 mile of the site. Our review indicated that groundwater levels in the area generally ranged from about 30 to 65 feet bgs. It should be noted that groundwater levels vary with local topography. In addition, the groundwater levels reported on the WDE logs often reflect the purpose of the well, so water well logs may only report deeper, confined groundwater, while geotechnical or environmental borings will often report any groundwater encountered, including shallow, unconfined groundwater. Therefore, the levels reported on the WDE well logs referenced above are considered generally indicative of local water levels and may not reflect actual groundwater levels at the site. We anticipate that groundwater levels will fluctuate due to seasonal and annual variations in precipitation, changes in site utilization, or other factors. Additionally, the on-site, lean clay is conducive to formation of perched groundwater.

7.0 FINDINGS & RECOMMENDATIONS

The primary geologic hazards that may affect the site are potential for slope instability and seismic shaking. We anticipate that with proper construction control, the geology and topography of the site and the surrounding area will not adversely affect the proposed project, and the project will have no geologic impact on adjacent properties or the risk of slope instability. It is our opinion that, with the use of generally accepted construction techniques and by strictly following the recommendations contained in this report and in the building code, the site is geologically suitable for the proposed development.

7.1 Slope Considerations

Any construction within hillside areas inherently bears greater risk of slope instability. The on-site and off-site slopes may be susceptible to slope instability resulting from factors beyond the owner's control, such as off-site grading, erosion and other ground disturbance, a major earthquake, or heavy precipitation. The owners must recognize and accept the risk of potential slope instability from causes beyond their control or as yet unrecognized.

The Clark Regional Emergency Services Agency (CRESA)[28] shows a small portion of the northeast portion of the site within a landslide hazard area. Another landslide hazard area is mapped northwest of the site alongside NW Pacific Highway. We did not observe signs of previous or ongoing instability during our reconnaissance. As described in Section 1.1, the proposed development will include the placement of up to about 7 feet of structural fill in the area of the proposed roadway and ADA path to reach finished grades. New fill slopes will have finished gradients up to 2 horizontal to 1 vertical (2H:1V). We conclude the proposed development will have no significant impact on the potential for large-scale slope instability.

In no case should surface runoff or discharge from drains be directed onto the site slopes. The ground surface adjacent to the building should be sloped to drain away from the building and surface runoff should be collected and routed to a suitable discharge point. Surface water should not be directed into foundation drains. Surface and any subsurface drains should be connected to the nearest storm drain or other suitable discharge point.

---

[27] Washington State Department of Ecology, 2020. Well Log Records, *accessed July 2020*, from web site: https://fortress.wa.gov/ecy/waterresources/map/WCLSWebMap/textsearch.aspx

[28] Clark Regional Emergency Services Agency, *2020*, Hazard Maps, Clark County, Washington, *accessed July 2020*, from CRESA website: https:// http://cresa911.org/emergency-management/mitigation/hazard-maps/

The established vegetation observed at the site should generally provide protection from excessive erosion and no remedial measures are warranted at this time. Any areas of exposed soils, should, at a minimum, be monitored for erosion and preferably be vegetated or otherwise protected from erosion.

7.2 Seismic Shaking

To minimize the risk that this hazard will adversely impact the proposed development should be designed and constructed in accordance with current building codes. The proposed development will have no impact on this hazard.

7.3 Other Hazards

Other geologic hazards identified in the Clark County Code Chapter 40.430.030(C)(5) and the 2006 Washington State Geologist Licensing Board Guidelines for Preparing Engineering Geology Reports in Washington include:

- Subsidence
- Erosion
- Fault Rupture
- Expansive Soils
- Volcanic Hazards

Based on our research, field reconnaissance, and previous experience in the area, none of these hazards are present at the site.

8.0 LIMITATIONS

The scope of this assignment did not include services related to geotechnical engineering for the proposed development such as bearing capacity evaluation, settlement estimates, recommendations regarding stripping and filling, or the use of footing/floor slab drains, etc. Additionally, quantitative soil or rock slope stability analyses was not performed. Our recommendations are not intended to indicate that all geologic hazards can be mitigated by proper engineering. They are provided in order to assist the project engineer in evaluating site conditions based on geologic research and preliminary, site specific, surface and shallow subsurface exploration. If you would like CGT to provide geotechnical recommendations or geotechnical construction observations during site construction, we can prepare a geotechnical report for the site for an additional fee.

We have prepared this report for use by the owner/developer and other members of the design and construction team for the proposed development. The opinions and recommendations contained within this report are not intended to be, nor should they be construed as, a warranty of subsurface conditions, but are forwarded to assist in the planning and design process.

This site evaluation consisted of visual examinations of exposed soil conditions within shallow excavations and a review of readily available geologic resources judged pertinent to the evaluation. Accordingly, the limitations of the site evaluation must be recognized. An exploration of subsurface conditions at depth was not conducted for this evaluation. An investigation to explore subsurface conditions at depth using deeper soil borings or excavations could be conducted at additional cost to the owner to further define the risk of

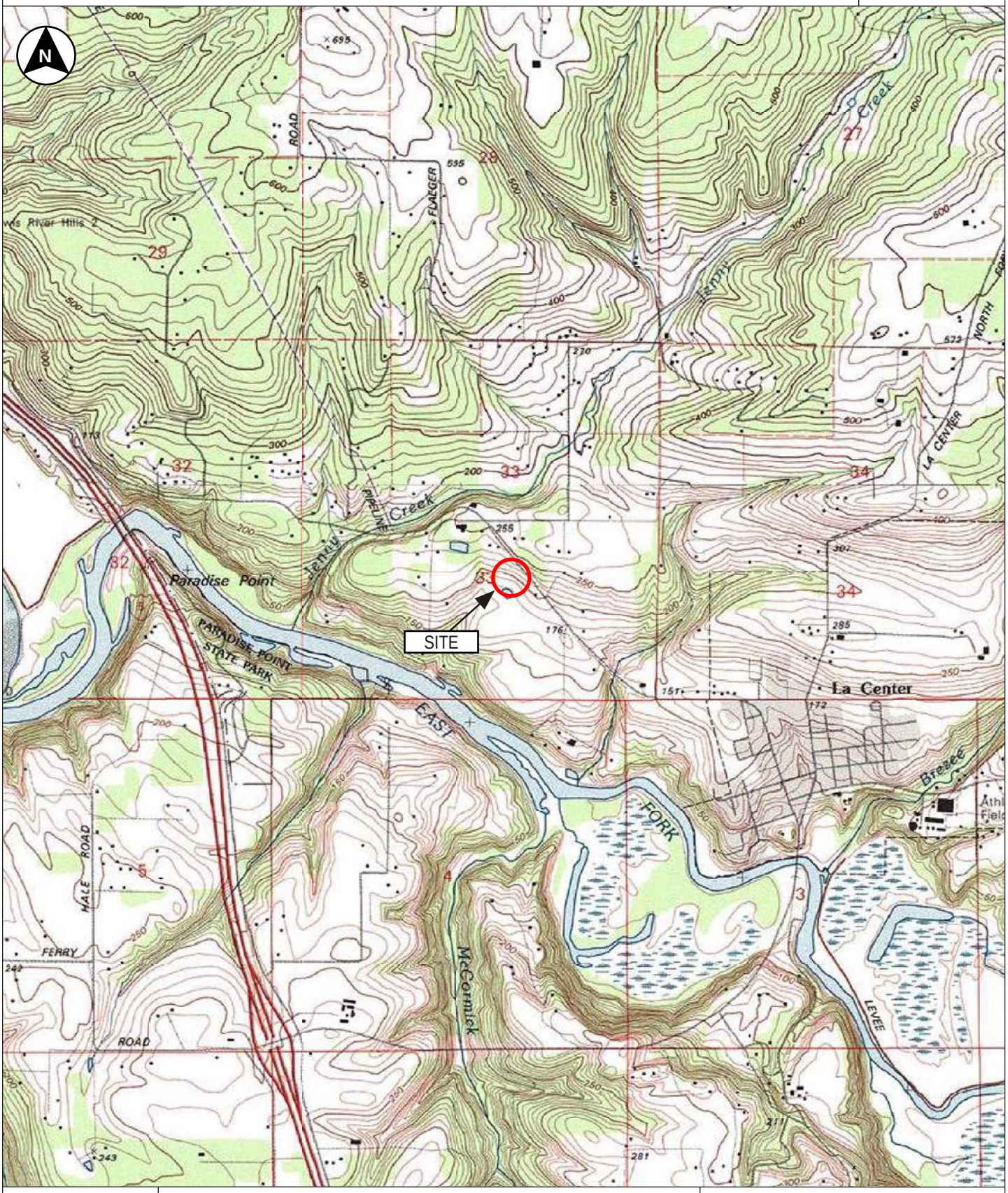
unforeseen, adverse geological issues on this site. However, based on our observations and the information available, the risk of unforeseen adverse geological issues on this site appear to be small and could, in our opinion, be assumed by the owner.

We have made observations based on our explorations that indicate the soil conditions at only those specific locations and only to the depths penetrated. These observations do not necessarily reflect soil types, strata thickness, or water level variations that may exist between or away from the explorations. If subsurface conditions vary from those encountered in our site exploration, CGT should be alerted to the change in conditions so that we may provide additional recommendations, if necessary. Observation by experienced geotechnical personnel should be considered an integral part of the construction process. The owner/developer is responsible for insuring that the project designers and contractors implement our recommendations.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with the generally accepted practices in this area at the time this report was prepared. No warranty or other conditions, expressed or implied, should be understood. This report is subject to review and should not be relied upon after a period of three years.

RIDGELINE PARK - LA CENTER, WASHINGTON
Project Number G2005322

FIGURE 1
Site Location



CARLSON CGT GEOTECHNICAL
503-601-8250
Drafted by: MMS

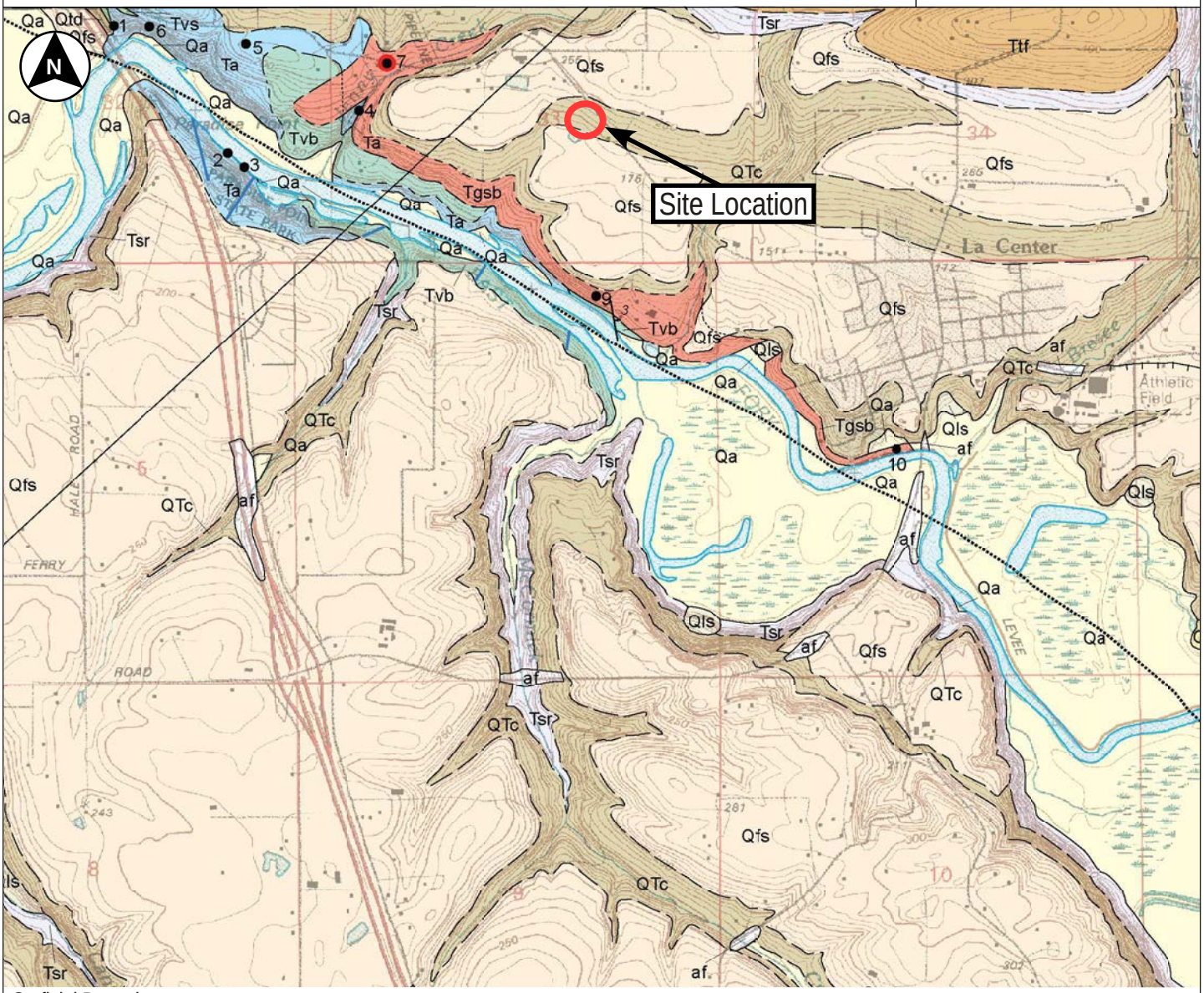
Map created with TOPO!™, © 2006 National Geographic Holdings
USGS 7.5 Minute Topographic Map Series, Ridgefield, Washington Quadrangle, 1990.
Township 5 North, Range 1 East, Section 33 Willamette Meridian

Latitude: 45.870877° North
Longitude: 122.688732° West

1 Inch = 2,000 feet
0 2000 4000

RIDGELINE PARK - LA CENTER, WASHINGTON
Project Number G2005322

FIGURE 2
Geologic Map



Surficial Deposits

- af — Artificial fill
- Qa — Alluvium deposits
- Qoa — Older alluvium deposits
- Qls — Landslide deposits
- Ql — Lake deposits
- Qfs — Cataclysmic-flood deposits
- Qtd — Terrace deposits

Basin-Fill Deposits

- QTc — Conglomerate
- Ttf — Troutdale formation
- Tsr — Sandy River Mudstone

Columbia River Basalt Group

- Tgsb — Member of Sentinel Bluffs

Bedrock

- Ta — Andesite
- Tvb — Volcanic breccia

- **Contact**—Dashed where approximately located; short-dashed where inferred; dotted where concealed
- **Fault**—Dashed where inferred; dotted where concealed
- **Anticline**—Dashed where inferred; dotted where concealed
- **Strike and dip of beds**
  - **Inclined**
  - **Horizontal**
- **Terrace scarp**
- **Sample locality for chemical analysis**—See table 1
- **Glacial erratic**
- **Oil well**
- **Sample locality for paleomagnetic measurement**

CARLSON CGT GEOTECHNICAL
503-601-8250

Map adapted from Evarts, R.C., 2004, Geologic Map of the Ridgefield Quadrangle, Clark and Cowlitz Counties, Washington: U.S. Geological Survey, Scientific Investigation Map SIM-2844

Township 5 North, Range 1 East, Section 33 Willamette Meridian

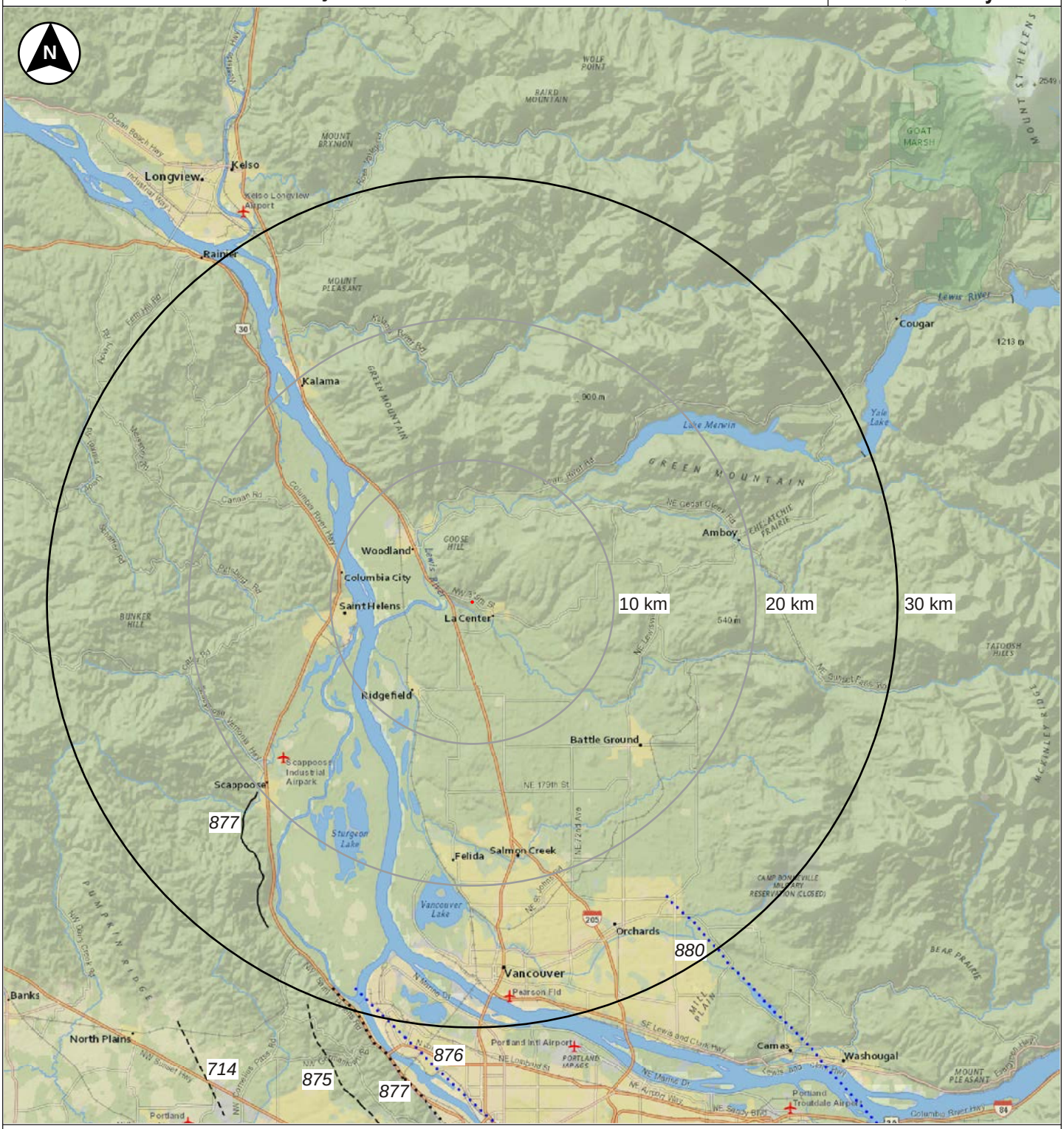
Latitude: 45.870877° North
Longitude: 122.688732° West

1 Inch = 2,000 feet

0 2000 4000

RIDGELINE PARK - LA CENTER, WASHINGTON
Project Number G2005322

FIGURE 3
USGS Quaternary Faults



LEGEND

- Historic (< 150 years)
- Latest Quaternary (< 15,000 years)
- Late Quaternary (< 130,000 years)
- Middle and late Quaternary (< 750,000 years)
- Undifferentiated Quaternary (< 1.6 million years)
- Unspecified Age
- Class B (age varies)

- Well constrained location (solid line)
- Moderately constrained location (dashed line)
- Inferred location (dotted line)

716 USGS Fault Number

CARLSON CGT GEOTECHNICAL 503-601-8250

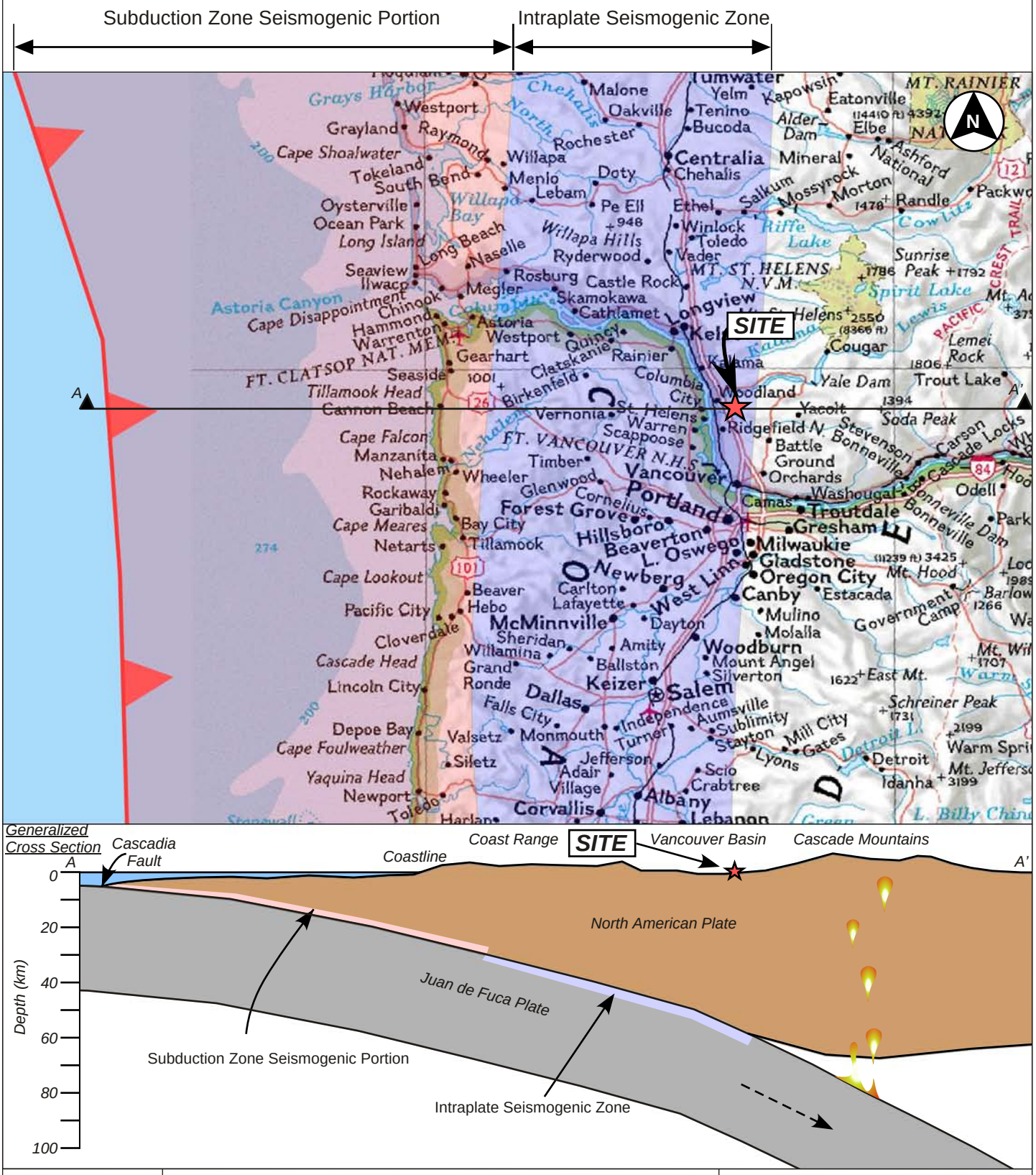
NOTES: Data from USGS Quaternary Fault and Fold Database, accessed July 2020, at website: https://earthquake.usgs.gov/cfusion/qfault/.

1 Inch = 10 Kilometers

0 10 20

RIDGELINE PARK - LA CENTER, WASHINGTON
Project Number G2005322

FIGURE 4
Cascadia Subduction Zone



McCrory, Blair, Oppenheimer, and Walter, 2004. Depth to the Juan de Fuca slab beneath the Cascadia subduction margin - A 3-D model for storing earthquakes: U.S. Geological Survey Data Series 91.

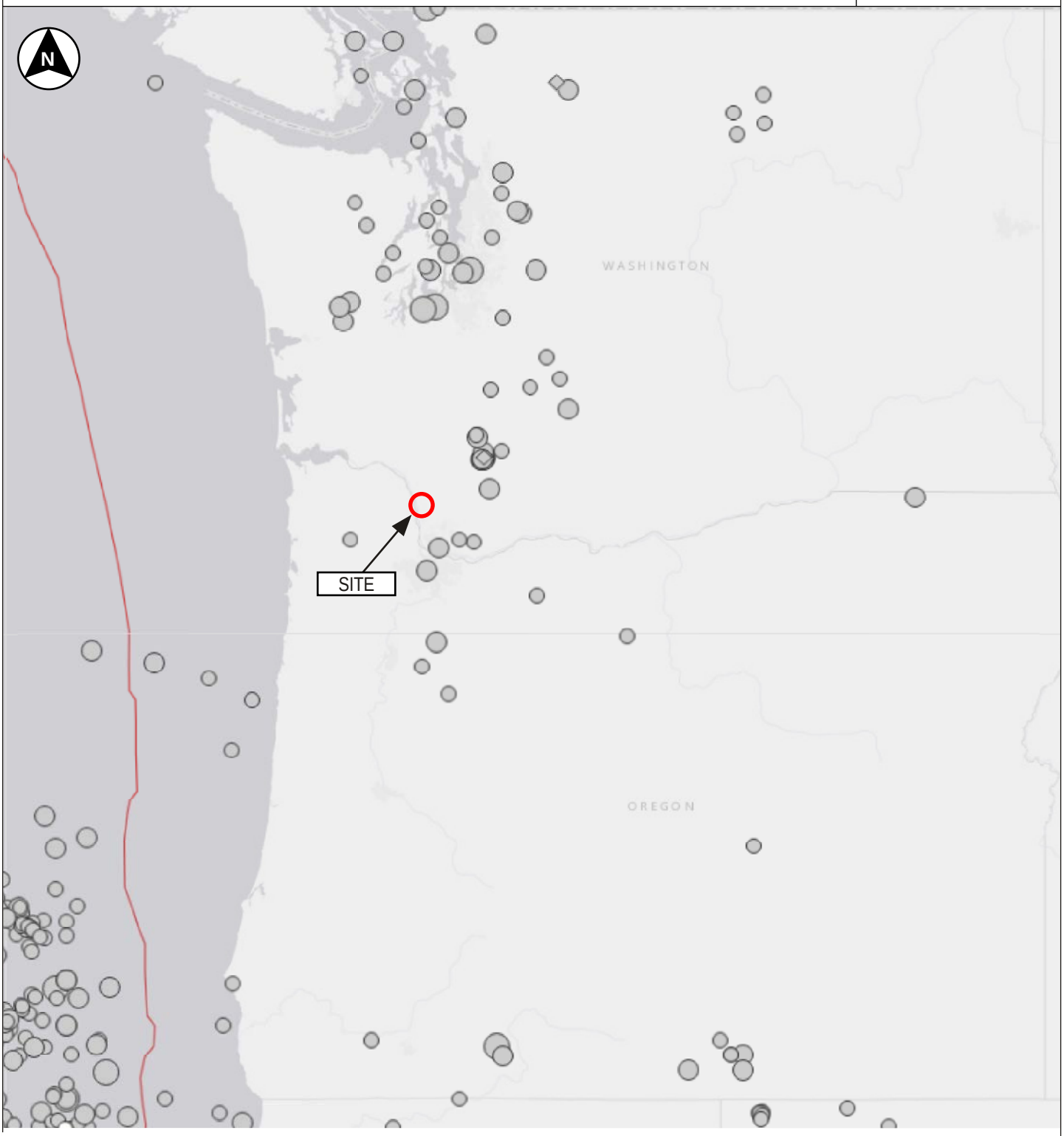
CARLSON CGT GEOTECHNICAL 503-601-8250

Scale 1 Inch = 50 kilometers

0 50 100

RIDGELINE PARK - LA CENTER, WASHINGTON
Project Number G2005322

FIGURE 5
Vicinity Earthquakes



1904 - 2020 Earthquakes with Magnitude above M4.5

Magnitude

0 7+

Age (past)

Hour Day Week Month Older

CARLSON CGT GEOTECHNICAL 503-601-8250

Map created from USGS Earthquake Catalog at https://earthquake.usgs.gov/earthquakes/.

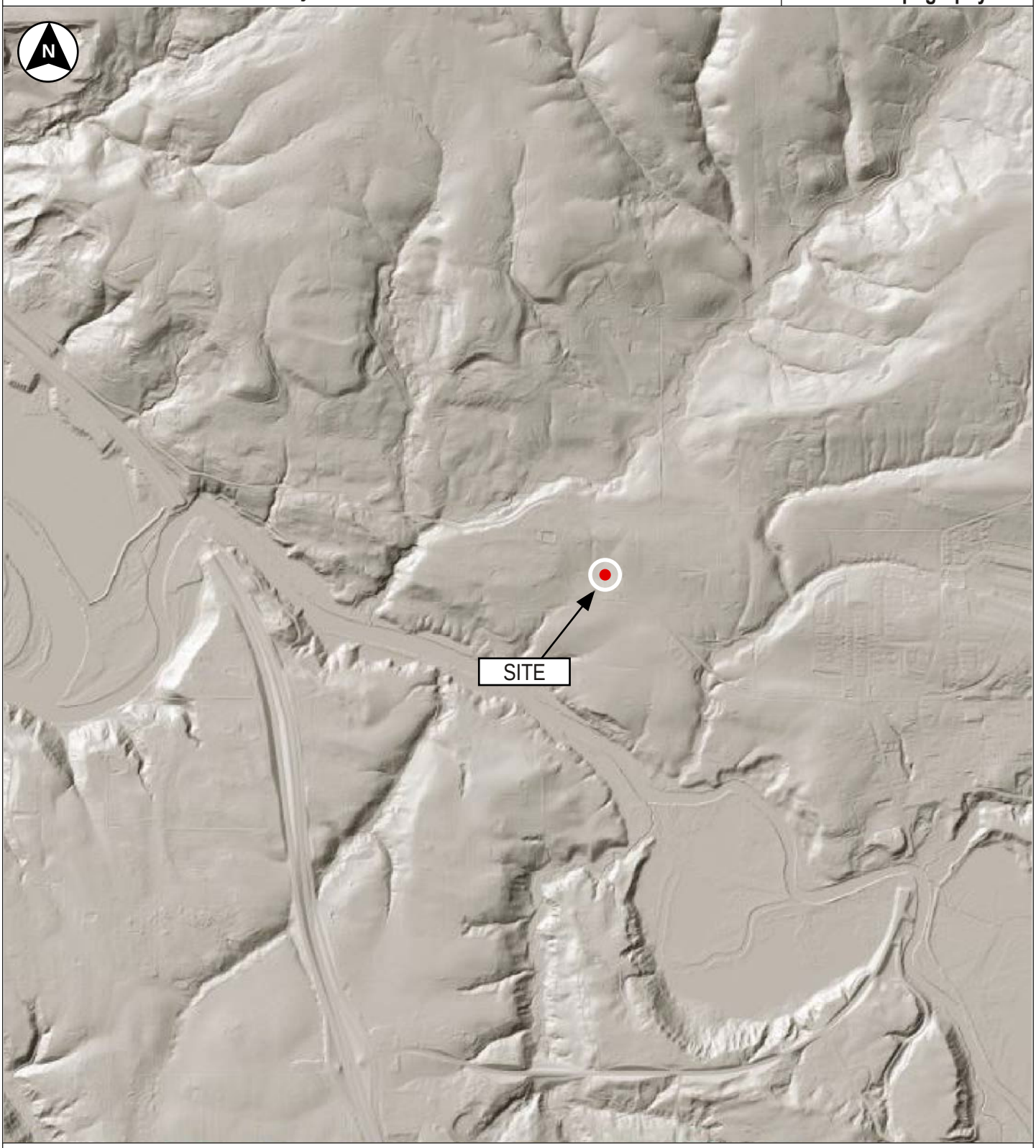
Latitude: 45.870877° North
Longitude: 122.688732° West

1 Inch = 100 kilometers

0 100 200

RIDGELINE PARK - LA CENTER, WASHINGTON
Project Number G2005322

FIGURE 6
Local Topography



CARLSON CGT GEOTECHNICAL 503-601-8250

NOTES: Bare Earth Lidar Hillshade mapping obtained from Washington State Department of Natural Resources, 2020. Washington State Geologic Information Portal, accessed July 2020, from Washington State DNR website: https://geologyportal-qa.dnr.wa.gov/

Latitude: 45.870877° North
Longitude: 122.688732° West

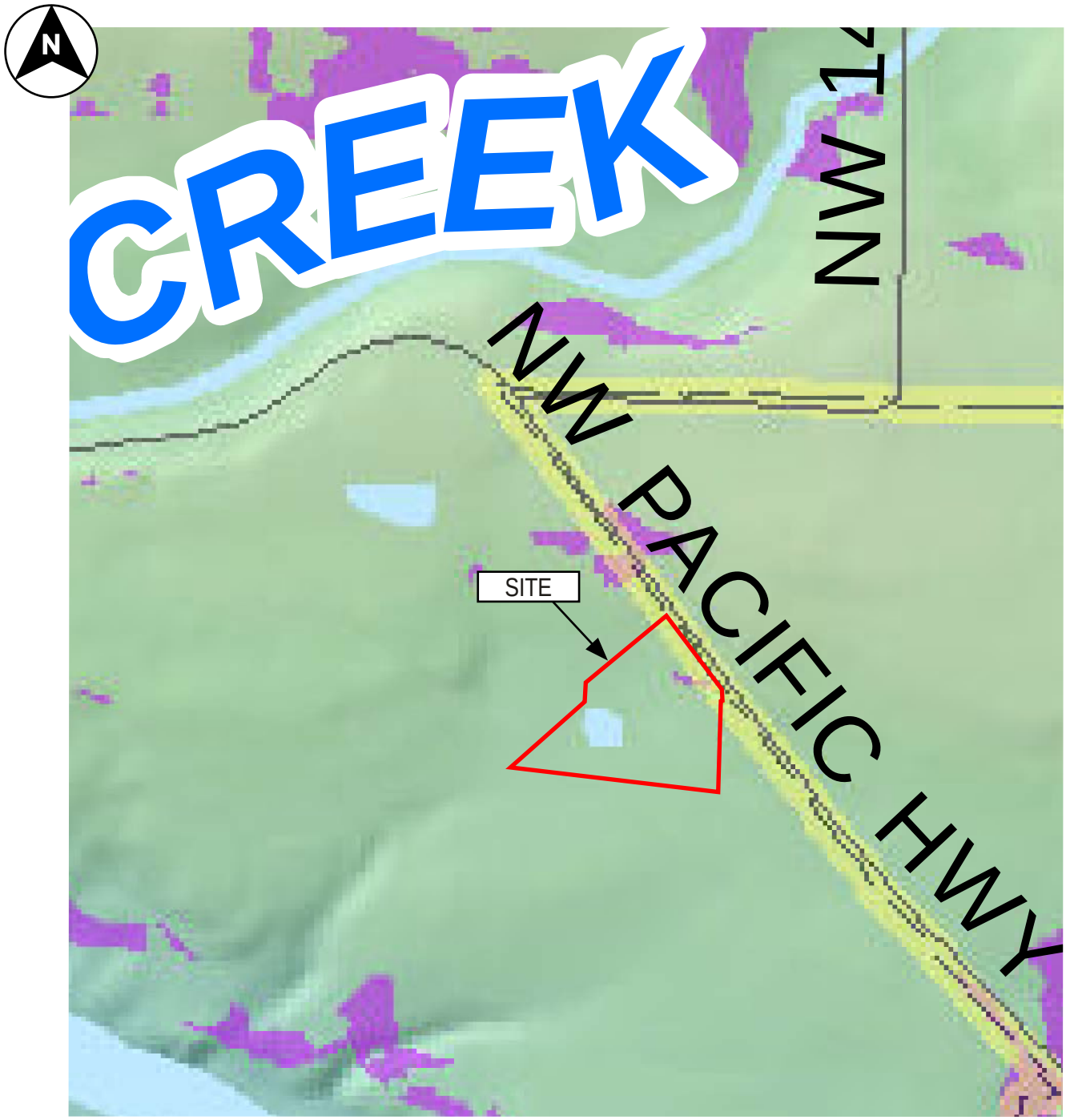
1 Inch = 2,000 Feet

0 2,000 4,000

RIDGELINE PARK - LA CENTER, WASHINGTON
Project Number G2005322

FIGURE 7

Geologic Hazard Overlay



LEGEND

Landslide Hazard Areas

CARLSON CGT GEOTECHNICAL 503-601-8250

Map adapted from Clark County Landslide Areas from the Clark Regional Emergency Services Agency (CRESA), accessed July 2020, http://cresa911.org/emergency-management/mitigation/hazard-maps/

Latitude: 45.870877° North
Longitude: 122.688732° West

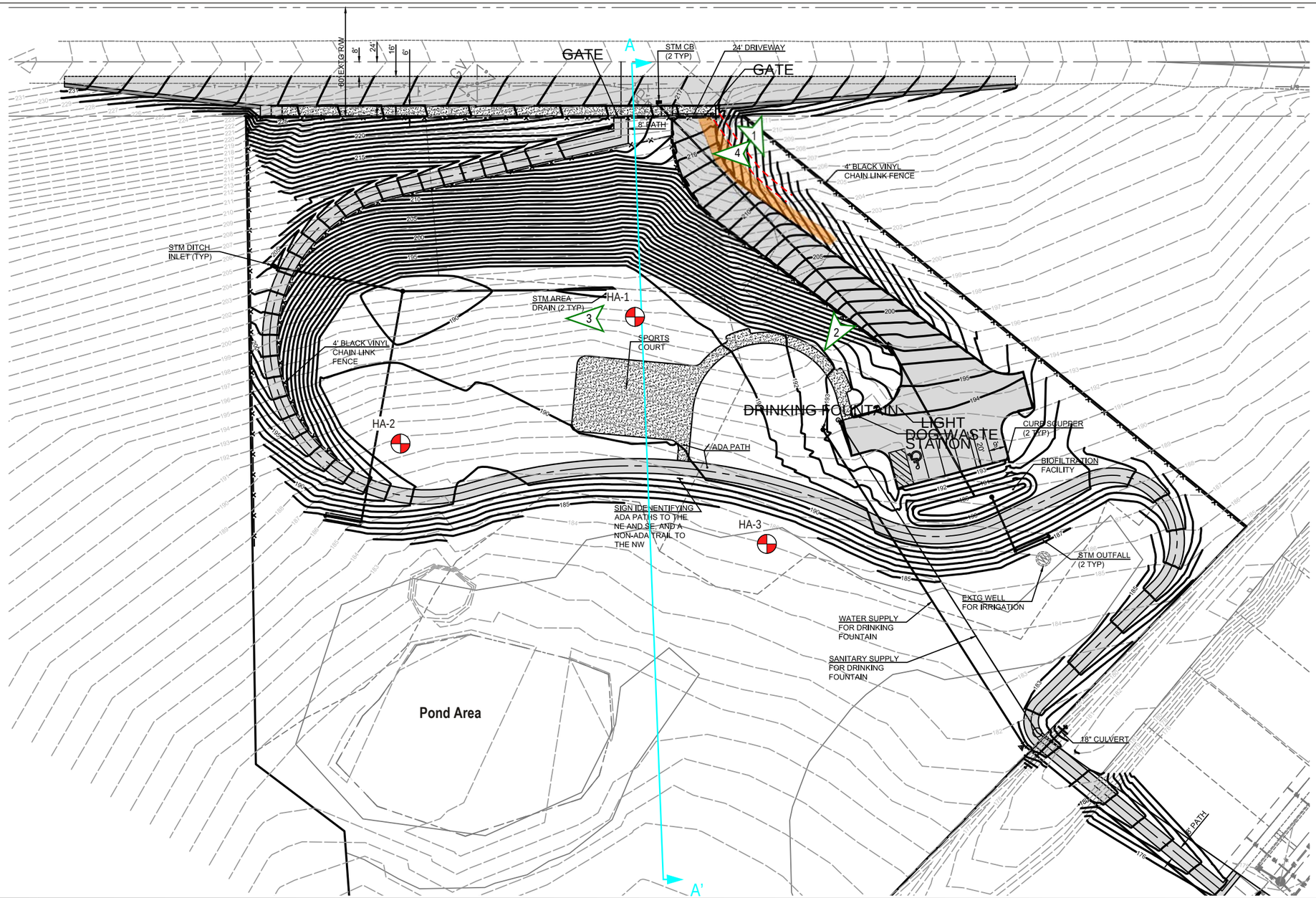
1 Inch = 500 feet

0 500 1000

RIDGELINE PARK - LA CENTER, WASHINGTON
Project Number G2005233

FIGURE 8

Site Plan



CARLSON CGT GEOTECHNICAL
503-601-8250

Drafted by: MMS

LEGEND

HA-1 Hand auger boring

A A' Location of cross section shown on Figure 10

Approximate location of berm

1 Orientation of site photographs shown on Figure 9

Existing Gravel Path

1 Inch = 60 Feet

0 60 120

NOTES: Drawing based on Sheet 1, "Site Plan", produced by PLS Engineering, undated, and modified by CGT. All locations are approximate.

FIGURE 9
Site Photographs

Photograph 1

Photograph 2

Photograph 3

Photograph 4

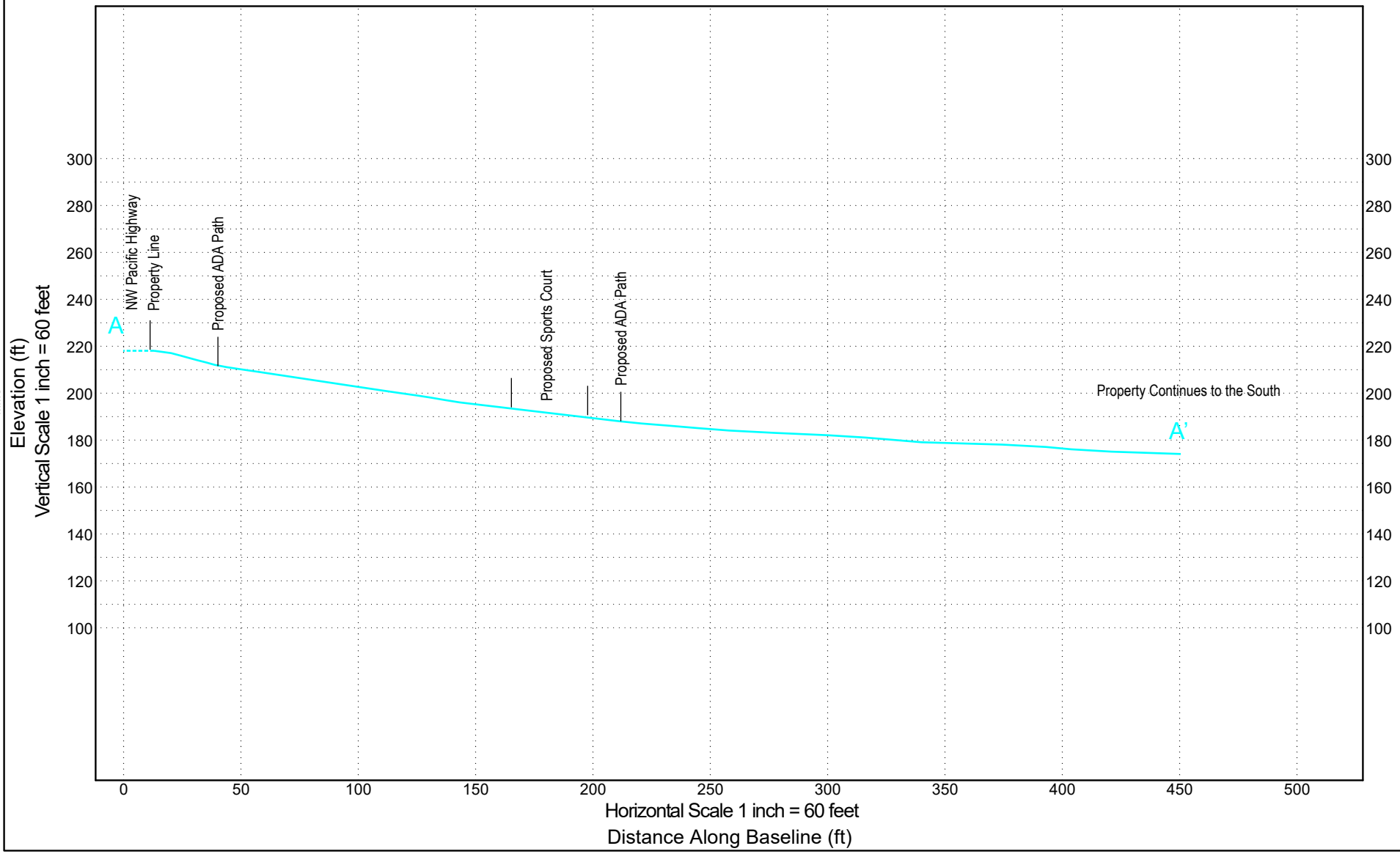
CARLSON CGT GEOTECHNICAL
503-601-8250
Drafted by: MMS

See Figure 8 for approximate photograph locations and directions. Photographs were taken at the time of our fieldwork.

Carlson Geotechnical
A Division of Carlson Testing, Inc.
www.carlsontesting.com

FIGURE 10 - Topographic Profile A-A'

CLIENT Peter Ettro - Ettro Capital
PROJECT NUMBER G2005233
PROJECT NAME Ridgeline Park
PROJECT LOCATION 34512 NW Pacific Highway, La Center, Washington



STRATIGRAPHY & GW - A SIZE W LEGEND LOGS.GPJ 7/11/20 DRAFTED BY: MMS

Carlson Geotechnical

A Division of Carlson Testing, Inc.
Phone: (503) 601-8250
www.carlsontesting.com

Bend Office	**(541) 330-9155**
Eugene Office	**(541) 345-0289**
Salem Office	**(503) 589-1252**
Tigard Office	**(503) 684-3460**

Appendix A: Subsurface Investigation

Ridgeline Park
34512 NW Pacific Highway
La Center, Washington

CGT Project Number G2005233

July 22, 2020

Prepared For:

Peter Ettro
Ettro Capital
340 Oswego Point Drive #208
Lake Oswego, Oregon 97034

Prepared by
Carlson Geotechnical

A.1.0 SUBSURFACE INVESTIGATION

Our field investigation consisted of three hand auger borings completed in July 2020. The boring locations are shown on the Site Plan, attached to the main report as Figure 2. The boring locations shown therein were recorded in the office using desktop GIS software and located in the field using handheld a GPS device, and are approximate (+/- 30 feet horizontally). Surface elevations indicated on the logs were estimated based on the topographic contours shown on the referenced Site Plan and are approximate. The attached figures detail the exploration methods (Figure A1), soil classification criteria (Figure A2), and present detailed logs of the explorations (Figures A3 through A5), as discussed below.

A.1.1 Hand Auger Borings

CGT advanced three hand auger borings (HA-1 through HA-3) at the site on July 16, 2020, to depths of up to about 5½ feet bgs using equipment provided and operated by CGT. The hand auger borings were loosely backfilled with the excavated materials upon completion.

A.1.2 Material Classification & Sampling

Representative grab samples of the soils encountered were obtained at select intervals within the hand auger borings. A qualified member of CGT's geological staff collected the samples and logged the soils in general accordance with the Visual-Manual Procedure (ASTM D2488). An explanation of this classification system is attached as Figure A2. The grab samples were stored in sealable plastic bags and transported to our soils laboratory for further examination. Our geotechnical staff visually examined all samples in order to refine the initial field classifications.

A.1.3 Subsurface Conditions

Subsurface conditions are summarized in Section 6.2 of the main report. Detailed logs of the explorations are presented on the attached exploration logs, Figures A3 through A5.

RIDGELINE PARK -LA CENTER, WASHINGTON *Project Number G2005233*	**FIGURE A1** **Exploration Key**

PL — MC — LL	Atterberg limits (plasticity) test results (ASTM D4318): PL = Plastic Limit, LL = Liquid Limit, and MC= Moisture Content (ASTM D2216)
☐ FINES CONTENT (%)	Percentage passing the U.S. Standard No. 200 Sieve (ASTM D1140)

SAMPLING

GRAB	Grab sample
BULK	Bulk sample
SPT	**Standard Penetration Test** (SPT) consists of driving a 2-inch, outside-diameter, split-spoon sampler into the undisturbed formation with repeated blows of a 140-pound, hammer falling a vertical distance of 30 inches (ASTM D1586). The number of blows (N-value) required to drive the sampler the last 12 inches of an 18-inch sample interval is used to characterize the soil consistency or relative density. The drill rig was equipped with an cat-head or automatic hammer to conduct the SPTs. The observed N-values, hammer efficiency, and N_{60} are noted on the boring logs.
MC	**Modified California** sampling consists of 3-inch, outside-diameter, split-spoon sampler (ASTM G3550) driven similarly to the SPT sampling method described above. A sampler diameter correction factor of 0.44 is applied to calculate the equivalent SPT N_{60} value per Lacroix and Horn, 1973.
CORE	**Rock Coring** interval
SH	**Shelby Tube** is a 3-inch, inner-diameter, thin-walled, steel tube push sampler (ASTM D1587) used to collect relatively undisturbed samples of fine-grained soils.
WDCP	**Wildcat Dynamic Cone Penetrometer** (WDCP) test consists of driving 1.1-inch diameter, steel rods with a 1.4-inch diameter, cone tip into the ground using a 35-pound drop hammer with a 15-inch free-fall height. The number of blows required to drive the steel rods is recorded for each 10 centimeters (3.94 inches) of penetration. The blow count for each interval is then converted to the corresponding SPT N_{60} values.
DCP	**Dynamic Cone Penetrometer** (DCP) test consists of driving a 20-millimeter diameter, hardened steel cone on 16-millimeter diameter steel rods into the ground using a 10-kilogram drop hammer with a 460-millimeter free-fall height. The depth of penetration in millimeters is recorded for each drop of the hammer.
POCKET PEN. (tsf)	**Pocket Penetrometer** test is a hand-held instrument that provides an approximation of the unconfined compressive strength in tons per square foot (tsf) of cohesive, fine-grained soils.

CONTACTS

	Observed (measured) contact between soil or rock units.
	Inferred (approximate) contact between soil or rock units.
	Transitional (gradational) contact between soil or rock units.

ADDITIONAL NOTATIONS

Italics	Notes drilling action or digging effort
{ Braces }	Interpretation of material origin/geologic formation (e.g. { Base Rock } or { Columbia River Basalt })

CARLSON CGT GEOTECHNICAL 503-601-8250

All measurements are approximate.

RIDGELINE PARK - LA CENTER, WASHINGTON
Project Number G2005233

FIGURE A2
Soil Classification

Classification of Terms and Content

NAME: Group Name and Symbol
Relative Density or Consistency
Color
Moisture Content
Plasticity
Other Constituents
Other: Grain Shape, Approximate Gradation
Organics, Cement, Structure, Odor, etc.
Geologic Name or Formation

Grain Size

		U.S. Standard Sieve
Fines		<#200 (0.075 mm)
Sand	Fine	#200 - #40 (0.425 mm)
	Medium	#40 - #10 (2 mm)
	Coarse	#10 - #4 (4.75 mm)
Gravel	Fine	#4 - 0.75 inch
	Coarse	0.75 inch - 3 inches
Cobbles		3 to 12 inches
Boulders		> 12 inches

Coarse-Grained (Granular) Soils

Relative Density

SPT N_{60}-Value	Density
0 - 4	Very Loose
4 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
>50	Very Dense

Minor Constituents

Percent by Volume	Descriptor	Example
0 - 5%	"Trace" as part of soil description	"trace silt"
5 - 15%	"With" as part of group name	"**POORLY GRADED SAND WITH SILT**"
15 - 49%	Modifier to group name	"**SILTY SAND**"

Fine-Grained (Cohesive) Soils

SPT N_{60}-Value	Torvane tsf Shear Strength	Pocket Pen tsf Unconfined	Consistency	Manual Penetration Test
<2	<0.13	<0.25	Very Soft	Thumb penetrates more than 1 inch
2 - 4	0.13 - 0.25	0.25 - 0.50	Soft	Thumb penetrates about 1 inch
4 - 8	0.25 - 0.50	0.50 - 1.00	Medium Stiff	Thumb penetrates about ¼ inch
8 - 15	0.50 - 1.00	1.00 - 2.00	Stiff	Thumb penetrates less than ¼ inch
15 - 30	1.00 - 2.00	2.00 - 4.00	Very Stiff	Readily indented by thumbnail
>30	>2.00	>4.00	Hard	Difficult to indent by thumbnail

Minor Constituents

Percent by Volume	Descriptor	Example
0 - 5%	"Trace" as part of soil description	"trace fine-grained sand"
5 - 15%	"Some" as part of soil description	"some fine-grained sand"
15 - 30%	"With" as part of group name	"**SILT WITH SAND**"
30 - 49%	Modifier to group name	"**SANDY SILT**"

Moisture Content

Dry: Absence of moisture, dusty, dry to the touch

Moist: Leaves moisture on hand

Wet: Visible free water, likely from below water table

	Plasticity	Dry Strength	Dilatancy	Toughness
ML	Non to Low	Non to Low	Slow to Rapid	Low, can't roll
CL	Low to Medium	Medium to High	None to Slow	Medium
MH	Medium to High	Low to Medium	None to Slow	Low to Medium
CH	Medium to High	High to Very High	None	High

Structure

Stratified: Alternating layers of material or color >6 mm thick

Laminated: Alternating layers < 6 mm thick

Fissured: Breaks along definite fracture planes

Slickensided: Striated, polished, or glossy fracture planes

Blocky: Cohesive soil that can be broken down into small angular lumps which resist further breakdown

Lenses: Has small pockets of different soils, note thickness

Homogeneous: Same color and appearance throughout

Visual-Manual Classification

Major Divisions			Group Symbols	Typical Names
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravels: 50% or more *retained* on the No. 4 sieve	Clean Gravels	GW	Well-graded gravels and gravel/sand mixtures, little or no fines
			GP	Poorly-graded gravels and gravel/sand mixtures, little or no fines
		Gravels with Fines	GM	Silty gravels, gravel/sand/silt mixtures
			GC	Clayey gravels, gravel/sand/clay mixtures
	Sands: More than 50% *passing* the No. 4 sieve	Clean Sands	SW	Well-graded sands and gravelly sands, little or no fines
			SP	Poorly-graded sands and gravelly sands, little or no fines
		Sands with Fines	SM	Silty sands, sand/silt mixtures
			SC	Clayey sands, sand/clay mixtures
Fine-Grained Soils: 50% or more Passes No. 200 Sieve	Silt and Clays Low Plasticity Fines		ML	Inorganic silts, rock flour, clayey silts
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
			OL	Organic soil of low plasticity
	Silt and Clays High Plasticity Fines		MH	Inorganic silts, clayey silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic soil of medium to high plasticity
Highly Organic Soils			PT	Peat, muck, and other highly organic soils

CARLSON CGT GEOTECHNICAL 503-601-8250

References:

ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)

ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)

Terzaghi, K., and Peck, R.B., 1948, Soil Mechanics in Engineering Practice, John Wiley & Sons.

Carlson Geotechnical
A Division of Carlson Testing, Inc.
www.carlsontesting.com

FIGURE A3
Boring HA-1

CLIENT Peter Ettro - Ettro Capital
PROJECT NAME Ridgeline Park
PROJECT NUMBER G2005233
PROJECT LOCATION 34512 NW Pacific Highway, La Center, Washington
DATE STARTED 7/16/20
GROUND ELEVATION 200 ft
ELEVATION DATUM Topographic Contours - Site Plan
WEATHER cloudy, ~65 degrees
SURFACE grass
LOGGED BY MLL
REVIEWED BY RTH
DRILLING CONTRACTOR CGT
SEEPAGE ---
EQUIPMENT 3-inch diameter hand auger
GROUNDWATER DURING DRILLING ---
DRILLING METHOD Manual Hand Auger
GROUNDWATER AFTER DRILLING ---

ELEVATION (ft)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ PL LL MC ☐ FINES CONTENT (%) ☐ 0 20 40 60 80 100
		OL	**ORGANIC SOIL:** Dark brown, moist, low plasiticy, abundant rootlets.		0						
			LEAN CLAY: *Stiff*, light brown, moist, low plasticity, trace rootlets.								
198					2	GRAB 1					
		CL	Brown, trace fine-grained sand below 3 feet bgs.								
196					4						
194											
192											
190											

- Hand auger boring terminated at 5½ feet bgs.
- No groundwater or caving encountered.
- Boring loosely backfilled with excavated material upon completion.

CGT EXPLORATION WITH WDCP LOGS.GPJ 7/21/20 DRAFTED BY: MLL

Carlson Geotechnical
A Division of Carlson Testing, Inc.
www.carlsontesting.com

FIGURE A4

Boring HA-2

CLIENT Peter Ettro - Ettro Capital
PROJECT NAME Ridgeline Park
PROJECT NUMBER G2005233
PROJECT LOCATION 34512 NW Pacific Highway, La Center, Washington
DATE STARTED 7/16/20
GROUND ELEVATION 190 ft
ELEVATION DATUM Topographic Contours - Site Plan
WEATHER cloudy, ~65 degrees
SURFACE grass
LOGGED BY MLL
REVIEWED BY RTH
DRILLING CONTRACTOR CGT
SEEPAGE ---
EQUIPMENT 3-inch diameter hand auger
GROUNDWATER DURING DRILLING ---
DRILLING METHOD Manual Hand Auger
GROUNDWATER AFTER DRILLING ---

ELEVATION (ft)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ PL LL MC ☐ FINES CONTENT (%) ☐ 0 20 40 60 80 100
		OL	**ORGANIC SOIL:** Dark brown, moist, low plasiticy, abundant rootlets.		0						
			LEAN CLAY: *Stiff*, brown, moist, low plasticity, trace rootlets.								
188		CL			2						
186					4						
184			• Hand auger boring terminated at 5 feet bgs. • No groundwater or caving encountered. • Boring loosely backfilled with excavated material upon completion.								
182											
180											

CGT EXPLORATION WITH WDCP LOGS.GPJ 7/21/20 DRAFTED BY: MLL

Carlson Geotechnical
A Division of Carlson Testing, Inc.
www.carlsontesting.com

FIGURE A5
Boring HA-3

CLIENT Peter Ettro - Ettro Capital
PROJECT NAME Ridgeline Park
PROJECT NUMBER G2005233
PROJECT LOCATION 34512 NW Pacific Highway, La Center, Washington
DATE STARTED 7/16/20
GROUND ELEVATION 184 ft
ELEVATION DATUM Topographic Contours - Site Plan
WEATHER cloudy, ~65 degrees
SURFACE grass
LOGGED BY MLL
REVIEWED BY RTH
DRILLING CONTRACTOR CGT
SEEPAGE ---
EQUIPMENT 3-inch diameter hand auger
GROUNDWATER DURING DRILLING ---
DRILLING METHOD Manual Hand Auger
GROUNDWATER AFTER DRILLING ---

ELEVATION (ft)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ PL LL MC ☐ FINES CONTENT (%) ☐ 0 20 40 60 80 100
		OL	**ORGANIC SOIL:** Dark brown, moist, low plasiticy, abundant rootlets.		0						
182		CL	**LEAN CLAY:** *Medium stiff*, dark brown to brown, moist, low plasticity, trace rootlets.		2						
			Stiff, brown below 2 feet bgs.			GRAB 1					
180					4						
178											
176											
174											

- Hand auger boring terminated at 5 feet bgs.
- No groundwater or caving encountered.
- Boring loosely backfilled with excavated material upon completion.

CGT EXPLORATION WITH WDCP LOGS.GPJ 7/21/20 DRAFTED BY: MLL

Exhibit 6

Environmental Checklist

Purpose of checklist:

The State Environmental Policy Act (SEPA), Chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for non-project proposals:

Complete the checklist for non-project proposals, even though questions may be answered "does not apply." In addition, complete the supplemental sheet for Non-project Actions (part D).

For non-project actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. Background

1. Name of proposed project, if applicable:

   Riverside Neighborhood Park

2. Name of applicant:

   9317 LLC

3. Address and phone number of applicant and contact person:

   Applicant:
   9317 LLC, Luke Sasse, 360-449-0099

   Contact:
   PLS Engineering, Travis Johnson, 360-944-6519

4. Date checklist prepared:

   September 17, 2020

5. Agency requesting checklist:

   La Center, Washington

6. Proposed timing or schedule (including phasing, if applicable):

   Construction will proceed as soon as all required permits are obtained. No phasing is proposed.

7. Do you have any plans for future additions, expansion, or further activity related to this proposal? If yes, explain.

   There are no future additions or expansions. *The proposed neighborhood park is associated with the existing Riverside development.*

8. List any environmental information that has been or will be prepared related to this proposal.

   A Cultural Resources Report was prepared by Applied Archaeological Research in 2017 for the subdivision and encompassed the area for this neighborhood park.

   A Critical Areas Report for the subdivision was prepared by Castle Rose Environmental in 2016 and an updated study was prepared by Loowit Consulting Group in 2019. A third critical areas report was prepared by Ecological Land Services in 2019. Areas studied included the area for the neighborhood park.

   A Geotechnical Report was prepared specifically for this parcel by Carlson Geotechnical on July 22, 2020.

9. Are other applications pending for governmental approvals affecting the property covered by your proposal? If yes, please explain.

   A development agreement will need to be modified to change the dates of completion of the park by the City of La Center City Council.

10. List any government approvals or permits needed for your proposal:

    Pre-Application Waiver, Critical Areas Permit, Type II Site Plan Review, SEPA Checklist, City of La Center City Council Approval Developer's agreement modification.

11. Give a brief, complete description of your proposal, including the proposed uses and size of the project and site. There are several questions addressed later in this checklist asking you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

    The applicant is proposing to construct a neighborhood park that will include parking, a storm facility, grading, utilities, basketball area, play equipment, bike racks, walking path and lawn area.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including street address, section, township, and range. If this proposal occurs over a wide area, please provide the range or boundaries of the site. Also, give a legal description, site plan, vicinity map, and topographic map. You are required to submit any plans required by the agency, but not required to submit duplicate maps or plans submitted with permit applications related to this checklist.

    The site is located in La Center, WA at 34512 NW Pacific Highway. The project area encompasses a portion of parcel number 986028825, also described as Lot 1/10, East Fork Estates (311651), Lots 1, 2 East Fork Estates Ph. 2 (311-670). The site is located within Section 33, Township 5 North, Range 1 East, Willamette Meridian.

B. Environmental Elements

1. Earth

a. General description of the site (circle one): Flat, ***rolling***, hilly, steep slopes, mountainous, other _____.

   The property would be considered rolling.

b. What is the steepest slope on the site and the approximate percentage of the slope?

   Approximately 15%.

c. What general types of soils are found on the site (e.g., clay, sand, gravel, peat, muck)? Please specify the classification of agricultural soils and note any prime farmland.

Clark County GIS identifies the site as having the following soils:
GeD – Gee Silt Loam, 8-20% slopes
OdB – Odne Silt Loam, 0-5% slopes
The site has historically been used for agricultural purposes.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, please describe.

The applicant has no knowledge of any unstable soils in the immediate area.

e. Describe the purpose, type, and approximate quantities of any filling or proposed grading. Also, indicate the source of fill.

Grading will be necessary to provide uniformity in the slope across the site to allow for vehicular travel, surface drainage, the construction of the park, and the installation of utilities. The final engineering process will attempt to balance cut and fill quantities over the site to the extent feasible, estimated volumes are currently unknown. The source of fill that might be imported to the site is unknown.

f. Could erosion occur as a result of clearing, construction, or use? If so, please describe.

Yes, unprotected areas could erode. However, an Erosion Control Plan with specific erosion control BMP's will be submitted with the final construction drawings and will be approved prior to the initiation of any construction activities.

g. What percentage of the site will be covered with impervious surfaces after the project construction (e.g., asphalt or buildings)?

Approximately 15%.

h. Proposed measures to reduce or control erosion, or other impacts to the earth include:

Design and implementation of an erosion control plan will take place prior to construction. If any construction areas drain toward adjacent properties, silt fence will be installed to protect the downslope areas. Stormwater inlets will be protected with inlet protection and a construction entrance will be installed where construction vehicles will enter the construction area. Exposed soils will be stabilized as quickly as possible either through temporary seeding and ground cover by hay, straw, or tarps or through permanent cover with gravel surfacing

and paving. Additional measures will also likely be implemented as needed depending on the time of year that construction is taking place.

2. Air

a. What types of emissions to the air would result from this proposal (e.g., dust, automobile, odors, industrial wood smoke) during construction and after completion? Please describe and give approximate quantities.

Vehicle emissions will take place from the construction vehicles. It is also possible that some dust will be generated during dry conditions. When the project is complete, emissions from the vehicles parking at the park may occur. Quantities of emissions are unknown.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, please describe.

There are no known off-site sources of emission or odor that may affect the proposal.

c. Proposed measures to reduce or control emissions or other impacts to air:

Water trucks will be used to control dust during construction should it become necessary. Presumably, the construction equipment will be required to comply with modern emissions regulations.

3. Water

a. Surface:

1) Is there any surface water body on or in the vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, and wetlands)? If yes, describe the type and provide names and into which stream or river it flows into.

There is a wetland located on the subject parcel, south of the proposed project area. Additionally, the East Fork Lewis River is approximately 1,500 feet south of the site.

2) Will the project require any work within 200 feet of the described waters? If yes, please describe and attach available plans.

Yes, there will be work within 200 feet of the wetlands.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate

the area of the site that would be affected. Indicate the source of fill material.

No fill or dredge material is proposed to be placed in or removed from the wetland.

4) Will the proposal require surface water withdrawals or diversions? Please provide description, purpose, and approximate quantities:

No.

5) Does the proposal lie within a 100-year floodplain? If so, please note the location on the site plan.

No.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Please give description, purpose, and approximate quantities.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources; (e.g., domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the size and number of the systems, houses to be served; or, the number of animals or humans the systems are expected to serve.

None.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal. Include quantities, if known. Describe where water will flow, and if it will flow into other water.

Stormwater runoff flows from the site will be similar to pre-developed conditions. The majority of the stormwater runoff will sheet flow to the pre-developed historic low point of the site. The grass areas and the parking area will be collected by storm inlets and then directed by storm piping to a treatment and detention facility located on the site.

2) Could waste materials enter ground or surface waters? If so, please describe.

Yes, if waste materials were somehow released or dumped into surface runoff flows, substances associated with the source material could enter ground or other surface waters. However, the potential for this will be greatly reduced by proper use of erosion and sediment control BMPs during construction and through the construction of the site's permanent stormwater treatment facilities described above.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Use of approved erosion control measures during all phases of development.

4. Plants

a. Check or circle types of vegetation found on the site
- Deciduous tree: ***alder***, maple, aspen, other
- Evergreen tree: ***fir***, ***cedar***, pine, other
- ***Shrubs***
- ***Grass***
- ***Pasture***
- Crop or grain
- Wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- Water plants: water lily, eelgrass, milfoil, other
- Other types of vegetation:

b. What kind and amount of vegetation will be removed or altered?

Approximately 30% of the project area will have vegetation either removed or altered to provide for grading, construction and re-landscaping of the site.

c. List threatened or endangered species on or near the site.

None known.

d. List proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site:

Landscaping will be provided as proposed with the included Preliminary Landscape Plan and as required by City of La Center.

5. Animals

a. Circle any birds and animals which have been observed on or near the site:

- Birds: ***hawk***, heron, eagle, ***songbirds***, other;
- Mammals: ***deer***, bear, elk, beaver, other; and,
- Fish: bass, salmon, trout, herring, shellfish, and other:

Small mammals such as mice, rabbits, squirrels, raccoons and other rodents likely live on or near the site. It is also quite possible that some larger mammals such as coyote may periodically pass through the site.

b. List any threatened or endangered species known to be on or near the site.

None known.

c. Is the site part of a migration route? If so, please explain.

The site is located within the Pacific Flyway for migratory waterfowl.

d. List proposed measures to preserve or enhance wildlife:

Trees and shrubs will be planted for enhancement.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None, no buildings requiring energy are proposed with the park.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, please describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts:

None, no buildings requiring energy are proposed with the park.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, please describe.

None known

1) Describe special emergency services that might be required.

No special emergency services outside those normally expected for a typical neighborhood park are anticipated to be required in association with the proposal.

2) Proposed measures to reduce or control environmental health hazards, if any:

None proposed at this time.

b. Noise

1) What types of noise exist in the area which may affect your project (e.g., traffic, equipment, operation, other)?

There is some existing traffic noise from surrounding roadways, but it will not have an impact on the project.

2) What types and levels of noise are associated with the project on a short-term or a long-term basis (e.g., traffic, construction, operation, other)? Indicate what hours the noise would come from the site.

A slight increase in traffic noise over the long term may occur as patrons drive to the park. In addition, construction noise would occur during the short term when the site is under construction. These construction noises will occur during approved hours as regulated by the City of La Center and Washington State.

3) Proposed measures to reduce or control noise impacts:

Construction will be limited to approved working hours.

8. Land and shoreline use

a. What is the current use of the site and adjacent properties?

The site is currently vacant. Riverside Estates Subdivision is located to the south – it is partially constructed. To the west, and north across Pacific Highway, are single-family residential uses on large lots. The

properties to the north across Pacific Highway are currently under construction to the east is a single-family residence.

b. Has the site been used for agriculture? If so, please describe.

Yes, the site has historically been used for haying and pasture grass.

c. Describe any structures on the site.

There are no structures on site.

d. Will any structures be demolished? If so, please describe.

No, there are no structures on site.

e. What is the current zoning classification of the site?

MDR – 16, Medium Density Residential

f. What is the current comprehensive plan designation of the site?

UM, Urban Medium Density Residential designation.

g. What is the current shoreline master program designation of the site?

None.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, please specify.

Yes, there is a wetland located on the subject site and the parcel is within an archaeological site buffer with a moderate - high archaeological probability. Additionally, areas of steep slopes and potential instability are shown on GIS mapping.

i. How many people would reside or work in the completed project?

None, the proposal is for a neighborhood park only.

j. How many people would the completed project displace?

None.

k. Please list proposed measures to avoid or reduce displacement impacts:

None.

l. List proposed measures to ensure the proposal is compatible with existing and projected land uses and plans:

Compliance with City of La Center's comprehensive plan and zoning requirements.

9. Housing

a. Approximately how many units would be provided? Indicate whether it's high, middle, or low-income housing.

No housing is proposed with this application.

b. Approximately how many units, if any, would be eliminated? Indicate whether it's high, middle, or low-income housing.

None.

c. List proposed measures to reduce or control housing impacts:

None.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas? What is proposed as the principal exterior building materials?

Not applicable, no buildings are proposed.

b. What views in the immediate vicinity would be altered or obstructed?

The on-site views will change from open pasture with scattered trees to a neighborhood park. Neighboring views should not be affected by the development.

c. Proposed measures to reduce or control aesthetic impacts:

Provide landscaping to enhance the park.

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The park will provide lighting to illuminate the drive aisle, parking area, basketball area and playground equipment. Light will occur in the evenings.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No, light or glare from the finished project will not be a safety hazard or interfere with views.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts:

Lighting will be shielded to prevent light and glare impacting adjacent streets and properties.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The east fork of the Lewis River is south of the site and provides informal recreational opportunities.

b. Would the project displace any existing recreational uses? If so, please describe.

There will be no recreational uses displaced with this development.

c. Proposed measures to reduce or control impacts on recreation, including recreational opportunities to be provided by the project or applicant:

The construction of this neighborhood park will provide new recreational opportunities in the area.

13. Historic and cultural preservation

a. Are there any places or objects on or near the site which are listed or proposed for national, state, or local preservation registers? If so, please describe.

No.

b. Please describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

The Archaeological Predetermination that was done for the entire project by Applied Archaeological Research, Inc. (AAR) found two prehistoric archaeological sites that have been designated 45CL1234 and 45CL1235, however those sites are not located on the area proposed for the park. The cultural deposits at sites 45CL1234 and 45CL1235 are sparse and lack diversity and richness. AAR recommends that no further archaeological investigations are necessary at the sites.

c. Proposed measures to reduce or control impacts:

None proposed. If during development of the site any artifacts are discovered, all work will cease and proper notification shall be given to City of La Center and DAHP.

14. Transportation

a. Identify the public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Access to the site is provided by NW Pacific Highway, a public roadway.

b. Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No, the site is not served by public transit.

c. How many parking spaces would the completed project have? How many would the project eliminate?

6 parking spaces are proposed; no parking spaces will be eliminated.

d. Will the proposal require new roads or streets, or improvements to existing roads or streets, not including driveways? If so, please describe and indicate whether it's public or private.

Frontage improvements will be installed along NW Pacific Highway and a new drive aisle to access the park by vehicle is proposed.

e. Will the project use water, rail, or air transportation? If so, please describe.

The site will not use water, rail or air transportation and is not located in the immediate vicinity of those types of transportation facilities.

f. How many vehicular trips per day would be generated by the completed project? Indicate when peak traffic volumes would occur.

Based on the 9th Edition of the ITE Trip Generation Manual, it is expected that the project would generate approximately 9 average daily vehicular trips. It is unknown when peak volumes would occur for the proposed park.

g. Proposed measures to reduce or control transportation impacts:

Frontage improvements will be provided which will widen the roadway for safer driving and the proposed detached sidewalks will provide for safer walking conditions for pedestrians.

15. Public services

a. Would the project result in an increased need for public services (e.g., fire protection, police protection, health care, schools, other)? If so, please describe.

Yes, the project will require the potential need for increased public services. These include ambulance service, fire protection and police protection.

b. Proposed measures to reduce or control direct impacts on public services:

Payment of property taxes and system development charges with the associated residential development will offset impacts on public services.

16. Utilities

a. Circle the utilities currently available at the site: ***electricity,*** natural gas, ***water, refuse service,*** telephone, sanitary sewer, septic system, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on or near the site:

- *Water-La Center*
- *Electricity-Clark PUD*
- *Garbage/Recycling-Waste Connections*

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: [signature] Date Submitted: 10/27/20

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: [signature] Date Submitted: 10/27/20

Exhibit 7

CITY OF LA CENTER
NOTICE OF APPLICATION
AND LIKELY SEPA DNS
November 24, 2020

NOTICE IS HEREBY GIVEN that, an application has been submitted as noted below and based on a review of that application, the City of La Center expects to issue a Determination of Non-Significance (DNS) for this proposal pursuant to the "Optional DNS process" allowed by State Law (WAC 197-11-355) and La Center Municipal Code (LCMC 18.310.170). A copy of the determination may be requested now and will be mailed when available. Comments received within the deadline will be considered in the review of the proposal and the SEPA environmental checklist. This may be the only opportunity to comment on the environmental impacts of the proposal and no additional comment period will be provided, unless probable significant environmental impacts are identified during the review process, which would require additional study or special mitigation. The proposal may include mitigation under applicable codes, and the project review process may incorporate or require mitigation measures.

Any person has the right to comment on this application, request a copy of the decision once made, and appeal the final decision of the project. **Written comments submitted by December 08, 2020 at 5:00 PM will be considered in the staff report.** Please send comments to the City of La Center, 305 NW Pacific Highway, La Center, WA 98629 or by email to Sarah Dollar: sdollar@ci.lacenter.wa.us.

Application:	Riverside Neighborhood Park (Site Plan Review, Critical Areas Review, and SEPA – 2020-025-SPR/CAR/SEPA)
Application Date:	October 28, 2020
Technically Complete:	November 17, 2020
Applicant's Representative:	PLS Engineering Contact: Travis Johnson 604 W. Evergreen Blvd. Vancouver, WA 98660 360.944.6519 PM@PLSEngineering.com
Applicant:	9317, LLC Contact: Luke Sasse 9321 NE 72nd, Bldg. C, #7 Vancouver, WA 98665 360.449.0099 luke@timberlandframing.com
Property Owner:	ECM Riverside, LLC Contact: Peter Ettro 503.568.1907 peter@ettrocapital.com
Location:	Parcel: 986028825, a 5.19-acre vacant parcel. Located in the SE ¼ of Section 33, Township 5 North, Range 1 East, of the Willamette Meridian

Description of Project: The applicant is proposing to develop a public, neighborhood park on parcel 986028825 and dedicate it to the City once complete. The site is proposed to be accessed from NW Pacific Highway via a 24-foot wide driveway. The park would fulfill the obligation to provide neighborhood park space for Phases 1-3 of the Riverside Estates Subdivision (previously approved) under La Center Municipal Code (LCMC) Chapter 18.147. The total size of the property is 5.19 acres; 2.64 acres of which would be developed as a park. The developed portion of the park would include play equipment, an-8-foot wide asphalt path, a basketball court, picnic tables, benches, an open field, six parking stalls, and stormwater infrastructure. The existing site includes a Category III wetland located in the western half of the site. The City's critical areas ordinance requires a 110-foot buffer for this wetland. Some of the proposed park improvements and associated grading would be developed in portions of the buffer extending to the edge of the wetland.

Existing Environmental Documents relied upon: The State Environmental Policy Act (SEPA) requires that a review of the potential environmental impacts be conducted. City staff and interested agencies will review the proposal for compliance with applicable state requirements and city codes. Through this process a determination will be made as noted under the following statement of determination.

Statement of Determination: As lead agency under the SEPA rules [Chapter 197-11, Washington Administrative Code], the City of La Center must determine if there are potential significant adverse environmental impacts associated with this proposal. The options include the following:

- Determination of Significance – (DS) The impact(s) cannot be mitigated and therefore require the preparation of an Environmental Impact Statement (EIS).
- Mitigated Determination of Nonsignificance – (MDNS) The impact(s) can be mitigated through conditions of approval, or;
- Determination of Nonsignificance – (DNS) The impacts can be addressed by applying the city codes.

Responsible Official: Greg Thornton
Position/Title: Mayor
Address: 305 NW Pacific Highway, La Center, WA 98629
Phone: 360.263.5123

Approval Standards/Applicable Laws: La Center Municipal Code Chapters 3.35 (Impacts Fees); 13.10.110 (Side Sewer and Connections); 18.30 (Procedures); 18.140 (Medium Density Residential District), 18.147 (Parks and Open Space); 18.215 (Site Plan Review); 18.245 (Supplemental Development Standards); 18.300 (Critical Areas); 18.310 (Environmental Policy); 18.320 (Stormwater and Erosion Control); 18.360 (Archaeological Resource Protection); La Center Engineering Standards; Revised Code of Washington.

The proposed file may be examined on the City's Recent Land Use page at http://www.ci.lacenter.wa.us/city_departments/pw_landuse.php; The city contact person and telephone number for any questions on this review is Sarah Dollar, Permit Technician, 360.263.7665.

File Name: 2020-025-SPR/CAR/SEPA (Riverside Neighborhood Park Site Plan Review, Critical Areas Review, and SEPA)

Date Published: November 24, 2020

Attached is an environmental Optional Determination of Non-Significance (DNS) and associated environmental checklist issued pursuant to the State Environmental Policy Act (SEPA) rules (WAC 197-11). the City of La Center expects to issue a Determination of Non-Significance (DNS) for this proposal pursuant to the "Optional DNS process" allowed by State Law (WAC 197-11-355) and La Center Municipal Code (LCMC 18.310.170). You may comment on this determination within fourteen (14) days of the DNS publication date of November 24, 2020. The lead agency will not act on this proposal until the close of the **14-day comment period, which ends December 08, 2020.**

Please address any correspondence to: Sarah Dollar, Community Development Technician
ATTN: SEPA COMMENTS – Riverside Neighborhood Park
c/o 305 NW Pacific Highway
La Center, WA 98629

DISTRIBUTION:

Federal Agencies:	National Marine Fisheries, PRD Division (Mail) US Army Corps of Engineers, Regulatory Functions (Mail)
Native American Interests:	Confederated Tribes of the Grande Ronde (Mail) Cowlitz Tribe, Longview, WA (Mail)
State Agencies:	Dept of Ecology (Email) Dept of Health, Office of Drinking Water (Email) Dept of Commerce (Email) Dept of Fish & Wildlife, Region 5 (Email) Dept of Natural Resources, SEPA Center (Email) Dept of Transportation, Environmental Services (Email) Dept of Transportation, SW Region (Email) Office of Archaeology & Historic Preservation (Email) Washington Parks & Recreation Commission (Email)
Local Agencies:	City of Ridgefield (Email) Clark County, Dept of Community Development (Email) Clark County, Dept of Health (Email) Clark County, Dept of Parks & Recreation (Mail) Clark County, Dept of Public Works (Email) Town of Yacolt (Email)
School Districts:	La Center (WA) School District (Mail)
Special Purpose Agencies:	Clark Public Utilities (Email) Columbia River Economic Development Council (Email) C-TRAN (Email) Lower Columbia Fish Recovery Board Southwest Clean Air Agency

	Southwest Washington Regional Transportation Council
Libraries:	Fort Vancouver Regional Library, La Center (Mail)
Fire Districts:	Clark County Fire & Rescue
Media:	The Columbian
Other Interested Parties:	Audubon Society, Vancouver (Mail) Clark County Natural Resources Council (Email) NW Natural (Mail) Vancouver Wildlife League (Mail)