



# REVISED BANK USE PLAN

January 29, 2020



## Highland Terrace *La Center, Washington*

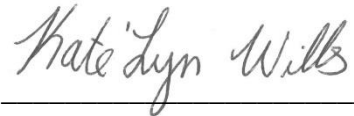
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Corps Reference Number : NWS-2016-540

**SIGNATURE PAGE**

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



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## **TABLE OF CONTENTS**

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|  |    |
|--|----|
| INTRODUCTION .....                                       | 1  |
| PROJECT DESCRIPTION.....                                 | 1  |
| EXISTING CONDITIONS.....                                 | 2  |
| AVOIDANCE AND MINIMIZATION OF IMPACTS .....              | 5  |
| UNAVOIDABLE WETLAND IMPACT ACREAGE .....                 | 6  |
| IMPACTED WETLAND FUNCTIONS.....                          | 7  |
| MITIGATION SITE SELECTION RATIONALE.....                 | 10 |
| WETLAND FUNCTIONS PROVIDED AT MITIGATION BANK .....      | 10 |
| ANTICIPATED FUNCTIONAL LIFT.....                         | 11 |
| WETLAND FUNCTIONS NOT MITIGATED AT MITIGATION BANK ..... | 12 |
| PROPOSED MITIGATION CREDITS.....                         | 12 |
| CREDIT PURCHASE OR TRANSFER TIMING .....                 | 13 |
| CONFIRMATION OF MITIGATION CREDIT AVAILABILITY .....     | 14 |
| REFERENCES .....   | 15 |

### **Tables**

|         |  |
|---------|--|
| Table 1 | Summary of Critical Areas.   |
| Table 2 | Summary of Wetland Impacts.  |
| Table 3 | Credits Recommended for Wetland and Buffer Impacts at East Fork Lewis Mitigation Bank. |
| Table 4 | Mitigation Bank Credits Proposed to Compensate for Project Impacts.                    |

### **Figures**

|         |  |
|---------|--|
| Sheet 1 | Vicinity Map                                 |
| Sheet 2 | Existing Conditions                          |
| Sheet 3 | Proposed Conditions                          |
| Sheet 4 | Proposed Conditions Detail                   |
| Sheet 5 | East Fork Lewis Mitigation Bank Service Area |
| Sheet 6 | East Fork Lewis Mitigation Bank Site Design  |

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## **INTRODUCTION**

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Ecological Land Services, Inc. (ELS) has prepared this Bank Use Plan for Evergreen Homes NW for direct and indirect wetland impacts resulting from the proposed Highland Terrace Subdivision. The 26.06-acre study area is located within a portion of Section 33, Township 5 North, Range 1 East, of the Willamette Meridian (Sheet 1). Construction is anticipated to begin in spring 2020 or upon permit approval.

The project will involve directly impacting 0.411 acres (17,911 sq. ft.) and indirectly impacting 0.122 acres (5,292 sq. ft.) of Category III and IV wetlands to accommodate project design elements. Mitigation will consist of purchasing 0.466 credits from the East Fork Lewis Mitigation Bank (EFLMB) in order to:

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

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)).

## **PROJECT DESCRIPTION**

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### **Project Location**

The study area consists of Clark County Tax Parcels 258636-000, 258704-000, 258702-000, 258727-000, 258644-000, and 258763-000 located south of NW Bolen Street and north of NW Pacific Highway in La Center, Washington. The 26.06-acre study area is located within a portion of Section 33, Township 5 North, Range 1 East, of the Willamette Meridian (Sheet 1).

### **Project History**

A first version of this Bank Use Plan was submitted to the appropriate regulatory agencies on May 30, 2016. On July 28, 2016, Jim Carsner from the U.S. Army Corps of Engineers (Corps), Seattle District visited the site as part of his review of the applicants Nationwide Permit (NWP) 29 application (NWS-2016-540). At this time, Jim requested further delineation of a dry stream channel and revision of the existing wetland boundaries. ELS conducted a second site visit on September 28, 2016 to investigate and map the additional areas. It was determined that a redesign of the site plans was necessary to reduce proposed impacts to the greatest extent practicable. On November 11, 2018 this project was put on hold with the Corps as the developers needed more time complete the redesign. In June of 2019 the NWP was reopened when an updated Bank Use Plan was submitted. Jim Carsner requested greater avoidance and minimization and so the project design was altered again to meet these requests.

## **Proposed Development**

The applicant is proposing a 98-lot residential subdivision for single-family dwellings on the property that will include clearing, grading, lot preparation, utility installation, construction of interior streets and frontage road improvements, and the construction of a stormwater facility. Two existing access driveways off of NW Pacific Highway will be improved to accommodate construction equipment; one being the driveway just north of NW Larsen Drive, and the other being approximately 450 feet southeast. City of La Center requires that the roadway access for the subdivision be aligned with the existing Larson Road located across NW Pacific Highway south of the study area, as well as requiring roadway improvements to NW Pacific Highway. The improvements to NW Pacific Highway include a road widening and the addition of features such as sidewalks, planters and stormwater conveyance. Further impacts will be avoided and minimized by the use of best management practices (BMPs) including installing silt fencing along the outer buffer boundary, applying native grass seed to disturbed areas not being paved when grading is complete, and making a water truck available to prevent dust blowing during construction. The development area will be cleared of vegetation and levelled prior to construction. Staging areas will be located within uplands outside of wetland buffers. Additional BMPs are discussed in the Avoidance and Minimization Section later in this report. Construction is anticipated to start upon receipt of permits. Construction activities will involve directly impacting 0.411 acres (17,911 sq. ft.) of wetland by grading for lot development as well as indirectly impacting 0.122 acres (5,292 sq. ft.) of wetland due to insufficient buffer. Mitigation for project impacts will be satisfied by purchasing 0.466 credits at EFLMB.

## **EXISTING CONDITIONS**

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### **Existing and Surrounding Land Uses**

The topography of the site slopes from north to south dropping approximately 100 feet in elevation from NW Bolen Street to NW Pacific Highway. The study area consists of Clark County Tax Parcels 258636-000, 258704-000, 258702-000, 258727-000, 258644-000, and 258763-000. The two northern parcels (258704000 and 258636000) are bordered to the north by NW Bolen Street. These northern parcels share a gravel driveway which divides the parcels east to west. Both parcels contain single-family dwellings with numerous outbuildings and pastureland. The three southern parcels (258702000, 258727000, and 258644000) are bordered to the south by NW Pacific Highway. Both the southwestern (258702000) and southeastern parcel (258644000) contain no structures and consist of pastureland. The southcentral parcel (258727000) contains a single-family dwelling with various outbuildings in the northeastern corner with pastureland and a small barn on the southern portion of the parcel. The eastern parcel (258763000) contains two single-family dwellings with numerous outbuildings and consists primarily of pastureland with a forested area containing a scrub/shrub understory along the southern boundary. Property surrounding the study area consists of single-family residences and pastureland (Sheet 2).

### **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. The Type Ns stream is a tributary of the East Fork Lewis River.

## **Existing Critical Areas**

ELS conducted a site visit on March 23, 2016 to assess site conditions within the study area and to delineate critical areas onsite. There was an additional site visit on July 28, 2016 with Jim Carsner of the Army Corps of Engineers (Corps) where the wetland boundaries were refined and verified. It was determined that there were six wetlands and one seasonal stream within the study area (Sheet 2). The revised *Critical Areas Report for the Highland Terrace Subdivision, La Center, Washington* (ELS 2019) contains detailed information regarding methodology and critical areas (Appendix A).

### ***Wetland A***

Wetland A is a Category III emergent, slope wetland totaling 0.681 acres (29,645 sq. ft.) and is in the southern portion of the site within parcels 258644-000 and 258727-000. The wetland area onsite is dominated by orchardgrass (*Dactylis glomerata*), velvetgrass (*Holcus lanatus*), and soft rush (*Juncus effusus*) which experiences annual mowing. Wetland A receives most of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Hydroperiods of Wetland A consist of saturated only. The wetland functions to slow surface flow and to recharge groundwater. According to the *Washington State Wetland Rating System for Western Washington: 2014 Update* (rating system); Wetland A is a Category III wetland scoring 6 points for water quality functions, 4 points for hydrologic functions, and 6 points for habitat functions for a total of 16 points. The designated buffer width for a Category III wetland is 150-feet as listed in LCMC *Table 18.300.090(6)(h)(i)-2*.

### ***Wetland B***

Wetland B is a Category IV emergent, slope wetland totaling 0.007 acres (298 sq. ft.) and was delineated in the southern portion of Parcel # 258702-000. The wetland area onsite is dominated by velvetgrass, and reed canarygrass (*Phalaris arundinacea*). Wetland B receives the majority of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Wetland B acts like a seep during periods of supersaturation. Hydroperiods of Wetland B consist of saturated only. The wetland functions to slow surface flow and to recharge groundwater. According to the rating system, Wetland B is a Category IV wetland scoring 6 points for water quality functions, 4 points for hydrologic functions, and 4 points for habitat functions for a total of 14 points. LCMC states that isolated wetlands less than one-tenth of an acre and scoring less than 20 points for function on the 2004 rating system are exempt from buffer regulations *Chapter 18.300.090(6)(c)(i)*. Wetland B is isolated, less than one-tenth of an acre and scored 4 points for habitat function using the 2014 rating system which converts to  $\leq 19$  points using the 2004 rating system making Wetland B exempt from City buffer regulations.

### ***Wetland C***

Wetland C is a Category IV emergent, scrub-shrub, slope wetland totaling 0.022 acres (961 sq. ft.) and was delineated in the southwestern portion of the eastern parcel, #258763-000. The wetland area onsite is dominated by evergreen blackberry (*Rubus laciniatus*), orchardgrass, reed canarygrass, creeping buttercup (*Ranunculus repens*), soft rush and Himalayan blackberry (*Rubus armeniacus*). Wetland C receives the majority of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Hydroperiods of Wetland C consist of saturated only. The wetland functions to slow surface flow and to recharge groundwater. According to the rating system, Wetland C is a Category IV wetland scoring 6 points for water

quality functions, 3 points for hydrologic functions, and 5 points for habitat functions for a total of 14 points. LCMC states that isolated wetlands less than one-tenth of an acre and scoring less than 20 points for function on the 2004 rating system are exempt from buffer regulations *Chapter 18.300.090(6)(c)(i)*. Wetland C is isolated, less than one-tenth of an acre and scored 5 points for habitat function using the 2014 rating system which converts to  $\leq 19$  points using the 2004 rating system making Wetland C exempt from City buffer regulations.

#### ***Wetland D***

Wetland D is a Category IV emergent, depressionnal wetland totaling 0.027 acres (1,156 sq. ft.) and was delineated south of Wetland C in the southern portion of Parcel #258702-000. The wetland area onsite is dominated by soft rush, and reed canarygrass. There is a small portion of scrub-shrub vegetation containing Pacific crabapple (*Malus fusca*) and evergreen blackberry but it comprised less than 10 percent of the total area of the wetland, so it is not included as a Cowardin class. Wetland D receives the majority of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Hydroperiods of Wetland D consist of saturated only. The wetland provides flood storage and delay and groundwater recharge functions. According to the rating system, Wetland D is a Category IV wetland scoring 6 points for water quality functions, 3 points for hydrologic functions, and 5 points for habitat functions for a total of 14 points. LCMC states that isolated wetlands less than one-tenth of an acre and scoring less than 20 points for function on the 2004 rating system are exempt from buffer regulations *Chapter 18.300.090(6)(c)(i)*. Wetland D is isolated, less than one-tenth of an acre and scored 5 points for habitat function using the 2014 rating system which converts to  $\leq 19$  points using the 2004 rating system making Wetland D exempt from City buffer regulations.

#### ***Wetland E***

Wetland E is a Category IV scrub-shrub, forested, and depressionnal wetland totaling 0.016 acres (683 sq. ft.) and was delineated in the southeast corner of Parcel #258644-000 and the southwest corner of Parcel #258763-000. The wetland area onsite is dominated by Oregon ash (*Fraxinus latifolia*), Pacific crabapple, and Himalayan blackberry. Wetland E receives most of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Hydroperiods of Wetland E consist of seasonally flooded and saturated only. The wetland provides flood storage and delay and groundwater recharge functions. According to the rating system, Wetland E is a Category IV wetland scoring 6 points for water quality functions, 3 points for hydrologic functions, and 6 points for habitat functions for a total of 15 points. The designated buffer width for a Category IV wetland is 50-feet as listed in LCMC *Table 18.300.090(6)(h)(i)-1*.

#### ***Wetland F***

Wetland F is a Category IV emergent, slope wetland totaling 0.007 acres (312 sq. ft.) and was delineated north of Wetland A in the southern portion of Parcel # 258727-000. The wetland area onsite is dominated by creeping buttercup and reed canarygrass. Wetland F receives the majority of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Wetland F acts like a seep during periods of supersaturation. Hydroperiods of Wetland F consist of saturated only. The wetland functions to slow surface flow and to recharge groundwater. According to the rating system, Wetland F is a Category IV wetland scoring 6 points for water quality functions, 4 points for hydrologic functions, and 4 points for habitat functions for a total of 14 points. LCMC states that isolated wetlands less than one-tenth of an acre and scoring



less than 20 points for function on the 2004 rating system are exempt from buffer regulations *Chapter 18.300.090(6)(c)(i)*. Wetland F is isolated, less than one-tenth of an acre and scored 4 points for habitat function using the 2014 rating system which converts to  $\leq 19$  points using the 2004 rating system making Wetland F exempt from City buffer regulations.

**Stream 1**

Stream 1 is a non-fish bearing, seasonal stream that originates at the eastern (downslope) end of Wetland E and flows southeast where it connects with a larger unnamed tributary and then is conveyed south for approximately 1,700 feet where it connects with the East Fork Lewis River. At the time of the site visit the stream channel was approximately 6 to 12 inches wide and was dry. According to LCMC, a Type Ns stream has a designated buffer width of 75 feet *Table 18.300.090(2)(f)*. Table 1 below summarizes the critical areas onsite.

**Table 1. Summary of Critical Areas.**

| <b>Critical Area</b> | <b>Category<sup>1</sup>/Cowardin Class<sup>2</sup>/HGM Class<sup>3</sup></b> | <b>Size Onsite</b>          | <b>Buffer Width<sup>4,5</sup></b> |
|----------------------|--|-----------------------------|-----------------------------------|
| Wetland A            | III/emergent/slope   | 0.681 ac.<br>29,645 sq. ft. | 150 feet                          |
| Wetland B            | IV/emergent/slope  | 0.007 ac.<br>298 sq. ft.    | Exempt                            |
| Wetland C            | IV/emergent, scrub-shrub/slope   | 0.022 ac.<br>961 sq. ft.    | Exempt                            |
| Wetland D            | IV/emergent/slope  | 0.027 ac.<br>1,156 sq. ft.  | Exempt                            |
| Wetland E            | IV/scrub-shrub, forested/depressional  | 0.016 ac.<br>683 sq. ft.    | 50 feet                           |
| Wetland F            | IV/emergent/slope  | 0.007 ac.<br>312 sq. ft.    | Exempt                            |
| Stream 1             | Type Ns Stream   | N/A                         | 75 feet                           |

<sup>1</sup>Hruby 2004

<sup>2</sup>Cowardin et al. 1979

<sup>3</sup>NRCS 2008

<sup>4</sup>LCMC 18.300.090(6)(h)(i)-1 & -2

<sup>5</sup>LCMC18.300.090(2)(f)

**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 Wetland D and Stream 1 entirely. Impacts to the largest wetland onsite, Wetland A, have been minimized by designing the lot, and internal road layout to only impact the outer fringes while retaining the central portion of the wetland where the majority of native rush lies. Wetlands A and E originally had fewer proposed

impacts, however, the City of La Center requires that the roadway access for the subdivision be aligned with the exiting NW Larson Road located across NW Pacific Highway south of the study area, as well as intersection and frontage improvements to NW Pacific Highway. For this project to meet the City’s road improvement requirements, lot density requirements, and be economically feasible, certain wetland impacts were unavoidable. Further impacts will be avoided and minimized by the use of BMPs including installing silt fencing along the outer buffer boundary, applying native grass seed to disturbed areas not being paved when grading is complete, and making a water truck available to prevent dust blowing during construction. The development area will be cleared of vegetation and levelled prior to construction. Staging areas will be located within uplands outside of critical area buffers. Signs will be installed at 100-foot intervals or on the back of each lot adjoining critical area buffers, affixed to metal T-posts and will read, “*Habitat Buffer – Please Retain in a Natural State*”. Construction is anticipated to start upon receipt of permits. Mitigation for project impacts will be satisfied by purchasing 0.466 credits at EFLMB.

**UNAVOIDABLE WETLAND IMPACT ACREAGE**

Construction activities will involve directly impacting 0.411 acres (17,911 sq. ft.) of wetland by grading for lot development as well as indirectly impacting 0.122 acres (5,292 sq. ft.) of wetland due to insufficient buffer. Approximately 0.369 acres (16,063 sq. ft.) of Wetland A will be filled and approximately 0.112 acres (4,886 sq. ft.) will be indirectly impacted for the City-required road alignment and frontage improvements and to accommodate lot development. Wetland B (0.007 acres, 298 sq. ft.) will be filled completely for lot development while Wetlands E (Direct 0.006 acres, 277 sq. ft.; Indirect 0.009 acres, 406 sq. ft.) and F (0.007 acres, 312 sq. ft.) will be impacted for City required road alignment and frontage improvements. Wetland C is in the area most practicable for the stormwater tract and therefore will be impacted due to conversion for the stormwater facility. Table 2 below summarizes the impacts to critical areas.

**Table 2. Summary of Impacts.**

| Impact Area | Category <sup>1</sup> | Cowardin Class <sup>2</sup> | HGM Class <sup>3</sup> | Impact Type | Impact Amount               |
|-------------|-----------------------|-----------------------------|------------------------|-------------|-----------------------------|
| Wetland A   | III                   | Emergent                    | Slope                  | Direct      | 0.369 ac.<br>16,063 sq. ft. |
|             |                       |                             |                        | Indirect    | 0.112 ac.<br>4,886 sq. ft.  |
| Wetland B   | IV                    | Emergent                    | Slope                  | Direct      | 0.007 ac.<br>298 sq. ft.    |
| Wetland C   | IV                    | Emergent, Scrub-shrub       | Slope                  | Direct      | 0.022 ac.<br>961 sq. ft.    |
| Wetland E   | IV                    | Scrub-shrub, Forested       | Depressional           | Direct      | 0.007 ac.<br>277 sq. ft.    |
|             |                       |                             |                        | Indirect    | 0.009 ac.<br>406 sq. ft.    |

|  |    |          |       |                 |                          |
|--|----|----------|-------|-----------------|--------------------------|
| Wetland F  | IV | Emergent | Slope | Direct          | 0.007 ac.<br>312 sq. ft. |
| <sup>1</sup> Hruby 2004<br><sup>2</sup> Cowardin et al. 1979<br><sup>3</sup> NRCS 2008 |    |          |       | <b>Direct</b>   | 0.411 ac.                |
|  |    |          |       | <b>Total</b>    | 17,911 sq. ft.           |
|  |    |          |       | <b>Indirect</b> | 0.122 ac.                |
|  |    |          |       | <b>Total</b>    | 5,292 sq. ft.            |

## **IMPACTED WETLAND FUNCTIONS**

A wetland function assessment was performed for Wetlands A-F based on the functions identified in the rating system (Hruby 2014). More than half (53 percent) of Wetland A will be filled (16,063 sq. ft. of impact) resulting in loss of habitat area. Additionally, Wetland A will be indirectly impacted (4,886 sq. ft.) due to insufficient buffer width. 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). The main indirect impacts to the functions and values of Wetland A are loss of habitat and visual screening from the adjacent development. The remaining area of Wetland A will still function to slow surface flows and to recharge ground water. Hydrology flow from the wetland will continue to be maintained by the roadside ditch to the south. Wetlands B, and F will be filled entirely resulting in the loss of functions for these areas. Wetland E will be partially filled by the frontage road improvements with 277 sq. ft. of direct impact and 406 sq. ft. of indirect impact. Wetland C is in the area most practicable for the stormwater tract and therefore will be impacted due to conversion for the stormwater facility. Runoff from new impervious surfaces will be directed to the stormwater tract onsite for infiltration.

### **Wetland A**

#### *Water Quality (Removing nutrients, sediment, metals, and toxic organic compounds)*

The wetland provides a moderate level of water quality functions (6 points out of 9 possible) because the slope of the wetland is between 2 and 5 percent, and the wetland has dense, uncut, herbaceous plants greater than a quarter of the area. The wetland has a moderate potential to support the water quality functions onsite, as greater than 10 percent of the area within 150 feet on the uphill slope side of the wetland is in land uses that generate pollutants. The wetland has a high value to society due to the wetlands ability to improve water quality. The roadside ditch that Wetland A drains directly to discharges within a mile to an unnamed tributary of the East Fork Lewis River which is on the 303(d) list. Additionally, there is a TMDL in development for the site.

#### *Hydrology (Reducing peak flows, downstream erosion, and recharging groundwater)*

Wetland A provides a low level of hydrologic functions (4 points out of 9 possible) due to the wetland having less than 90 percent dense, uncut, rigid plants to slow surface flows. More than 25 percent of the area within 150 feet upslope of the wetland is in land uses that generate excess surface runoff. There are no known flooding problems downstream.

*Wildlife Habitat (Reducing peak flows, downstream erosion, and recharging groundwater)*

Wetland A has a low potential to provide wildlife habitat (5 points out of 9 possible) due to it being comprised entirely of emergent vegetation with only one hydroperiod; saturated only. Additionally, Wetland A has a low richness of plant species and a low interspersions of habitats which reduces its number of available ecological niches which in turn decreases its suitability for different guilds of wildlife. Fauna that likely occur on the project site include birds and rodents. The landscape potential is high due to the degree of accessibility of adjacent undisturbed habitat to the northeast. The wetland is within 330 feet of Stream 1 creating a moderate value to society due to nearby riparian and instream habitats.

**Wetlands B and F**

*Water Quality (Removing nutrients, sediment, metals, and toxic organic compounds)*

Wetlands B and F provide a moderate level of water quality functions (6 points out of 9 possible) because the slope of the wetlands is between 2 and 5 percent, and the wetlands have dense, uncut, herbaceous plants greater than a quarter of the area. The wetlands have a moderate potential to support the water quality functions onsite, as greater than 10 percent of the area within 150 feet on the uphill slope side of the wetlands is in land uses that generate pollutants. The wetlands have a high value to society due to their ability to improve water quality due to there being an aquatic resource in the basin is on the 303(d) list. Additionally, there is a TMDL in development for the site.

*Hydrology (Reducing peak flows, downstream erosion, and recharging groundwater)*

Wetlands B and F provides a low level of hydrologic functions (4 points out of 9 possible) due to the wetlands having less than 90 percent dense, uncut, rigid plants to slow surface flows. More than 25 percent of the area within 150 feet upslope of the wetlands is in land uses that generate excess surface runoff. There are no known flooding problems downstream.

*Wildlife Habitat (Reducing peak flows, downstream erosion, and recharging groundwater)*

Wetlands B and F have a low potential to provide wildlife habitat (5 points out of 9 possible) due to their size and them being comprised entirely of emergent vegetation with only one hydroperiod; saturated only. Additionally, the wetlands have a low richness of plant species and a low interspersions of habitats which reduces its number of available ecological niches which in turn decreases its suitability for different guilds of wildlife. Fauna that likely occur on the project site include birds and rodents. The landscape potential is high due to the degree of accessibility of adjacent undisturbed habitat to the northeast. There are no priority habitats within 330 feet of either wetland.

**Wetland C**

*Water Quality (Removing nutrients, sediment, metals, and toxic organic compounds)*

The wetland provides a moderate level of water quality functions (6 points out of 9 possible) because the slope of the wetland is between 2 and 5 percent, and the wetland has dense, uncut, herbaceous plants greater than a quarter of the area. The wetland has a moderate potential to support the water quality functions onsite, as greater than 10 percent of the area within 150 feet on the uphill slope side of the wetland is in land uses that generate pollutants. The wetland has a high value to society due to its ability to improve water quality due to there being an aquatic resource in the basin is on the 303(d) list. Additionally, there is a TMDL in development for the site.

*Hydrology (Reducing peak flows, downstream erosion, and recharging groundwater)*

Wetland C provides a low level of hydrologic functions (3 points out of 9 possible) due to the wetland having less than 90 percent dense, uncut, rigid plants to slow surface flows. More than 25 percent of the area within 150 feet upslope of the wetland is in land uses that generate excess surface runoff. There are no known flooding problems downstream.

*Wildlife Habitat (Reducing peak flows, downstream erosion, and recharging groundwater)*

Wetland C has a low potential to provide wildlife habitat (5 points out of 9 possible) due to it being comprised entirely of emergent vegetation with only one hydroperiod; saturated only. Additionally, Wetland C has a low richness of plant species and a low interspersion of habitats which reduces its number of available ecological niches which in turn decreases its suitability for different guilds of wildlife. Fauna that likely occur on the project site include birds and rodents. The landscape potential is high due to the degree of accessibility of adjacent undisturbed habitat to the northeast. The wetland is within 330 feet of Stream 1 creating a moderate value to society due to nearby riparian and instream habitats.

**Wetland E**

*Water Quality (Removing nutrients, sediment, metals, and toxic organic compounds)*

The wetland provides a moderate level of water quality functions (6 points out of 9 possible) because the wetland's outlet is an intermittently flowing stream (Stream 1), has persistent, ungrazed plants covering more than 50 percent of the area of the wetland, and the areas that are seasonally ponded are less than one-quarter the total area of the wetland. The wetland has a low potential to support the water quality functions onsite, as the wetland does not receive stormwater, pollutants, nor have septic tanks within 250 feet. The wetland has a high value to society due to its ability to improve water quality due to there being an aquatic resource in the basin is on the 303(d) list. Additionally, there is a TMDL in development for the site.

*Hydrology (Reducing peak flows, downstream erosion, and recharging groundwater)*

Wetland E provides a low level of hydrologic functions (4 points out of 9 possible) due to its moderate potential to reduce flooding and erosion because of the outlet being an intermittently flowing stream and the wetland being a headwater wetland. The contributing basin is more than 100 times the area of Wetland D meaning the wetland is only capable of a low level of storage within the watershed. In addition, the wetland is in a landscape that has a low potential to support the hydrologic function of the site, as the wetland does not receive stormwater or excess runoff, and less than 25 percent of the contributing basin is covered with intensive human uses. There are no known flooding problems downstream.

*Wildlife Habitat (Reducing peak flows, downstream erosion, and recharging groundwater)*

Wetland E has a low potential to provide wildlife habitat (5 points out of 9 possible) due to it being comprised of scrub-shrub and forested vegetation with two hydroperiods; seasonally flooded and saturated only. Additionally, Wetland E has a low richness of plant species and a moderate interspersion of habitats. Fauna that likely occur on the project site include birds and rodents. The landscape potential is high due to the degree of accessibility of adjacent undisturbed habitat to the northeast. The wetland is within 330 feet of Stream 1 creating a moderate value to society due to nearby riparian and instream habitats.

## **MITIGATION SITE SELECTION RATIONALE**

The wetlands proposed for impact are located within the service area for the EFLMB (Bank; Figure 5). 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. 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.

### **Water Quality (Removing nutrients, sediment, metals, and toxic organic compounds)**

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.

### **Hydrology (Reducing peak flows, downstream erosion, and recharging groundwater)**

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 allow the site to saturate, creating new wetland area (108+ acres), which 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.

### **Wildlife Habitat (General, invertebrates, amphibians, fish, birds, mammals)**

Overall habitat suitability for invertebrates, amphibians, wetland-associated birds, and wetland-associated mammals have improved 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 interspersions, 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 provide temperature regulation and leaf litter. The wetlands also increase groundwater recharge that will supplement low flows during the dry season, and the wetland vegetation improves 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 depression flow-through wetland system that will contain a seasonal stream and a fish-bearing, perennial stream. A variety of water regimes, vegetation interspersions, and habitat features will provide diverse habitat opportunities 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 of the wetlands that will be impacted by the project. Runoff generated from the new impervious 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 3. Credits Recommended for Wetland and Buffer Impacts at East Fork Lewis Mitigation Bank.**

| <b>Resource Impact</b> | <b>Bank Credits:Impact Area</b> |
|------------------------|---------------------------------|
| 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                    |

Construction activities will involve directly impacting 0.411 acres (17,911 sq. ft.) of wetland by grading for lot development as well as indirectly impacting 0.122 acres (5,292 sq. ft.) of wetland due to insufficient buffer. Bank credits will be purchased from EFLMB at a ratio of 1 to 1 as designated for impacts to Category III wetlands and 0.85 to 1 as designated for impacts to Category IV wetlands. Bank credits required to compensate for indirect Category IV wetland impacts are proposed at a ratio of 0.85 to 1 with a 0.50 (50 percent) multiplier. The 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. 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. Indirect impacts do not result in these immediate changes, therefore 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



subsequently approved by both the Corps and Ecology. The purchasing of 0.466 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 Bank credits needed to compensate for the project impacts.

**Table 4. Mitigation Bank Credits Proposed for Project Impacts.**

| <b>Impact Area</b> | <b>Impact Type</b> | <b>Impact Amount</b>        | <b>Mitigation Ratio</b> | <b>Indirect Impact Multiplier</b> | <b>Proposed Credit Purchase</b> |
|--------------------|--------------------|-----------------------------|-------------------------|-----------------------------------|---------------------------------|
| Wetland A          | Direct             | 0.369 ac.<br>16,063 sq. ft. | 1:1                     | N/A                               | 0.369                           |
|                    | Indirect           | 0.112 ac.<br>4,886 sq. ft.  | 1:1                     | 0.50                              | 0.056                           |
| Wetland B          | Direct             | 0.007 ac.<br>298 sq. ft.    | 0.85:1                  | N/A                               | 0.006                           |
| Wetland C          | Direct             | 0.022 ac.<br>961 sq. ft.    | 0.85:1                  | N/A                               | 0.019                           |
| Wetland E          | Direct             | 0.007 ac.<br>277 sq. ft.    | 0.85:1                  | N/A                               | 0.006                           |
|                    | Indirect           | 0.009 ac.<br>406 sq. ft.    | 0.85:1                  | 0.50                              | 0.004                           |
| Wetland F          | Direct             | 0.007 ac.<br>312 sq. ft.    | 0.85:1                  | N/A                               | 0.006                           |
| <b>Total</b>       |                    |                             |                         |                                   | <b>0.466</b>                    |

**CREDIT PURCHASE OR TRANSFER TIMING**

Evergreen Homes NW 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**

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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.

Interagency Review Team contact information:

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- Evergreen Homes NW - Bank Use Plan  
Highland Terrace Subdivision (NWS-2016-540)
- Ecological Land Services, Inc.  
Revised January 2020

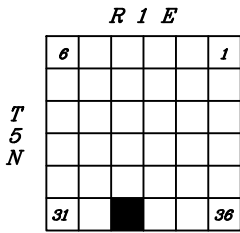
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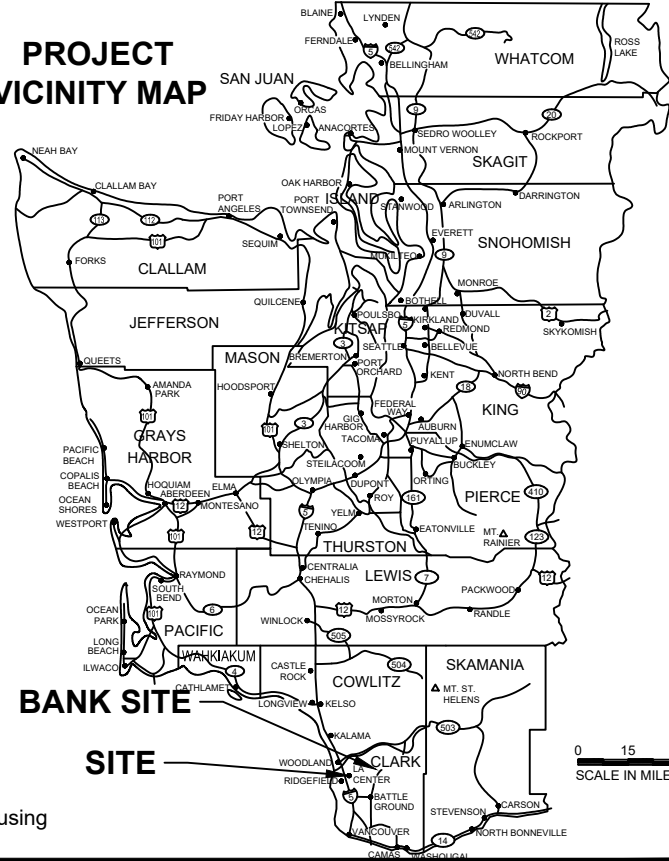
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**LOCATION MAP**

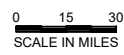


**NOTE:**  
USGS topographic quadrangle map reproduced using MAPTECH Inc., Terrain Navigator Pro software.

**PROJECT VICINITY MAP**



**BANK SITE**  
**SITE**

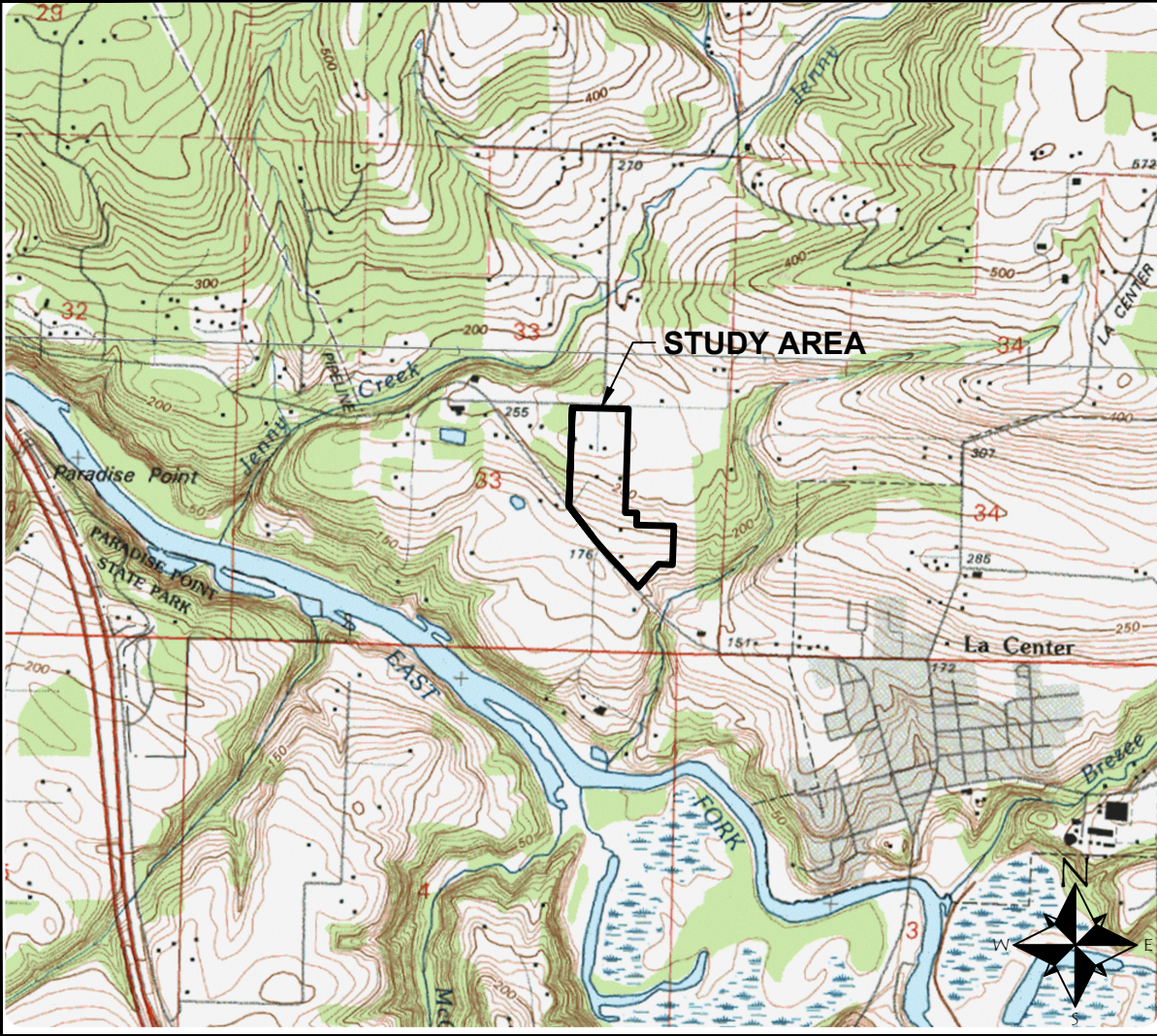


**PROPOSED: Wetland Fill**

**IN Wetlands**  
**NEAR:** La Center  
**COUNTY:** Clark  
**SHEET 1 OF 6**  
**STATE:** WA  
**DATE:** 1/29/20

**VICINITY MAP**

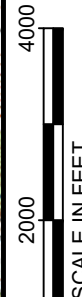
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**PROJECT NAME:** Highland Terrace Subdivision  
**REFERENCE #:** NWS-2016-540  
**SITE LOCATION ADDRESS:**  
NW Pacific Hwy.  
La Center, WA 98629



**STUDY AREA**

**PURPOSE:**  
Construction of 97 lot subdivision

**DATUM:** NAD83  
**ADJACENT PROPERTY OWNERS:**  
SEE JARPA



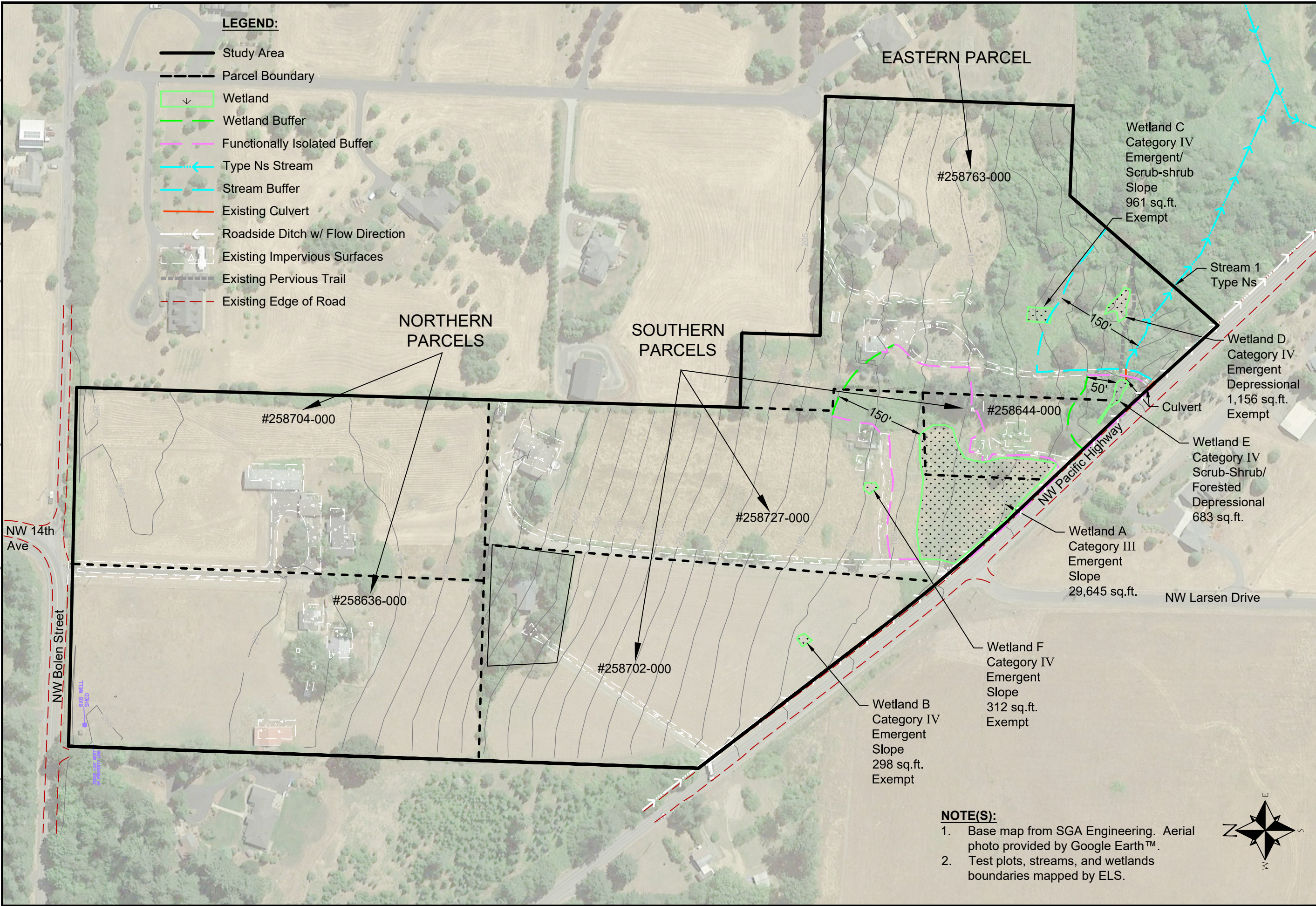
1157 3rd Ave., Suite 220A  
Longview, WA 98632  
Phone: (360) 578-1371



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**LEGEND:**

- Study Area
- Parcel Boundary
- Wetland
- Wetland Buffer
- Functionally Isolated Buffer
- Type Ns Stream
- Stream Buffer
- Existing Culvert
- Roadside Ditch w/ Flow Direction
- Existing Impervious Surfaces
- Existing Pervious Trail
- Existing Edge of Road



NORTHERN PARCELS

SOUTHERN PARCELS

EASTERN PARCEL

#258763-000

#258704-000

#258636-000

#258702-000

#258727-000

#258644-000

Wetland C  
Category IV  
Emergent/  
Scrub-shrub  
Slope  
961 sq.ft.  
Exempt

Wetland D  
Category IV  
Emergent  
Depressional  
1,156 sq.ft.  
Exempt

Wetland E  
Category IV  
Scrub-Shrub/  
Forested  
Depressional  
683 sq.ft.

Wetland A  
Category III  
Emergent  
Slope  
29,645 sq.ft.

Wetland B  
Category IV  
Emergent  
Slope  
298 sq.ft.  
Exempt

Wetland F  
Category IV  
Emergent  
Slope  
312 sq.ft.  
Exempt

Stream 1  
Type Ns

NW Larsen Drive

NW Pacific Highway

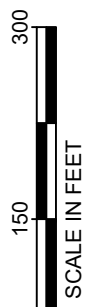
Culvert

NW 14th Ave

NW Bolen Street

**NOTE(S):**

1. Base map from SGA Engineering. Aerial photo provided by Google Earth™.
2. Test plots, streams, and wetlands boundaries mapped by ELS.



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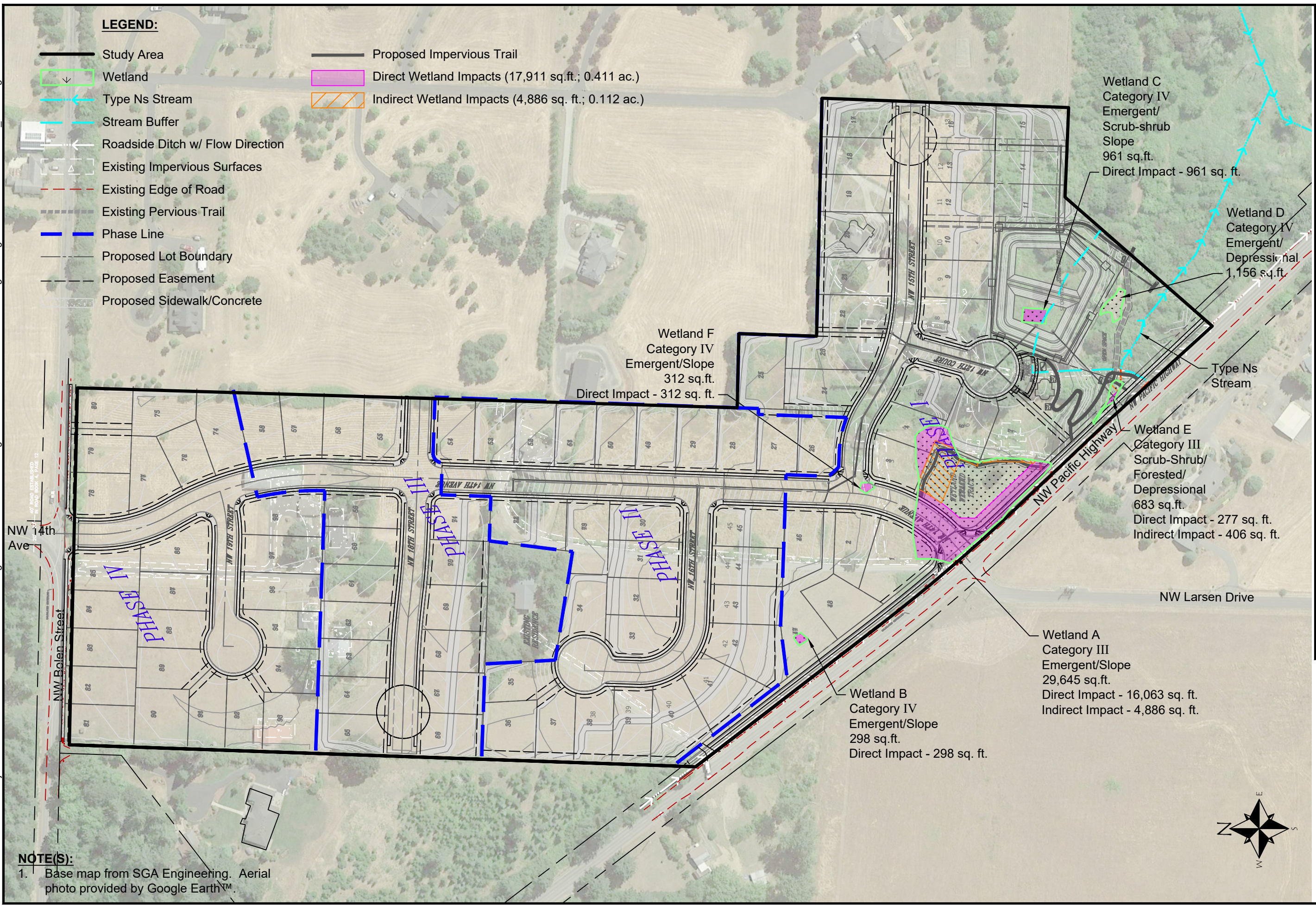


**PURPOSE:**  
 Construction of 97 lot subdivision

**DATUM:** NAD83  
**ADJACENT PROPERTY OWNERS:**  
 SEE JARPA

**EXISTING CONDITIONS**  
**APPLICANT:** Evergreen Homes NW  
**PROJECT NAME:** Highland Terrace Subdivision  
**REFERENCE #:** NWS-2016-540  
**SITE LOCATION ADDRESS:**  
 NW Pacific Hwy.  
 La Center, WA 98629

**PROPOSED:** Wetland Fill  
**IN Wetlands**  
**NEAR:** La Center  
**COUNTY:** Clark  
**STATE:** WA  
**SHEET 2 OF 6**  
**DATE:** 1/29/20



**LEGEND:**

- Study Area
- Wetland
- Type Ns Stream
- Stream Buffer
- Roadside Ditch w/ Flow Direction
- Existing Impervious Surfaces
- Existing Edge of Road
- Existing Pervious Trail
- Phase Line
- Proposed Lot Boundary
- Proposed Easement
- Proposed Sidewalk/Concrete
- Proposed Impervious Trail
- Direct Wetland Impacts (17,911 sq.ft.; 0.411 ac.)
- Indirect Wetland Impacts (4,886 sq. ft.; 0.112 ac.)

**NOTE(S):**

1. Base map from SGA Engineering. Aerial photo provided by Google Earth™.

**PROPOSED: Wetland Fill**  
**IN Wetlands**  
**NEAR: La Center**  
**COUNTY: Clark**  
**STATE: WA**  
**SHEET 3 OF 6**  
**DATE: 1/29/20**

**PROPOSED CONDITIONS**  
**APPLICANT: Evergreen Homes NW**  
**PROJECT NAME: Highland Terrace Subdivision**  
**REFERENCE #: NWS-2016-540**  
**SITE LOCATION ADDRESS:**  
 NW Pacific Hwy.  
 La Center, WA 98629

**PURPOSE:**  
 Construction of 97 lot subdivision

**DATUM: NAD83**  
**ADJACENT PROPERTY OWNERS:**  
 SEE JARPA

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 Longview, WA 98632  
 Phone: (360) 578-1371

Ecological Land Services



Wetland F  
 Category IV  
 Emergent/Slope  
 312 sq. ft.  
 Direct Impact - 312 sq. ft.

Wetland C  
 Category IV  
 Emergent/  
 Scrub-shrub  
 Slope  
 961 sq. ft.  
 Direct Impact - 961 sq. ft.

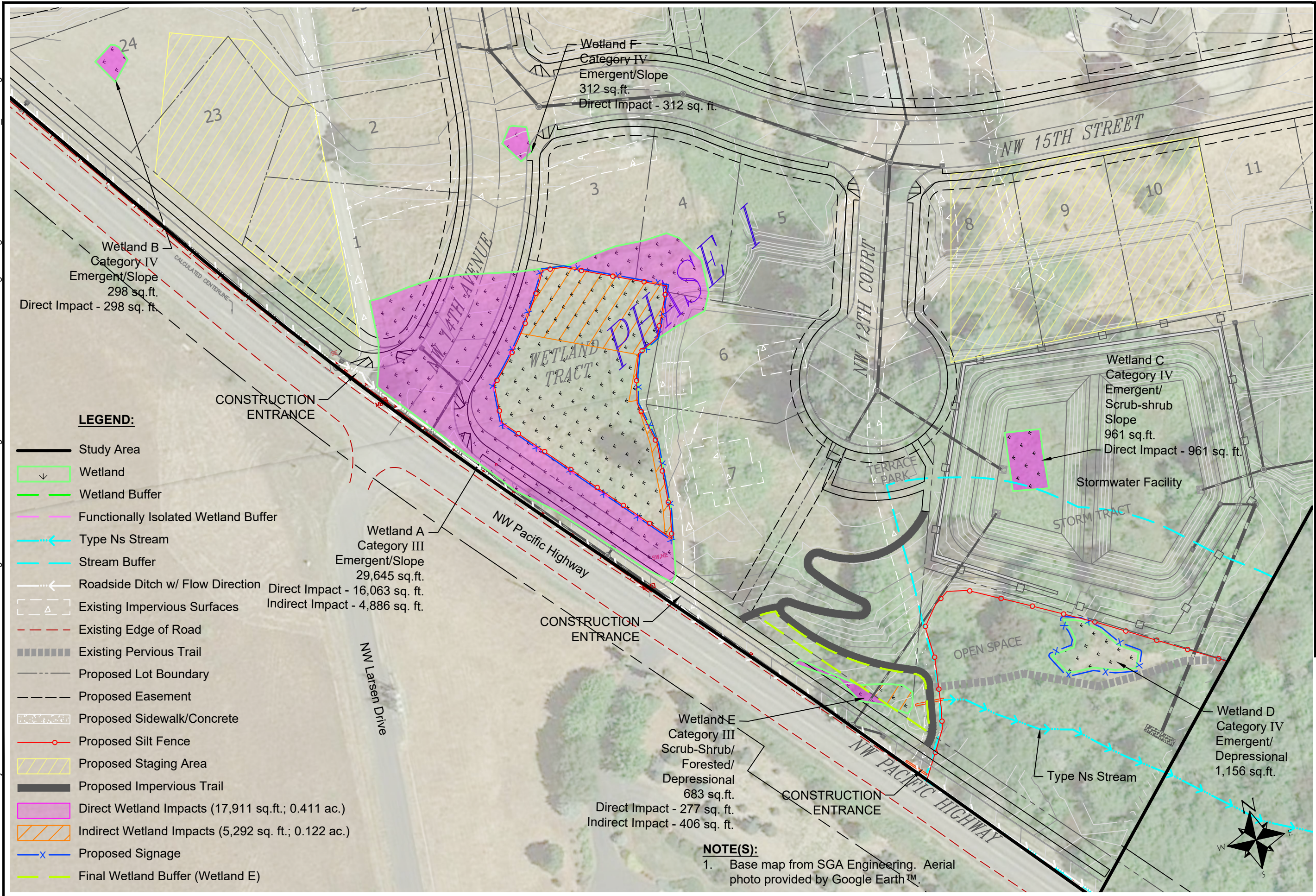
Wetland D  
 Category IV  
 Emergent/  
 Depressional  
 1,156 sq. ft.

Wetland E  
 Category III  
 Scrub-Shrub/  
 Forested/  
 Depressional  
 683 sq. ft.  
 Direct Impact - 277 sq. ft.  
 Indirect Impact - 406 sq. ft.

Wetland A  
 Category III  
 Emergent/Slope  
 29,645 sq. ft.  
 Direct Impact - 16,063 sq. ft.  
 Indirect Impact - 4,886 sq. ft.

Wetland B  
 Category IV  
 Emergent/Slope  
 298 sq. ft.  
 Direct Impact - 298 sq. ft.

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**LEGEND:**

- Study Area
  - Wetland
  - Wetland Buffer
  - Functionally Isolated Wetland Buffer
  - Type Ns Stream
  - Stream Buffer
  - Roadside Ditch w/ Flow Direction
  - Existing Impervious Surfaces
  - Existing Edge of Road
  - Existing Pervious Trail
  - Proposed Lot Boundary
  - Proposed Easement
  - Proposed Sidewalk/Concrete
  - Proposed Silt Fence
  - Proposed Staging Area
  - Proposed Impervious Trail
  - Direct Wetland Impacts (17,911 sq.ft.; 0.411 ac.)
  - Indirect Wetland Impacts (5,292 sq. ft.; 0.122 ac.)
  - Proposed Signage
  - Final Wetland Buffer (Wetland E)
- Wetland A  
Category III  
Emergent/Slope  
29,645 sq.ft.  
Direct Impact - 16,063 sq. ft.  
Indirect Impact - 4,886 sq. ft.
- Wetland B  
Category IV  
Emergent/Slope  
298 sq. ft.  
Direct Impact - 298 sq. ft.
- Wetland C  
Category IV  
Emergent/  
Scrub-shrub  
Slope  
961 sq. ft.  
Direct Impact - 961 sq. ft.
- Wetland D  
Category IV  
Emergent/  
Depressional  
1,156 sq. ft.
- Wetland E  
Category III  
Scrub-Shrub/  
Forested/  
Depressional  
683 sq. ft.  
Direct Impact - 277 sq. ft.  
Indirect Impact - 406 sq. ft.
- Wetland F  
Category IV  
Emergent/Slope  
312 sq. ft.  
Direct Impact - 312 sq. ft.

**NOTE(S):**

1. Base map from SGA Engineering. Aerial photo provided by Google Earth™.

**PROPOSED:** Wetland Fill  
**IN Wetlands**  
**NEAR:** La Center  
**COUNTY:** Clark  
**SHEET 4 OF 6**  
**STATE:** WA  
**DATE:** 1/29/20

**PROPOSED CONDITIONS DETAIL**  
**APPLICANT:** Evergreen Homes NW  
**PROJECT NAME:** Highland Terrace Subdivision  
**REFERENCE #:** NWS-2016-540  
**SITE LOCATION ADDRESS:**  
 NW Pacific Hwy.  
 La Center, WA 98629

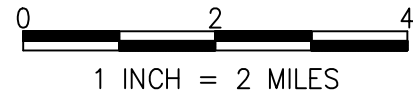
**PURPOSE:**  
 Construction of 97 lot subdivision

**DATUM:** NAD83  
**ADJACENT PROPERTY OWNERS:**  
 SEE JARPA

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COWLITZ COUNTY

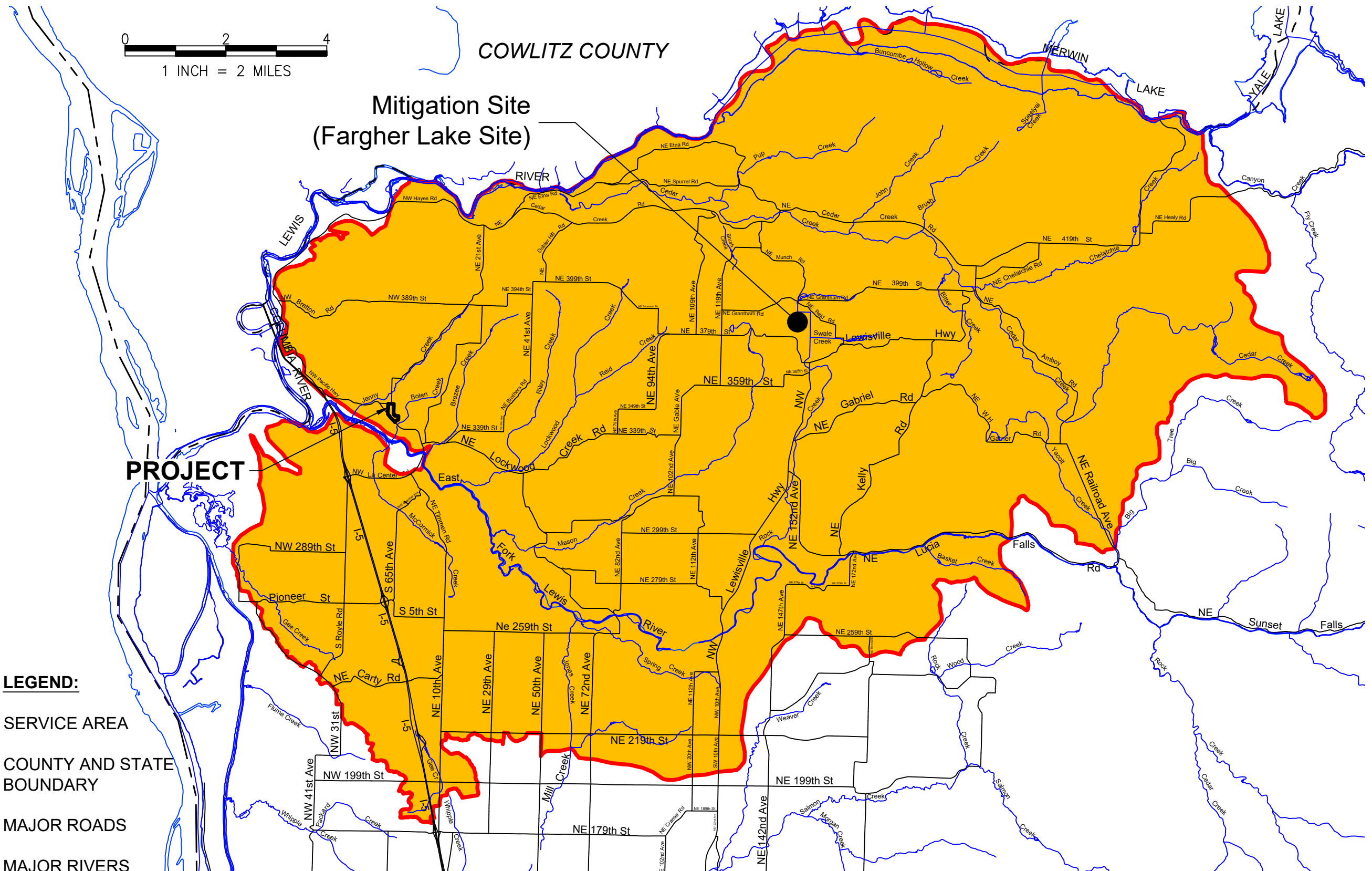
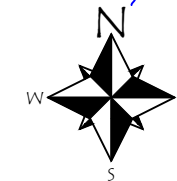
### Mitigation Site (Fargher Lake Site)

**PROJECT**

- 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.



**PROPOSED:** Wetland Fill

**IN Wetlands**  
**NEAR:** La Center  
**COUNTY:** Clark  
**SHEET 5 OF 6**  
**DATE:** 1/29/20

**EFLRMB SERVICE AREA**  
**APPLICANT:** Evergreen Homes NW  
**PROJECT NAME:** Highland Terrace Subdivision  
**REFERENCE #:** NWS-2016-540  
**SITE LOCATION ADDRESS:**  
 NW Pacific Hwy.  
 La Center, WA 98629

**PURPOSE:**  
 Construction of 97 lot subdivision

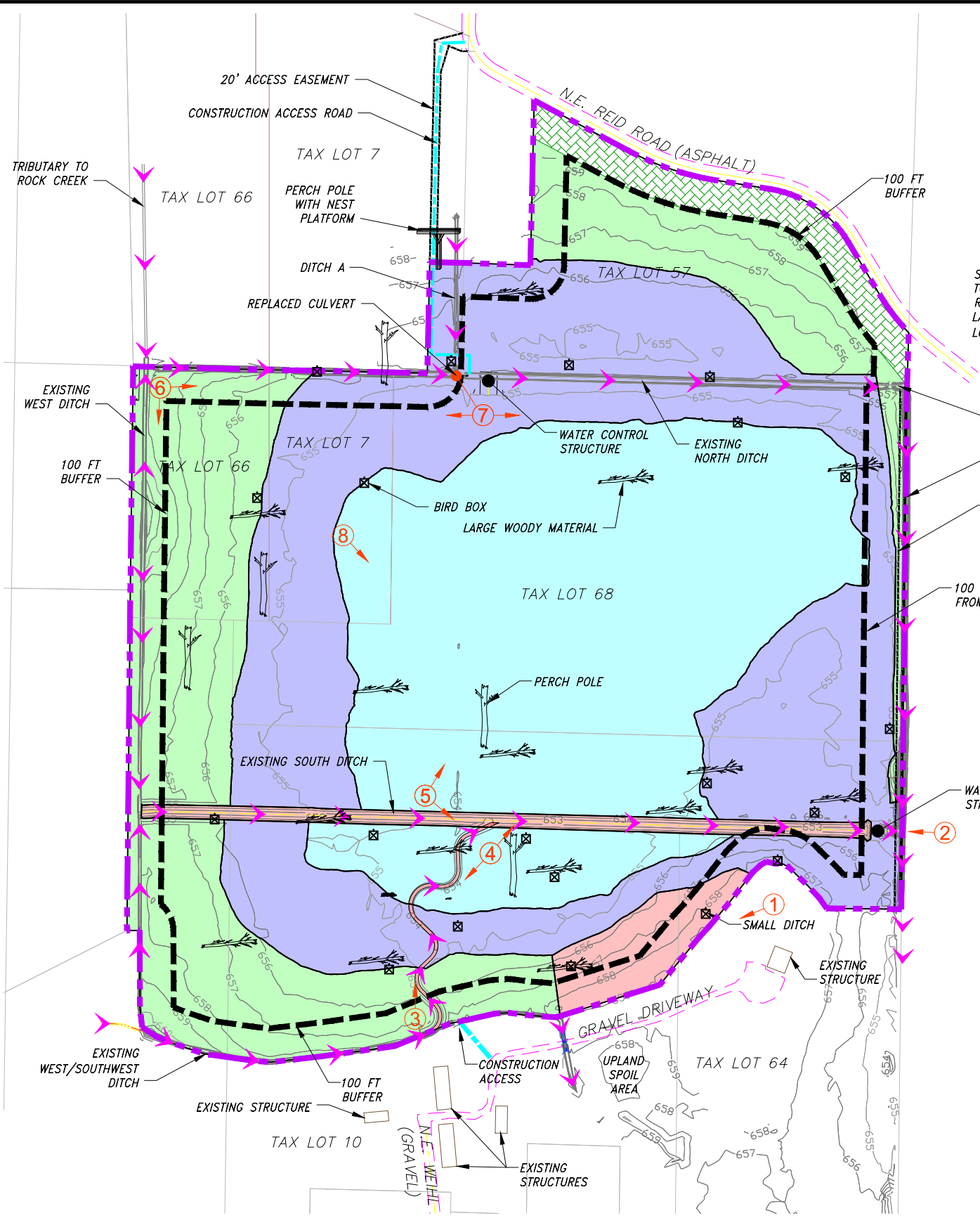
**DATUM:** NAD83  
**ADJACENT PROPERTY OWNERS:**  
 SEE JARPA

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





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SECTIONS: 23  
TOWNSHIP: T5N  
RANGE: R2E  
LAT = 45° 54' 4.62"N  
LONG = 122° 31' 9.61"W

**LEGEND**

|  |  |
|--|--|
|  | PALUSTRINE FORESTED WETLAND (27.93 AC)<br>(10.15 AC IN BANK BUFFER)                |
|  | PALUSTRINE SCRUB-SHRUB WETLAND (39.23 AC)<br>(6.59 AC IN BANK BUFFER)              |
|  | PALUSTRINE EMERGENT WETLAND VARIANT (4.61 AC)<br>(1.66 AC IN BANK BUFFER)          |
|  | PALUSTRINE EMERGENT WETLAND REESTABLISHMENT (38.32 AC)<br>(0.00 AC IN BANK BUFFER) |
|  | FORESTED UPLAND (3.63 AC)<br>(3.63 AC IN BANK BUFFER)                              |

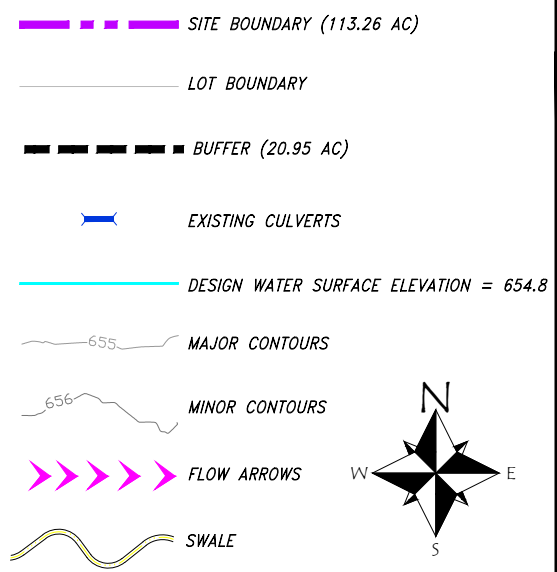
PHOTO LOCATION

**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                        | --                      |
| <b>Total Existing Conditions</b>                                     | <b>113.26</b>                      | <b>20.95</b>                | <b>--</b>               |
| 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                       |
| <b>Total Bank Site Area</b>  | <b>113.26</b>                      | <b>20.95*</b>               | <b>91.43**</b>          |

\*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.



- 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:** Wetland Fill

**APPLICANT:** Evergreen Homes NW

**PROJECT NAME:** Highland Terrace Subdivision

**REFERENCE #:** NWS-2016-540

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**PURPOSE:** Construction of 97 lot subdivision

**DATUM:** NAD83

**ADJACENT PROPERTY OWNERS:** SEE JARPA

**IN Wetlands NEAR:** La Center

**COUNTY:** Clark

**STATE:** WA

**SHEET 6 OF 6**

**DATE:** 1/29/20

800  
400  
0  
SCALE IN FEET

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